



Jiangsu Dongtai Phase II Wind Power Project



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(CTI)

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Summary:

Shenzhen CTI International Certification Co., Ltd (hereafter referred to as CTI) has been commissioned by Demeter Venture UK Limited to perform a validation of the renewal of crediting period of "Jiangsu Dongtai Phase II Wind Power Project" (Ref. No. 1356) (hereinafter referred to as the project activity) in P. R. China.

The scope of the validation of the renewal of crediting period is defined as an independent and objective review of the updated sections of the PD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the project activity. The validation opinion is finalized based on the assessment of the project description through applying standard auditing techniques including but not limited to document reviews, follow up actions (e.g. site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations.

The assessment was performed in accordance with VCS Standards version 4.1 and UNFCCC requirement including an assessment of:

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

The project activity was registered as a CDM project activity on 26/03/2012 which is available at <https://cdm.unfccc.int/Projects/DB/BVQI1332352060.02/view>. After the registration of CDM, the project has been registered as a VCS project which is available at <https://registry.terra.org/app/projectDetail/VCS/1356>.

The purpose of "Jiangsu Dongtai Phase II Wind Power Project" (hereafter referred to as the Project) developed by Guohua (Jiangsu) Wind Power Co., Ltd. is to generate renewable electricity by utilizing wind power resource. The Project involves the installation of 100 wind turbines with a unit capacity of 2000 kW and total installed capacity of 200 MW. Total of 406,020 MWh clean electricity generated by the Project are expected to be delivered to the East China Power Grid (ECPG) annually. The project is located in Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, P.R.China. The central geographical coordinates of the project is 32°39'35"N and 120°54'11"E. The project activity will achieve greenhouse gases (GHGs) emission reductions by avoiding CO₂ emissions from the business-as-usual scenario electricity generation of those fossil fuel-fired power plants

connected to the ECPG. The project activity contributes to sustainable development of the local community, the host country and the world.

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

During this validation, 1 CAR, no CL or FAR was identified in relation to relevant VCS standards, guidance and UNFCCC requirements and relevant host party criteria and the applied baseline and monitoring methodology etc.

In summary, it is CTI's opinion that the project activity "Jiangsu Dongtai Phase II Wind Power Project" (Ref. No. 1356) in P. R. China, as described in the PD (version 3.2 dated 06/01/2022), meets all relevant VCS and UNFCCC requirements for the renewal of the crediting period.

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1 INTRODUCTION

1.1 Objective

Shenzhen CTI International Certification Co., Ltd (hereafter referred to as CTI) has been commissioned by Demeter Venture UK Limited to perform a validation of the renewal of crediting period of "Jiangsu Dongtai Phase II Wind Power Project" (Ref. No. 1356) (hereinafter referred to as the project activity) in P. R. China.

Shenzhen CTI International Certification Co., Ltd as the validation body of the project activity has been accredited as a DOE by UNFCCC and also meets the competence requirements as set out in ISO 14065:2007.

The objective of this validation is to ensure that reported information in the Project Description of "Jiangsu Dongtai Phase II Wind Power Project" is complete and accurate in accordance with applicable VCS standards and relevant UNFCCC requirements.

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the project description (PD). The PD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology ACM0002 version 20.0. The validation was based on the requirements in the CDM Validation and Verification standard for project activities version 03.0, VCS standard version 4.1 and VCS Program Guide version 4.0.

The validation is not meant to provide any consulting towards the client. However, stated requests for forward actions and/or corrective actions may provide input for improvement of the Project monitoring towards reductions in the GHG emissions.

1.3 Level of Assurance

The validation report is based on the VCS-PD and supporting evidences made available to the auditor and information collected through performing interviews and during the on-site assessment.

The validation conclusion is assured a reasonable level of assurance.

1.4 Summary Description of the Project

Project title	Jiangsu Dongtai Phase II Wind Power Project
UNFCCC reference number	5924

VCS reference number	1356
Project Participants	Guohua (Jiangsu) Wind Power Co., Ltd. (Project Owner, host country, P. R. China) Demeter Venture UK Limited (Project Developer, development of VERs under the Voluntary Carbon Standard)
Location of the project	Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, P.R.China The central geographical coordinates of the proposed project is 32°39'35"N and 120°54'11"E.
Project start date	Construction date: 26/05/2010 Operation start date: 10/12/2010 (first wind turbine), 31/12/2012 (all wind turbines),
First Project Description (PD)	version 3.0 dated 01/11/2021
Final Project Description (PD)	version 3.2 dated 06/01/2022
Applied Methodology/Version	ACM0002, version 20.0, dated 28/11/2019
Scope/Technical Area	1/1.2

The project activity was registered as a CDM project activity on 26/03/2012 which is available at <https://cdm.unfccc.int/Projects/DB/BVQI1332352060.02/view>. After the registration of CDM, the project has been registered as a VCS project which is available at <https://registry.verra.org/app/projectDetail/VCS/1356>.

