

JIANGSU DONGTAI PHASE II WIND POWER PROJECT



Document Prepared By

LGAI Technological Center S.A. (Applus+ Certification)

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Approved By	LGAI Technological Center S.A. (Applus+ Certification) B.U. Managing Director: Juan Sendin Caballero

¹ The name of project on the VCS project database is Dongtai Phase II Wind Power Project which has slightly difference with the one in the report. By checking registered PD, it is confirmed Jiangsu Dongtai Phase II Wind Power Project should be the correct name.

**Work Carried
Out By**

Lead Auditor / Technical Expert: Denny Xue
Technical Reviewer: Simon Shen

Summary:

LGAI Technological Center, S.A. (hereafter referred to as “Applus+ Certification”) has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity “Jiangsu Dongtai Phase II Wind Power Project ” (UNFCCC Ref. No. 5924, VCS Ref. No. 1356, hereafter referred to as “the project activity”) reported in the monitoring report /1/ during monitoring period 01/06/2014 to 31/10/2018.

The project activity has been validated by BV based on the CDM PDD /3/ version 2 dated 29/12/2011 and reported in the validation report No. BVC/CHINA-VAL/0373/2010 /5/, version 01, completed on 14/03/2012. 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>. A gap validation was performed by LGAI Technological Center, S.A. (Applus+ Certification) through the first VCS verification which is available at https://www.vcsprojectdatabase.org/#/project_details/1356. And the registered VCS PD /4/ version 2.0 dated 28/08/2014 would be the basis for verification.

The project activity is a wind farm project located at Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, People's Republic of China which is to use wind resource for electricity generation. The installed capacity of the project activity is 200 MW, consisting of 100 sets of wind turbines with unit capacity of 2 MW. 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 proposed project could achieve GHG emission reductions of 338,011 tCO₂e annually.

The purpose and scope of this verification is to ensure that reported emission reductions are complete and accurate in accordance with applicable VCS standards and relevant UNFCCC requirements in order to be certified. A desk review and a site visit have been conducted to verify the data submitted in the monitoring report /1/. Applus+ Certification confirms the following has been reviewed:

- Monitoring plan included in the registered VCS PD /3/ version 2.0 dated 28/08/2014;
- Validation report No. BVC/CHINA-VAL/0373/2010 /5/, version 01, completed on 14/03/2012;
- Verification report /6/, version 01.1, completed 31/08/2014 by LGAI Technological Center, S.A.;
- Approved methodology, ACM0002 /8/, version 12.1.0, dated 17/09/2010;
- VCS standards and guidance version 3.7, as well as relevant UNFCCC requirements;
- All information and references relevant to the project activity's resulting in emission reductions.

During this verification, no finding was identified related to the monitoring, implementation or operations of the project activity in relation to relevant VCS standards, guidance and UNFCCC requirements and relevant host party criteria and the applied baseline and monitoring methodology etc.

- Applus+ Certification confirms that the project is implemented in accordance with the registered

VCS PD /4/. The monitoring plan complies with the applied methodology ACM0002 /8/ version 12.1.0 and the monitoring has been carried out in accordance with the monitoring plan in the registered VCS PD /4/. The monitoring system is in place and the emission reductions are calculated without material misstatements. The level of assurance of the verification is reasonable. Our opinion relates to the projects GHG emissions and the resulting GHG emission reductions reported and related to the valid and registered project baseline and monitoring and its associated documents. Based on the information reviewed and evaluated Applus+ Certification confirms that the implementation of the project has resulted in 1,686,838 tCO₂e emission reductions during period 01/06/2014 to 31/10/2018.

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1 INTRODUCTION

1.1 Objective

LGAI Technological Center, S.A. has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification² of greenhouse gas emission reductions of the project activity “Jiangsu Dongtai Phase II Wind Power Project ” (UNFCCC Ref. No. 5924, VCS Ref. No. 1356) reported in the Monitoring Report /1/ during monitoring period 01/06/2014 to 31/10/2018.