The purpose of "Jiangsu Dongtai Phase II Wind Power Project" (hereafter referred to as the Project) developed by Guohua (Jiangsu) Wind Power Co., Ltd. is to generate renewable electricity by utilizing wind power resource. The Project involves the installation of 100 wind turbines with a unit capacity of 2000 kW and total installed capacity of 200 MW. Total of 406,020 MWh clean electricity generated by the Project are expected to be delivered to the East China Power Grid (ECPG) annually. The project is located in Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, P.R.China. The central geographical coordinates of the proposed project is 32°39'35"N and 120°54'11"E. The project activity will achieve greenhouse gases (GHGs) emission reductions by avoiding CO₂ emissions from the business-as-usual scenario electricity generation of those fossil fuel-fired power plants connected to the ECPG. The project activity contributes to sustainable development of the local community, the host country and the world.

2 VALIDATION PROCESS

2.1 Method and Criteria

Validation was conducted using CTI's procedures in line with the requirements specified in the VCS Standard version 4.1, CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant UNFCCC requirements and applying standard auditing techniques. No sampling was utilized during the site visit as well as validation for project activity.

CTI completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of (if applicable):

- Project Details;
- Application of Methodology;
- Estimated GHG Emission Reduction and Removals;
- Monitoring;
- Safeguards etc.

CTI validate that the reported information in the Project Description are complete and accurate in question. This involved a site visit and a desk review of the Project Design. This Validation Report describes the findings of this assessment.

2.2 Document Review

Based on the requirements of competency, experience and qualified sectoral scopes, CTI appointed a validation team in accordance with CTI's internal procedures (see Appendix 2 Competence of team members and technical reviewers).

Function	Name	Technical competence	Task Performance*
Team Leader	Wang Guolian	1.2	☒ DR ☒ SV ☒ RP ☐ TR
Technical Reviewer	Lin Shunrong	1.2	☒ DR ☐ SV ☐ RP ☒ TR

*DR=Document review; SV=Site visit; RP=Reporting; TR=Technical review

The VCS PD version 3.0 dated 01/11/2021, version 3.2 dated 06/01/2022 were assessed as part of the validation. In addition, the registered VCS PD version 2.0 dated 28/08/2014, registered CDM PDD version 2 dated 29/12/2011 and the CDM validation report version 01 dated 14/03/2012 as well as relevant documents, were reviewed. A detailed documents reviewed are listed in Appendix 1 of the report.

2.3 Interviews

The key personnel interviewed are summarized in the table below:

Interviewed personnel	Role	Organization	Subject
Mr. Song Yonggang	Plant Director	Guohua (Jiangsu) Wind Power Co., Ltd.	Basic information, technology of the project, etc.;
Mr. Lin Jianjun	Project Manager	Guohua (Jiangsu) Wind Power Co., Ltd.	Monitor Data: meter readings, control and maintenance, QA&QC systems;
Ms. Ji Chengmeng	Staff	Guohua (Jiangsu) Wind Power Co., Ltd.	Status of the project activity and any modifications with respect to the registered PD;
Mr. Chen Jia	Staff	Local Development and Reform Committee	Applicability to the latest methodology;
Mr. Luo Shiyi	Staff	Local Environmental Protection Bureau	National and local policies and changes;
Mr. Li Bingbing	Villager	Local Resident	Baseline of the project and its updates;
Mr. Liang Zuowen	Villager	Local Resident	The lifetime of the project activity;
Mr. Li Ming	Villager	Local Resident	Emission Factors and their updates;
Mr. Zhou Zhijie	Villager	Local Resident	Monitoring plan and changes.
Mr. Sun Lin	Villager	Local Resident	The process and participation of the stakeholder consultation;
Mr. Li Bingbing	Villager	Local Resident	
Ms. Lu Susan	Project Manager	Demeter Venture UK Limited	
			The impact of the project activity;
			Any complaints by local stakeholders and the implementation of the mitigation measures.
			Data collection and ER calculation.

2.4 Site Inspections

The validation team performed the on-site validation (Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, P.R.China) on 03/11/2021. The interviewed personnel and objective are listed in above table.

2.5 Resolution of Findings

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

Where a non-conformance arises The validation team shall raise a Corrective Action Request (CAR). A CAR is issued, where reported information is not in line with the applicable CDM/VCS requirements.

The validation team shall raise a Clarification Request (CL) if information is insufficient or not clear enough to determine whether the applicable CDM/VCS requirements have been met.

All CARs and CLs raised during validation shall be resolved prior to submitting a request for registration.

1 CARs and no CLs were raised during validation of the project.

2.5.1 Forward Action Requests

As this is the validation for the project for renewal of crediting period, no FARs were raised in the previous validation and verification process.

3 VALIDATION FINDINGS

3.1 Project Details

The following description of the project as per PD was verified during the on-site visit:

The project activity is a wind power project located in Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, P.R.China. which is to use wind resource for electricity generation. The installed capacity of the project activity is 200 MW, consisting of 100 wind turbines with unit capacity of 2000 kW. The average annual power delivered to the grid by the project is expected to be 406,020 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants East China Power Grid (ECPG). It's estimated that the project could achieve GHG emission reductions of 280,488 tCO_{2e} annually in the second crediting period.

The project activity was invested and operated by Guohua (Jiangsu) Wind Power Co., Ltd. which is the project proponent of project by checking the business license of the project.

By site visit checking the nameplate of the project, following technical parameter of project activity are confirmed:

Item	Unit	Index
Manufacturer	/	Sewind Co. Ltd.
Model	/	W2000M-93-80
Nominal capacity	kW	2000
Number of blades	piece	3
Rotor diameter	m	93
Cut-in speed	m/s	3
Cut-out speed	m/s	25
Rated voltage of generator	V	690
Frequency	Hz	50
Estimated life time	Year	20

By checking the registered VCS PD and site visit interview with project owner, it is confirmed that the project started operation on 10/12/2010 and start date of crediting period is chosen as 10/12/2010.

A deviation was identified for the crediting period of the Project. The project is registered under VCS Version 3.7 and completed validation before 19/03/2020. As per VCS requirement, it remains eligible to apply the crediting period requirements under VCS 3 which shall be a maximum of ten years and may be renewed at most twice. Therefore, the first renewable crediting period of the Project is updated from 10/12/2010 - 31/03/2012 to 10/12/2010 - 09/12/2020, which lasts for 10 years. The same has been justified in the Verification Report (version 01.1 dated 27/11/2019) of previous monitoring period.

As per registered CDM PDD (version 2.0 dated 28/08/2014), the project was registered under CDM scheme on 26/03/2012 with reference number of 5924. The first crediting period under CDM scheme is 01/04/2012 - 31/03/2019, which could be renewed twice (the total crediting period is from 01/04/2012 - 31/03/2033).

Considering the 20-year lifetime of the project activity and 7*3 CDM renewable crediting period, total VCS crediting period is determined as 10/12/2010 to 09/12/2030. Therefore, the validation team confirmed that the second VCS crediting period of the project is from 10/12/2020 to 09/12/2030 last for 10 years in line with the requirement of VCS.

As the installed capacity of the project is 200 MW which falls under large scale project according to the requirement of CDM. Also, due to the annually estimated emission reductions are lower than 300,000 tCO₂, the project falls under project under VCS standard.

The project is located in Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, P.R.China. Through site visit it is confirmed that the central geographical coordinates of the proposed project is 32°39'35"N and 120°54'11"E.

Before the implementation of the project activity, the electricity generated by the project would be supplied by ECPG in the baseline scenario.

By checking laws and regulation, ie. Renewable Energy Law of the People's Republic of China which came into effect on 01/01/2006, Agenda for China's 14th Five-Year Plan (2021-2025), it is confirmed that the project activity is in complicate with all laws and regulations in China.

By checking information on the Internet, the project activity was registered as a CDM project activity on 26/03/2012. It is confirmed that the project activity has been validated by Bureau Veritas Certification Holding SAS based on the CDM PDD version 2 dated 29/12/2011 and reported in the validation report No. BVC/CHINA-VAL/0373/2010 (vesion 01 dated 14/03/2012). All above information is available at <https://cdm.unfccc.int/Projects/DB/BVQI1332352060.02/view>. By checking this website, it is confirmed that renewal of 2nd CDM crediting period of the project activity is no longer possible. By checking statement issued by the project proponent, it is confirmed that in 2nd VCS crediting period, the project would only been issued under VCS. Until now, there are CERs issuance of request under CDM scheme covering the period from 01/04/2012 to 31/05/2014.

Except CDM and VCS, the validation team reviewed websites of other relevant registries, including,

<https://registry.goldstandard.org/projects>, <http://www.irecstandard.org/>, etc. and no double counting of emission reductions or any other forms of environmental credits were identified for the project activity. Also, the project does not involve in ETS or other binding limits. Furthermore, as per the Statement issued by the project proponent and interviewing with project owner, it is confirmed that the project does not participate in the other emissions trading program and no rejection from other GHG programs..

As the project is not a grouped project, the eligibility criteria for grouped project is not applicable. There is no leakage management as the project is not an AFOLU project. There is no commercially sensitive information which has been confirmed through site visit.

By checking China's National Plan on Implementation of the 2030 Agenda for Sustainable Development and 17 SDGs defined by UNDP, and interviewing with stakeholders during site visit, it is confirmed that the project activity would contribute sustainable development in the region in following aspects, which has been confirmed by site visit:

- SDG 13: Reducing greenhouse gas emissions compared to a business-as-usual scenario;
- SDG 7: Providing clean and renewable energy source and displacing the power generation of fossil fuel power plants, reducing pollution emissions caused by coal burning significantly, thus mitigating the air pollution and its adverse impacts on human health, promoting sustainable economic development in local area;
- SDG 8: Providing direct and indirect employment opportunities during construction and operation period, which promotes sustained, inclusive and sustainable economic growth, full and productive employment and decent work for local residents.