LGAI Technological Center, S.A. as the verification 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 verification is to have an independent review and ex post determination by a Designated Operational Entity (DOE) of the monitored reductions in GHG emissions that have occurred as a result of the registration of VCS project. Certification is the written assurance by the DOE that, during a specific time period, a proposed VCS project activity achieved the reductions in anthropogenic emissions by sources of GHGs as verified.

The objective of this verification/certification is to verify and certify emission reductions, reported for the “Jiangsu Dongtai Phase II Wind Power Project” in China for the period 01/06/2014 to 31/10/2018.

1.2 Scope and Criteria

The verification scope is defined as an independent and objective review of the registered VCS PD, the Project’s baseline study and Monitoring Report (MR) and other relevant documents. The information in these documents is reviewed against VCS Version 3 requirements, UNFCCC rules and associated interpretations.

The verification 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 verification report is based on the CDM-PDD, the VCS Monitoring Report (MR), supporting evidences made available to the verifier and information collected through performing interviews and during the on-site assessment.

The verification conclusion is assured a reasonable level of assurance.

² According to 5.3.12 of VCS Standard Version 3.7: Validation (including project crediting period renewal validation) and the first verification of a project (in a given project crediting period) may be undertaken by the same validation/verification body. However, the subsequent verification shall be undertaken by a different validation/verification body. The gap validation of a project registered under an approved GHG program may be disregarded when assessing adherence to these requirements. Therefore, it is in line with the requirement of the standard that Applus+ Certification is able to undertake the this VCS verification.

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);
Location of the project	Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, People's Republic of China Geographic coordinates: E 120°54'11" and N 32°39'35"
Project start date	Construction start date: 26/05/2010 Operation start date: 10/12/2010
Date of registration as CDM project	26/03/2012
Version of registered CDM PDD and VCS PD	Version 2, dated 29/12/2011 (CDM) Version 2.0 dated 28/08/2014 (VCS and basis for verification)
Monitoring period	01/06/2014 to 31/10/2018
First monitoring report	Version 1.0, dated 18/11/2019
Final monitoring report	Version 2.0, dated 23/11/2019
Applied Methodology/Version	ACM0002, version 12.1.0, dated 17/09/2010
Scope/Technical Area	1/1.2

The project activity is a wind farm project located at Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, People's Republic of China which is to use wind resource for electricity generation. The installed capacity of the project activity is 200 MW, consisting of 100 sets of wind turbines with unit capacity of 2 MW. 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 proposed project could achieve GHG emission reductions of 338,011 tCO₂e annually.

The project activity has been validated by BV based on the CDM PDD /3/ version 2 dated 29/12/2011 and reported in the validation report No. BVC/CHINA-VAL/0373/2010 /5/, version 01, completed on 14/03/2012. 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>. A gap validation was performed by LGAI Technological Center, S.A. (Applus+ Certification) through the first VCS verification which is available at https://www.vcsprojectdatabase.org/#/project_details/1356. And the registered VCS PD /4/ version 2.0 dated 28/08/2014 would be the basis for verification.

2 VERIFICATION PROCESS

2.1 Method and Criteria

Verification was conducted using Applus+ Certification's procedures in line with the requirements specified in the VCS Standard version 3, CDM M&P, the latest version of the CDM Validation and Verification Standard, and relevant UNFCCC requirements and applying standard auditing techniques.

Applus+ Certification completed a strategic review and risk assessment of the projects activities and processes in order to gain a full understanding of:

- Activities associated with all the sources contributing to the project emissions and emission reductions, including leakage if relevant;
- Protocols used to estimate or measure GHG emissions from these sources;
- Collection and handling of data;
- Controls on the collection and handling of data;
- Means of verifying reported data; and
- Compilation of the monitoring report.

Applus+ Certification verified the implementation of the monitoring plan and the data presented in the Monitoring Report /1/ for the period in question. This involved a site visit and a desk review of the Monitoring Report. This Verification Report describes the findings of this assessment.

The information of the assessment team is included in section 2.1.1 of this report.