In conclusion, it is confirmed that the PD is accurate, complete, and provides an understanding of the nature of the project.

3.2 Safeguards

3.2.1 No Net Harm

By checking the EIA summary and conclusion provided in the registered PD, it is confirmed that wind power is green power and the impact caused by wind power on the surrounding ecosystem and residents, water, and atmosphere etc. is very little, and there would be no net harm caused due to the project activity. Also, the EIA of the project are approved by the government.

Furthermore, no potential environment or social economic matter was found during the site visit. The project is renewable energy project and thus no net harm observed in air or water quality on-site.

3.2.2 Local Stakeholder Consultation

A stakeholders' consultation was carried out on 06/01/2010. The information of the project activity was introduced and announced through broadcasting. Meanwhile, questionnaires, which was designed to be easily filled in, were distributed. 30 local residents filled in the questionnaires. The opinions expressed by those participants were recorded and are available on request.

The stakeholder survey showed that the project receives strong support from the local community. They believe the project will promote benefit local environment and agree with the project development and construction.

Ongoing communications with Local stakeholders was being carried out by the project owner. A grievance notebook was put on the bulletin board outside the company office, so that stakeholder could raise comments. The telephone of the project owner was widely known in local area, so that stakeholders could make phone calls in case they have any comments. By checking the grievance notebook and confirmed with stakeholders through onsite interview, it is confirmed that no negative comments were received for the project.

All such conclusion has been verified through site visit and check registered PD.

3.2.3 Environmental Impact

By checking the EIA summary and conclusion provided in the registered VCS PD, it is confirmed that wind power is green power and the impact caused by wind power on the surrounding ecosystem and residents, water, and atmosphere etc. is very little, there would be no net harm caused due to the project activity. Also, the EIA of the project are approved by the government.

Also, no potential environment or social economic matter was found during the site visit. The project is renewable energy project and thus no net harm observed in air or water quality on-site.

3.2.4 Public Comments

No public comments were received.

3.2.5 AFOLU-Specific Safeguards

Not applicable as non-AFOLU project.

3.3 Application of Methodology

3.3.1 Title and Reference

The approved methodology applied in the project activity is ACM0002 - "Grid-connected electricity generation from renewable sources" (version 20.0)

Related tools are:

Tool to calculate the emission factor for an electricity system (version 07.0);

Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0;

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).

3.3.2 Applicability

The criteria and assessment of ACM0002 (version 20.0) are in the following table:

Criteria	Analysis	Assessment team's opinion
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 is a greenfield ECPG-connected renewable power generation project.	By site visit and checking FSR, it is confirmed that the project is a Greenfield power plant.
The methodology is applicable under the following conditions: (a) 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; (b) 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	The project is a new wind power project.	By site visit and checking FSR, it is confirmed that the project is a Greenfield power plant.

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.		
In case of hydro power plants, one of the following conditions shall 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 (7), is greater than 4 W/m²; or (c) The project activity results in new single or multiple reservoirs and the power density, calculated using equation (7), is greater than 4 W/m²; or (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 (7), is lower than or equal to 4 W/m², all of the following conditions shall apply: (i) The power density calculated using the total installed capacity of the integrated project, as per equation (8), is greater than 4 W/m²; (ii) Water flow between reservoirs is not used by any other hydropower unit which is not a part of the project activity;	The project is a wind power project, not hydro power plant. Therefore, this is not applicable	By site visit and checking FSR, it is confirmed that the project is a wind power project, this is not applicable.

(iii) Installed capacity of the power plant(s) with power density lower than or equal to 4 W/m² 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.		
In the case of integrated hydro power projects, project proponent shall: (a) 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 (b) 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 of five years prior to the implementation of the CDM project activity.	The project is a wind power project, not an integrated hydro power plant. Therefore, this is not applicable	By site visit and checking FSR, it is confirmed that the project is a wind power project, this is not applicable.
The methodology is not applicable to: (a) 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; (b) Biomass fired power plants/units.	The project does not involve switching from fossil fuel to renewable energy. The project is not biomass fired power plant.	By site visit and checking FSR, it is confirmed that the project is a Greenfield power plant, does not involved in switching from fossil fuel to renewable energy and biomass fired power plant.

In the case of retrofits, rehabilitations, 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, that is 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 not retrofit, rehabilitation, replacement, or capacity addition project. Therefore, this item is not applicable.	By site visit and checking FSR, it is confirmed that the project is a Greenfield power plant.
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According to the table above, The validation team confirm the project meets all the applicable criteria of ACM0002 version 20.0

Also, for related tools, The validation team confirm all applicable criteria have been met confirmed by site visit and checking FSR.

3.3.3 Project Boundary

Project boundary has been ascertained and confirmed during the site visit using ACM0002 version 20.0 – "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 project power plant is connected to".

Hence the project boundary includes the renewable energy power generation, sub-stations, grid and all power plants connected to grid. The project activity will evacuate power to the grid. The boundary also extends to the project power plant and all power plants connected physically to the electricity system that the VCS project power plant is connected to.

The calculation of net electricity supplied to grid is under purview of state electricity board and project activity Owner or project activity Implementer does not have any control on it. Thus, for project activity, net electricity supplied to grid is the monitoring parameter which is used for ER calculations.

The sources and GHG gases involved for proposed Project activity are as below

Source		Gas	Included?	Justification/Explanation
Baseline	Grid connected electricity generation.	CO ₂	Yes	Main emission source
		CH ₄	No	Minor emission source
		N ₂ O	No	Minor emission source
Project	Greenfield	CO ₂	No	No CO ₂ emissions are emitted from the project

Source		Gas	Included?	Justification/Explanation
	Wind Power Project Activity.	CH ₄	No	Project activity does not emit CH ₄
		N ₂ O	No	Project activity does not emit N ₂ O

3.3.4 Baseline Scenario

The baseline scenario of the project activity is that the 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 into the grid. According to the methodology ACM0002 version 20.0, the baseline emissions are the electricity produced by the project activity multiplied by the emission factor of ECPG.

For the second crediting period, the continued validity of the original baseline has been assessed in the updated PD. CTI confirms that there have been no changes in the relevant national and/or sectoral regulations on building a wind power project for exporting electricity to power grid since the previous crediting period. On the other hand, the baseline scenario for building a wind power project for exporting electricity to power grid was still valid according to methodology ACM0002 version 20.0.

The information presented in the updated PD has been validated by an initial document review of all data. Further confirmation has been made based on the review of information from similar projects and/or technologies. The sources referenced in the PD have been quoted correctly. The information was verified against credible sources, such as: China Energy Statistical Yearbook 2015-2020.

The steps from the Methodological Tool "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period" version 03.0.1 as per VCS Standard version 4.1 were applied to assess the continued validity of the baseline and/or to update the baseline at the renewal of a crediting period:

Step 1: Assess the validity of the current baseline for the next crediting period

VCS Standard version 4.1 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.

Step 1.1: Assess compliance of the current baseline with relevant mandatory national and/or sectoral policies

The current baseline remains the same as it was in the VCS PD (version 3.2 dated 06/01/2022). There has been not significant change in the relevant national and/or sectoral policies since the date of VCS PD 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.

Step 1.2: Assess the impact of circumstances

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 VCS PD is still valid for the second crediting period.

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

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.

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

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.

The Designated National Authority (DNA) of China issued the notice "2019 Baseline Emission Factors for Regional Power Grid in China" on 29/12/2020, which was the latest grid data available for the project. The Simple operating margin CO₂ emission factor ($EF_{grid,OMsimple,y}$) and build margin emission factor ($EF_{grid,BM,y}$) of the ECPG the project connected have been updated according to the latest data available on 29/12/2020. For the wind project, the values of W_{OM} and W_{BM} for the first crediting period are applied for the subsequent crediting periods as per the "Tool to calculate the emission factor for an electricity system" (version 07.0). Thus, the baseline emissions need to be updated for the second crediting period with the application of the new data available.

Step 2: Update the current baseline and the data and parameters

Step 2.1: Update the current baseline

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.

Step 2.2: Update the data and parameters

The "2019 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 W_{OM} and W_{BM} 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. Refer to section 3.3.6 of this report for details.

3.3.5 Additionality

Not applicable for the renewal of crediting period.

By checking relevant applicable laws and regulations at the time of renewal of crediting period, i.e. Renewable Energy Law of the People's Republic of China which came into effect on 01/01/2006, Agenda for China's 14th Five-Year Plan (2021-2025), the validation team confirms the project activity is in compliance with all laws and regulations in China and there are no surplus regulations required comparing with the first validation at time of renewal of crediting period.

3.3.6 Quantification of GHG Emission Reductions and Removals

The calculation of the emissions reductions exactly follows the procedures described in the methodology ACM0002 version 20.0 and relevant tool, e.g. the "Tool to calculate the emission factor for an electricity system" version 07.0.

CTI has assessed the calculation of project emissions, baseline emissions, leakage emissions and emission reductions. Corresponding calculations have been carried out based on calculation spreadsheet. The consistency of the parameters and equations presented in PD, as well as calculation spreadsheet etc., has been compared with the information and requirements presented in the methodology and respective tools.

The assumptions and data used to determine the emission reductions are listed in the PD and all the sources have been checked. Based on the information reviewed it is confirmed that the sources used are correctly quoted and interpreted in the PD. The values presented in the PD are considered reasonably based on the documentation and references reviewed and the results of the interviews.

The estimation of the emission reductions are considered correct as the calculations have been reproduced by the validation team with the attainment of the same results.

CTI confirms methodology ACM0002 version 20.0 and relevant tool, e.g. the "Tool to calculate the emission factor for an electricity system" version 07.0 have been correctly applied to calculate baseline emissions, project emissions, leakage and net GHG emission reductions and removals.

Detailed information on the verification of the parameters used in the equations is found below. The algorithms for the determination of the baseline and project are discussed in the following sections.