Assessment team

According to the sectoral scopes / technical area and experiences in the sectoral or national business environment, Applus+ Certification has composed a project assessment team in accordance with the appointment rules in Applus+ Certification. The composition of assessment team has to be approved by the Applus+ Certification ensuring that the required skills are covered by the team. The four qualification levels for team members that are assigned by formal appointment rules as below:

- Leader Auditor (LA)
- Auditor (A)/ Auditor Trainee (AiT)
- Technical Reviewer (TR)
- Technical Experts (TE)

Name	Qualification	Coverage of scope	Coverage of Technical Area	Host country experience
<i>Denny Xue</i>	<i>LA/TE</i>	<i>Y (1.2)</i>	<i>Y</i>	<i>Y</i>
<i>Simon Shen</i>	<i>TR</i>	<i>Y (1.2)</i>	<i>Y</i>	<i>Y</i>

Denny Xue (Master Degree in Environmental Engineering, Bachelor Degree in Thermal Engineering) is a lead auditor appointed by Applus+ Certification for the GHG project assessment. He is based on Shanghai. He has 1.5 years of work experiences in CDM project development. Before he joined Applus+ Certification, he has been worked for Shanghai Chuanji Investment and Management which is a CDM consultancy company as a project manager for CDM project development.

Simon Shen (Master Degree in Thermal Energy Engineering, Bachelor Degree in Environmental Engineering) is a Lead Auditor appointed by Applus+ Certification for the GHG project assessment. He is based in Shanghai. He has several years of work experience in environmental protection field. Before he joined Applus+ Certification, he had been worked for TÜV SÜD as a GHG Validator/Assessment team and ISO 9001/14001 Lead Auditor for 3.5 years.

2.2 Document Review

The VCS monitoring report /1/ version 01 dated 23/10/2019, version 02 dated 23/11/2019 and the emission reduction calculations spreadsheet /2/, were assessed as part of the verification. In addition the registered VCS PD /4/ version 3.2 dated 20/08/2012 in particular the baseline estimations and the monitoring plan, and the registered CDM validation report version 01 dated 14/03/2012, as well as relevant documents, were reviewed. A detailed documents reviewed are listed in Annex 1 of the report.

2.3 Interviews

The key personnel interviewed are summarized in the table below:

Interviewed personnel	Role	Organization	Subject
Mr. FU Qiang	Project Manager	Guohua (Jiangsu) Wind Power Co., Ltd.	Operation of the project activity; Implementation of the monitor plan of the project activity; Data collection and data achievement;

Mr. Wang Bin	Operator	Guohua (Jiangsu) Wind Power Co., Ltd.	Calibration of meters and equipment maintenance; Data collection and ER calculation.
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2.4 Site Inspections

The assessment team performed the on-site verification (Jianggang Town, Dongtai County, Yancheng City, Jiangsu Province, People's Republic of China) on 22/11/2019. The interviewed personnel and objective are listed in above table.

2.5 Resolution of Findings

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

Where a non-conformance arises the assessment team shall raise a Corrective Action Request (CAR). A CAR is issued, where:

- Non-compliance with the monitoring plan or methodology are found in monitoring and reporting and has not been sufficiently documented by the project participants, or if the evidence provided to prove conformity is insufficient;
- Modifications to the implementation, operation and monitoring of the project activity has not been sufficiently documented by the project participants;
- Mistakes have been made in applying assumptions, data or calculations of emission reductions that will impact the quantity of emission reductions;
- Issues identified in a FAR during validation to be verified during verification or previous verification(s) have not been resolved by the project participants.

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

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

There is no CARs and CLs raised for this monitoring period for the project.

2.5.1 Forward Action Requests

None FAR was raised during the verification process. Also there are no remaining from former verification and validation.

2.6 Eligibility for Validation Activities

Not applicable as LGAI Technological Center, S.A. holds the accreditation for the validation and verification for projects under scope 1.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

Through reviewing the registered PDD /3/ and validation report /5/ at UNFCCC website <https://cdm.unfccc.int/Projects/DB/BVQI1332352060.02/view>, it was validated that the project has been registered as a CDM project on 26/03/2012 with reference No. 5924. Also, after checking http://www.vcsprojectdatabase.org/#/project_details/1356, it is confirmed that the project also registered as a VCS project. The project does not participate in the other emissions trading program by checking public information on Internet and interviewing with project owner.

During the period from 01/06/2014 to 31/10/2018 as the monitoring period, the project would claim for other CERs or VCUs, however CERs and VCUs would not been claimed together in the same period.

Therefore, Applus+ Certification consider the project is eligible to participate under the VCS Program as there is no double counting for the emission reduction during any period.

3.2 Methodology Deviations

Not applicable as not deviation for methodology.

3.3 Project Description Deviations

The project was registered under CDM scheme on 26/03/2012 with reference number of 5924. According to CDM standard, the crediting period is from 01/04/2012 to 31/03/2019, which could be renewed twice.

Then the project was registered under VCS scheme in 2014. In the registered PD, the project commission date is 10/12/2010 and crediting period is from 10/12/2010 to 31/03/2012. The first issuance under is from 10/12/2010 to 31/03/2012. While according to VCS standard Version 3.7, the project crediting period is allowable for 10 years and could be renewed twice. Therefore, the first crediting period of project has been determined as 10/12/2010 to 09/12/2020.

The deviation has no impact for the applicability of the methodology, additionality or the appropriateness of the baseline scenario and meet all appropriate rules and requirements of VCS standard.

3.4 Grouped Project

Not applicable as not a grouped project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

By means of on-site visit, the assessment team confirms that all physical features of the proposed project activity proposed in the registered VCS PD /4/ are in place and the PP has operated the project as per registered VCS PD /4/. The installed capacity of the project is 200 MW, consisting of 100 sets of wind turbines with unit capacity of 2 MW. The electricity generated is transmitted to the Jiangsu Power Grid via a newly built 220kV transformer station located within the Project site, which was then exported to the ECPG. The project activity was expected to supply 406,020 MWh of electricity to the grid. The construction of the project started on 26/05/2010, the first wind turbine of the project has been put into operation on 10/12/2010 verified by checking information on the UNFCCC website and site visit. There are no changes on the key equipment and technology since the validation of the project. No special event which would affect the monitoring of the project has been observed during the monitoring period. The implementation of project is in line with the description of registered PD.

The emission reduction resulted from the project during this monitoring period would apply for VCU. The project only applies CERs and VCUs under CDM and VCS (no other form of environmental credit) and no rejection from CDM and VCS occurs verified by checking CDM and VCS website and statement from project owner during validation stage. During the period from 01/04/2012 to 31/05/2014, the project activity has applied for CERs and successfully issued. The project would contribute to sustainable development in Job creation, Reduction in GHG emissions, Reduction of fossil fuel use and Increase of power supply aspects confirmed during site visit.

The technical parameters have been verified with the nameplates /10/ as below:

Parameters Name	Unit	Value
Type	/	W2000M-93-80
Rated output	kW	2,000
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
Lifetime	Year	20

By comparing the actual ER claimed in this monitoring period with the estimate in the registered PD, the actual emission reductions (1,686,838 tCO₂e) are 13% higher than what is stated in the registered VCS PD (i.e. 1,494,657 tCO₂e, equals to annual emission reductions, 338,011 tCO₂e multiplied by the actual operational days (1,614 days) then divided by 365 days) which is justified as below which will not lead to the overestimation of VERs:

1. Wind volume is larger than the wind volume estimation of project design;
2. Wind turbine generators operate well, and the allowed electricity generation is larger than before;
3. Moreover, when consider the variation of electricity supplied to the grid in the IRR calculation, the IRR is still under benchmark, the additionality of the project is not impacted.

The assessment team confirmed that there is no proposed or actual change to the project design during this monitoring period.

All required equipments and procedures are available and implemented in an appropriate manner.

All necessary monitoring instruments are installed. All required instruments including standby and operating procedures for the same have been implemented in an appropriate manner.