The emission reductions are calculated by the difference between baseline emissions (BE_y), project emissions (PE_y) and leakage.

(1) Baseline emissions

As per the methodology ACM0002 version 20.0 that the baseline emissions include only CO₂ emissions from electricity generation in fossil fuel fired power plants that are displaced due to the project activity. The baseline emissions are calculated by the 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) ($EG_{PJ,y}$) multiplied by the Combined margin CO₂ emission factor for grid connected power generation in year y ($EF_{grid,CM,y}$).

Because the project activity is the installation of a new grid-connected renewable power plant/unit at a site where no renewable power plant was operated prior to the implementation of the project activity, the $EG_{PJ,y}$ equals to the Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh) ($EG_{facility,y}$). According to ACM0002, version 20.0, Quantity of net electricity generation supplied by the project plant/unit to the grid in year y (MWh) ($EG_{facility,y}$) is determined according to Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0.

The Combined margin CO₂ emission factor for grid connected power generation in year y ($EF_{grid,CM,y}$) is calculated in a transparent and conservative manner as a combined margin (CM), consisting of the combination of operating margin (OM) and build margin (BM) according to the steps prescribed in the "Tool to calculate the emission factor for an electricity system", version 07.0.

The PD (version 3.2 dated 06/01/2022) using the data for calculation of the grid emission factor at the time the PD was received for validation. The latest data available was from China Electric Power Yearbook 2016-2018, China Energy Statistical Yearbook 2016 - 2018. The calculation is in accordance with the calculation process of the combined margin emission factor published by the Chinese DNA: 2019 Baseline Emission Factors for Regional Power Grids in China published by the DNA of China on 29/12/2020. $EF_{grid,OMsimple,y}$ is calculated to be 0.7921 tCO₂e/MWh and $EF_{grid,BM,y}$ is calculated to be 0.3870 tCO₂e/MWh.

As per the "Tool to calculate the emission factor for an electricity system" (version 07.0) and based on the weight w_{OM} and w_{BM} of 0.75:0.25 by default for the second crediting period, the combined margin emission factor is calculated to be 0.690825 tCO₂e/MWh.

The annual quantity of net electricity generation supplied by the project plant/unit to the grid is 406,020 MWh which is in line with the original design of the project. It's confirmed that the estimation of the figure is reasonable. Thereby, the baseline emissions could be calculated to be 406,020 MWh * 0.690825 tCO₂e/MWh = 280,488 tCO₂e. The validation team confirmed that the remission reductions calculation is corrected in the PD.

The values of the main parameters for calculating combined emission factor ($EF_{grid,CM,y}$) are crosschecked by The validation team and the data sources are listed in below table:

Data and Parameters	Description	Data source
$EF_{grid,OM\ simple,y}$	Simple operating margin CO2 emission factor of ECPG in 2019	2019 Baseline Emission Factors for Regional Power Grids in China
$EF_{grid,BM,y}$	Build margin CO2 emission factor of ECPG in 2019.	2019 Baseline Emission Factors for Regional Power Grids in China

CTI confirms that all data sources and assumptions are appropriate, and calculations are correct, applicable to the proposed VCS project activity and will result in a conservative estimate of the emission reductions.

(2) Project emissions

The project is a wind power project. Therefore, the project emission is considered as zero based on ACM0002, version 20.0. Therefore, $PE_y = 0 \text{ tCO}_2\text{e}$.

(3) Leakage

According to the methodology, the project activity leakage do not take into account, then no leakage according to ACM0002.

(4) Emission reductions

Based on the calculations and results presented in the sections above the implementation of the project activity will result in an average ex-ante estimation of emission reduction conservatively calculated to be 280,488 tCO_2e per year for the selected 10 years crediting period. Total emission reductions during the second crediting period are estimated to be 2,804,880 tCO_2e .

3.3.7 Methodology Deviations

There are no methodology deviations for the project.

3.3.8 Monitoring Plan

The project applies methodology ACM0002 version 20.0. In the VCS PD (version 3.2 dated 06/01/2022), 3 parameters including $EG_{facility,y}$, $EG_{out,y}$ and $EG_{in,y}$, was monitored. The monitoring plan contained in the VCS PD (version 3.2 dated 06/01/2022) was consistent with the monitoring plan in the registered VCS PD and satisfied with ACM0002 version 20.0 requirements.