The project is completely operational and the same has been confirmed on-site. Neither mistakes nor malfunction on main meters have been observed during this monitoring period.

4.2 Accuracy of GHG Emission Reduction and Removal Calculations

The monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD /4/. All parameters were monitored and determined as per the monitoring plan which is listed in below table:

Data / Parameter:	EG _y
Data unit:	MWh
Description:	Net electricity delivered to the Grid by the Project activity in year y
Purpose of the data:	Calculation of baseline emissions
Parameter value:	2,026,234.146
Source of data used:	Net electricity delivered to the Grid by the Project activity in year y (EG _y) is the difference of Electricity delivered to grid in year y (EG _{out,y}) and Electricity imported from grid in year y (EG _{in,y}) as calculated as below: $EG_y = EG_{out,y} - EG_{in,y}$
Information flow:	Not applicable as Net electricity delivered to the Grid by the Project activity in year y (EG _y) is the difference of Electricity delivered to grid in year y (EG _{out,y}) and Electricity imported from grid in year y (EG _{in,y}) as calculated as below: $EG_y = EG_{out,y} - EG_{in,y}$
Monitoring method,	Not applicable as Net electricity delivered to the Grid by the Project activity in

frequency and equipments:	year y (EG_y) is the difference of Electricity delivered to grid in year y ($EG_{out,y}$) and Electricity imported from grid in year y ($EG_{in,y}$) as calculated as below: $EG_y = EG_{out,y} - EG_{in,y}$																				
Calibration:	Not applicable as Net electricity delivered to the Grid by the Project activity in year y (EG_y) is the difference of Electricity delivered to grid in year y ($EG_{out,y}$) and Electricity imported from grid in year y ($EG_{in,y}$) as calculated as below: $EG_y = EG_{out,y} - EG_{in,y}$ The parameters were measured continuously and recorded monthly by 2 pairs of bi-direction meters installed at Guohua Dongtai Phase I Wind Farm 220kV substation and Guohua Dongtai Phase II Wind Farm North 220kV substation separately during the monitoring period verified by site visit. See below for the information of 2 pairs of bi-direction meters verified by site visit and checking calibration certificates /13/: <table><tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr><tr><td>M1</td><td>ZMQ</td><td>96347859</td><td>0.2s</td></tr><tr><td>M1B</td><td>ZMQ</td><td>96386908</td><td>0.2s</td></tr><tr><td>M2</td><td>ZMQ</td><td>14684234</td><td>0.2s</td></tr><tr><td>M2B</td><td>ZMQ</td><td>BJ900523</td><td>0.2s</td></tr></table> The type, serial number and accuracy have been confirmed by site visit.	Meter	Type	Serial Number	Accuracy	M1	ZMQ	96347859	0.2s	M1B	ZMQ	96386908	0.2s	M2	ZMQ	14684234	0.2s	M2B	ZMQ	BJ900523	0.2s
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M1	ZMQ	96347859	0.2s																		
M1B	ZMQ	96386908	0.2s																		
M2	ZMQ	14684234	0.2s																		
M2B	ZMQ	BJ900523	0.2s																		
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.																				
Means of verification:	Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs; Information flow was verified by checking MRRs and ETNs, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PD.																				

Data / Parameter:	$EG_{out,y}$
Data unit:	MWh
Description:	Electricity delivered to grid in year y
Purpose of the data:	Calculation of baseline emissions
Parameter value:	2,030,399.669
Source of data used:	Electricity delivered to grid in year y are all sourced from Meter Reading

	Record (MRRs) /11/ issued by the project owner, Electricity Transaction Notes (ETNs) /12/ issued by power grid company covering monitoring period.																				
Information flow:	The data of 2 pairs of bi-direction meters (two for main (M1 and M2) and another two for backup for each set (M1b and M2b)) were measured continuously, recorded monthly and archived electronically. At 24:00 hr of last day of each month, the staff from project owner and power grid company will record main meter’s readings and form Meter Reading Records (MRRs). The staff from power grid company then transcribes the data into Electricity Transaction Notes (ETNs), then after the confirmation of the project owner for the ETNs, the project owner will issue the invoice. 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.																				
Monitoring method, frequency and equipments:	The parameter was measured continuously and recorded monthly by 2 pairs of bi-direction meters installed at Guohua Dongtai Phase I Wind Farm 220kV substation and Guohua Dongtai Phase II Wind Farm North 220kV substation separately during the monitoring period verified by site visit. See below for the information of 2 pairs of bi-direction meters verified by site visit and checking calibration certificates /13/: <table><tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr><tr><td>M1</td><td>ZMQ</td><td>96347859</td><td>0.2s</td></tr><tr><td>M1B</td><td>ZMQ</td><td>96386908</td><td>0.2s</td></tr><tr><td>M2</td><td>ZMQ</td><td>14684234</td><td>0.2s</td></tr><tr><td>M2B</td><td>ZMQ</td><td>BJ900523</td><td>0.2s</td></tr></table> The type, serial number and accuracy have been confirmed by site visit.	Meter	Type	Serial Number	Accuracy	M1	ZMQ	96347859	0.2s	M1B	ZMQ	96386908	0.2s	M2	ZMQ	14684234	0.2s	M2B	ZMQ	BJ900523	0.2s
Meter	Type	Serial Number	Accuracy																		
M1	ZMQ	96347859	0.2s																		
M1B	ZMQ	96386908	0.2s																		
M2	ZMQ	14684234	0.2s																		
M2B	ZMQ	BJ900523	0.2s																		
Calibration:	The calibration information are shown as below /13/: <table><tr><th>Meter</th><th>Calibration date</th><th>Valid until</th></tr><tr><td rowspan="5">Main and backup meter(s)</td><td>03/04/2014</td><td>02/04/2015</td></tr><tr><td>27/03/2015</td><td>26/03/2016</td></tr><tr><td>19/03/2016</td><td>18/03/2017</td></tr><tr><td>13/03/2017</td><td>12/03/2018</td></tr><tr><td>09/03/2018</td><td>08/03/2019</td></tr></table> The calibration was conducted by an accredited third party which is Jiangsu Electric Power Research Institute Corporation Limited was accredited by State Administration for Market Regulation valid from 16/11/2012 to 05/11/2022 /13/.	Meter	Calibration date	Valid until	Main and backup meter(s)	03/04/2014	02/04/2015	27/03/2015	26/03/2016	19/03/2016	18/03/2017	13/03/2017	12/03/2018	09/03/2018	08/03/2019						
Meter	Calibration date	Valid until																			
Main and backup meter(s)	03/04/2014	02/04/2015																			
	27/03/2015	26/03/2016																			
	19/03/2016	18/03/2017																			
	13/03/2017	12/03/2018																			
	09/03/2018	08/03/2019																			
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.																				
Means of verification:	Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs;																				