Parameters	Description	Measurement method and QA/QC procedures	Assessment conclusion
$EG_{facility,y}$	Quantity of net	The parameter would be calculated through	Consistent

	electricity generation supplied by the project plant/unit to the grid in year y	parameters $EG_{out,y}$ and $EG_{in,y}$, following equation $EG_{facility,y} = EG_{out,y} - EG_{in,y}$. The parameters $EG_{out,y}$ and $EG_{in,y}$ will be continuous measured and monthly recorded.	with methodology
$EG_{out,y}$	Electricity delivered to grid in year y	This parameter would be monitored by 4 set of bidirectional electricity meters (M1, M1b, M2,M2b). The project consists 120 set of turbines and two wind farms. 40 sets turbines is installed in south wind farm and the other 60 sets turbines is installed in north wind farm. Meter M1 and its backup meter M1b were installed at Guohua Dongtai Phase I Wind Farm 220kV substation to measure the electricity delivered to grid and electricity imported from grid by south wind farm of the project. Meter M2 and its backup meter M2b were installed at Guohua Dongtai Phase II Wind Farm North 220kV substation to measure the electricity generated from the north wind farm of the project. The meter readings will be continuous measurement and monthly recorded. Other sources such as receipts of sales will be available to double check this parameter.	Consistent with methodology
$EG_{in,y}$	Electricity imported from grid in year y	This parameter would be monitored by 4 set of bidirectional electricity meters (M1, M1b, M2,M2b). The project consists 120 set of turbines and two wind farms. 40 sets turbines is installed in south wind farm and the other 60 sets turbines is installed in north wind farm. Meter M1 and its backup meter M1b were installed at Guohua Dongtai Phase I Wind Farm 220kV substation to measure the electricity delivered to grid and electricity imported from grid by south wind farm of the project. Meter M2 and its backup meter M2b were installed at Guohua Dongtai Phase II Wind Farm North 220kV substation to measure the electricity generated from the north wind	Consistent with methodology

		farm of the project. The meter readings will be continuous measurement and monthly recorded. Other sources such as receipts of purchasing will be available to double check this parameter.	
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Based on the on-site visit, it is confirmed that 4 sets of bidirectional electricity meters, M1, M1b, M2, M2b are used to continuously measure the electricity delivered to grid and electricity imported from grid by the project. The accuracy of all electricity meters was 0.2s.

The calibration of meters would be conducted annually based on the requirement of local and national standard. The quantity of net electricity generation supplied by the project plant/unit to the grid in year y would be calculated as:

$$EG_{\text{facility},y} = EG_{\text{out},y} - EG_{\text{in},y}$$

CTI confirms that the monitoring plan contains all necessary parameters which have been clearly described in VCS PD (version 3.2 dated 06/01/2022) and that the means of monitoring described in the plan complies with the requirements of the methodology.

An organizational structure is provided in VCS PD (version 3.2 dated 06/01/2022). The functions such as data collection, aggregation, verification, calculation, archiving, as well as the maintenance of equipment etc. have been defined. Quality assurance and quality control procedures for recording, maintaining and data archiving etc. will be ensured according to VCS and CDM EB rules. The calibration of the meter will be implemented as per national standard. An emergency treatment process has been defined in VCS PD (version 3.2 dated 06/01/2022) when the meter is in malfunction. Data management and quality control system are quoted in VCS PD (version 3.2 dated 06/01/2022). The monitoring staffs will be trained based on the training program described in VCS PD (version 3.2 dated 06/01/2022).

3.4 Non-Permanence Risk Analysis

Not applicable for the present project activity.

4 VALIDATION CONCLUSION

CTI has performed a validation of renewal of crediting period of the "Jiangsu Dongtai Phase II Wind Power Project" (Ref. No. 1356). The validation was performed on the basis of the updated sections of the PD relating to the baseline, estimated emission reductions and the monitoring plan using the most recent version of baseline and monitoring methodology applicable for the project activity. The final validation opinion was finalized in accordance with the VCS Standard version 4.1, CDM VWS for project activities version 03.0 and the CDM PS for project activities version 03.0 including the assessment of:

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

The review of the project design documentation and the subsequent follow-up interviews have provided CTI with sufficient evidence to determine the validity of the original baseline. The project correctly applies the latest baseline and monitoring methodology ACM0002, "Grid-connected electricity generation from renewable sources" version 20.0. CTI is able to confirm:

- (a) The updated PD complies with the valid version of the applicable PD form and instructions therein for filling out the PD;
- (b) Information transferred to the later valid version of the PD form is materially the same as that in the registered PD;
- (c) The baseline and monitoring methodology was applied in accordance with the applicable requirements in the VCS standard and Project Standard;
- (d) The baseline, the estimated GHG emission reductions, and the monitoring plan in the updated PD comply with the applicable requirements in the VCS standard and CDM Project Standard, and the valid version of the methodology that is applicable to the registered VCS project activity;
- (e) The next crediting period of the registered VCS project activity commences on the day immediately after the expiration of the current crediting period;
- (f) The names of project participants in the updated PD are consistent with the names of the project participants in the registered PD.

CTI also confirms that there have been no proposed methodology deviations for the second crediting

period when submitting this report.

Given that the project is implemented as designed and the underlying assumptions do not change, the project is likely to achieve the estimated amount of annual emission reductions of 280,488 tCO₂e and a total estimated emission reduction of 2,804,880 tCO₂e over the 2nd crediting period as specified within the final PD.

In summary, it is CTI's opinion that the project activity "Jiangsu Dongtai Phase II Wind Power Project" (Ref. No. 1356) in P. R. China, as described in the PD (version 3.2 dated 06/01/2022), meets all relevant VCS and UNFCCC requirements for the renewal of the crediting period.

APPENDIX 1: ABBREVIATIONS

Abbreviations	Full texts
AFOLU	Agriculture, Forestry, and Other Land Use
BM	Build Margin
CDM	Clean Development Mechanism
CME	Coordinating/managing entity
CER	Certified Emission Reduction
CM	Combined Margin
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
DNA	Designated National Authority
EB	Executive Board
GHG	Greenhouse gas(es)
GS	Gold Standard
EIA	Environmental Impact Assessment
ER	Emission Reduction
ETS	Emission Trading Scheme
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
MP	Monitoring Plan
PA	Project Activity
PD	Project Description
PP	Project Participant
QA/QC	Quality Assurance / Quality Control

UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation and Verification Standard
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit
VVB	Validation/Verification Body
PP	Project Participant
UNFCCC	United Nations Framework Convention on Climate Change

APPENDIX 2: REFERENCE LIST

1. VCS PD, version 3.0 dated 01/11/2021, version 3.1 dated 04/11/2021, version 3.2 dated 06/01/2022
2. ER calculation spreadsheet
3. Registered CDM PDD, version 2 dated 29/12/2011
4. Registered VCS PD, version 2.0 dated 28/08/2014
5. CDM Validation Report, version 01 dated 14/03/2012
6. VCS Monitoring Report, version 2.0 dated 28/08/2014
7. VCS Verification Report, version 1.1 dated 31/08/2014
8. VCS Monitoring Report, version 2.0 dated 23/11/2019
9. VCS Verification Report, version 01.1 dated 27/11/2019
10. Business license of project developer
11. Statement issued by the project proponent about the Participated GHG Programs and Forms of Credit
12. Nameplate of the equipment
13. Feasibility Study Report (FSR), compiled by Hydrochina Huadong Engineering Corporation dated Sep. 2009 and approved by National Development and Reform Commission on 20/01/2010 (No. FGNY [2010] No. 102)
14. China Energy Statistical Yearbook 2016-2018
15. 2019 Baseline Emission Factors for Regional Power Grids in China issued by China DNA on 29/12/2020
16. China Electric Power Yearbook 2016-2018
17. VCS Standard version 4.1, dated on 19/09/2019 and updated on 22/04/2021
18. Approved methodology ACM0002, version 20.0, dated 28/11/2019
19. Tool to calculate the emission factor for an electricity system, version 07.0
20. Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation, version 03.0

21. Assessment of the validity of the original/current baseline and to update the baseline at the renewal of a crediting period, version 03.0.1
22. CDM Validation and Verification Standard for project activities version 03.0
23. CDM Project Standard for project activities version 03.0
24. CDM project cycle procedure for project activities version 03.0

APPENDIX 3: COMPETENCE OF TEAM MEMBERS AND TECHNICAL REVIEWERS

Ms. Guolian WANG

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

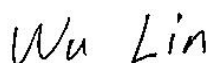
Qualification						
Status	GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
Date	√	√	√	√	√	√

Scope	Technical Area
SS 1: Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources
SS 3: Energy demand	TA 3.1: Energy demand
SS 5: Chemical industry	TA 5.1: Chemical industry
	TA 5.2: Caprolactam, nitric and adipic acid
SS 11: Fugitive emissions from production and consumption of halocarbons and sulphur hexafluoride	TA 11.1: Emissions of fluorinated gases
	TA 11.2: Refrigerant gas production
SS 12: Solvents use	TA 12.1: Chemical industry
SS 13: Waste handling and disposal	TA 13.1: Solid waste and wastewater
	TA 13.2: Manure

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



Technical Competent Manager

Shenzhen, 01/01/2021

Ms. Shunrong Lin

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

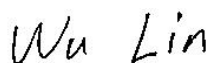
Qualification					
GHG Auditor	Validator	Verifier	Team Leader	Technical Reviewer	Technical Expert
√	√	√	√	√	√

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



Technical Competent Manager

Shenzhen, 01/01/2021

APPENDIX 4: <CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS, FORWARD ACTION REQUESTS (CAR/CL/FAR)>

CAR ID	01	Section no.	3.3.6	Date: 03/11/2021
Description of CAR				
The process for determination of $EF_{grid,BM,y}$ in the PD (version 3.0 dated 01/11/2021) is not consistent with that in 2019 Baseline Emission Factors for Regional Power Grids in China issued by China DNA on 29/12/2020. PP is requested to revise section 4.1 of PD accordingly.				
Project proponent response				Date: 03/11/2021
The section 4.1 of PD has been revised.				
Documentation provided by project proponent				
Updated PD (version 3.1 dated 04/11/2021)				
DOE assessment				Date: 06/01/2022
By checking section 4.1 of the Updated PD (version 3.2 dated 06/01/2022), the validation team confirmed that the the process for determination of $EF_{grid,BM,y}$ has been revised to be consistent with that in 2019 Baseline Emission Factors for Regional Power Grids in China issued by China DNA on 29/12/2020. Therefore, CAR 01 was closed.				