	Information flow was verified by checking MRRs and ETNs, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PDD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PDD.
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Data / Parameter:	EG _{in,y}																							
Data unit:	MWh																							
Description:	Electricity imported from grid in year y																							
Purpose of the data:	Calculation of baseline emissions																							
Parameter value:	4,165.523																							
Source of data used:	Electricity imported from grid in year y are all sourced from Meter Reading Record (MRRs) /11/ issued by the project owner, Electricity Transaction Notes (ETNs) /12/ issued by power grid company covering monitoring period.																							
Information flow:	The data of 2 pairs of bi-direction meters (two for main (M1 and M2) and another two for backup for each set (M1b and M2b)) were measured continuously, recorded monthly and archived electronically. At 24:00 hr of last day of each month, the staff from project owner and power grid company will record main meter's readings and form Meter Reading Records (MRRs). The staff from power grid company then transcribes the data into Electricity Transaction Notes (ETNs), then after the confirmation of the project owner for the ETNs, the power grid company will issue the invoice. 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.																							
Monitoring method, frequency and equipments:	The parameter was measured continuously and recorded monthly by 2 pairs of bi-direction meters installed at Guohua Dongtai Phase I Wind Farm 220kV substation and Guohua Dongtai Phase II Wind Farm North 220kV substation separately during the monitoring period verified by site visit. See below for the information of 2 pairs of bi-direction meters verified by site visit and checking calibration certificates /13/: <table><tr><th>Meter</th><th>Type</th><th>Serial Number</th><th>Accuracy</th></tr><tr><td>M1</td><td>ZMQ</td><td>96347859</td><td>0.2s</td></tr><tr><td>M1B</td><td>ZMQ</td><td>96386908</td><td>0.2s</td></tr><tr><td>M2</td><td>ZMQ</td><td>14684234</td><td>0.2s</td></tr><tr><td>M2B</td><td>ZMQ</td><td>BJ900523</td><td>0.2s</td></tr></table>				Meter	Type	Serial Number	Accuracy	M1	ZMQ	96347859	0.2s	M1B	ZMQ	96386908	0.2s	M2	ZMQ	14684234	0.2s	M2B	ZMQ	BJ900523	0.2s
Meter	Type	Serial Number	Accuracy																					
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M2	ZMQ	14684234	0.2s																					
M2B	ZMQ	BJ900523	0.2s																					

	The type, serial number and accuracy have been confirmed by site visit.														
Calibration:	The calibration information are shown as below /13/: <table><tr><th>Meter</th><th>Calibration date</th><th>Valid until</th></tr><tr><td rowspan="5">Main and backup meter(s)</td><td>03/04/2014</td><td>02/04/2015</td></tr><tr><td>27/03/2015</td><td>26/03/2016</td></tr><tr><td>19/03/2016</td><td>18/03/2017</td></tr><tr><td>13/03/2017</td><td>12/03/2018</td></tr><tr><td>09/03/2018</td><td>08/03/2019</td></tr></table> The calibration was conducted by an accredited third party which is Jiangsu Electric Power Research Institute Corporation Limited was accredited by State Administration for Market Regulation valid from 16/11/2012 to 05/11/2022 /13/.	Meter	Calibration date	Valid until	Main and backup meter(s)	03/04/2014	02/04/2015	27/03/2015	26/03/2016	19/03/2016	18/03/2017	13/03/2017	12/03/2018	09/03/2018	08/03/2019
Meter	Calibration date	Valid until													
Main and backup meter(s)	03/04/2014	02/04/2015													
	27/03/2015	26/03/2016													
	19/03/2016	18/03/2017													
	13/03/2017	12/03/2018													
	09/03/2018	08/03/2019													
QA/QC procedure:	Data record will be archived for a period of 2 years after the crediting period to which the records pertain.														
Means of verification:	Data of the parameter was verified by checking MRRs and ETNs. All data is in line with MRRs and ETNs; Information flow was verified by checking MRRs and ETNs, and all information are consistent; Monitoring method was verified by site visit, checking calibration certificates, all monitoring method meets the description in the PDD; Calibration was verified by checking calibration certificate and Accreditation certificate, all calibration of monitoring equipment meets the requirement indicated in the PDD.														

Parameters available at validation stage:

Below data has been verified against the data sources and the PDD.

Parameter title	Description	Data	Source
EF _y	Baseline emission factor of ECPG in the monitoring period.	0.8325	Notification on 2009 baseline emission factors for regional power grids in China, issued by China on 02/09/2009 /14/.

4.3 Quality of Evidence to Determine GHG Emission Reductions and Removals

The monitoring has been carried out in accordance with the monitoring plan contained in the registered VCS PD /4/ version 2.0 dated 24/08/2014.

As a result of verification of the ER calculation process, the assessment team confirmed that all the parameters required for the determination of the emission reductions have been included in the MR Report and ER Calculation Spreadsheet /2/ and are consistent with the applied methodology ACM0002 version 12.1.0 and the monitoring plan contained in the registered VCS PD. The parameters are complete in this monitoring period.

After verifying the reported figures with the raw data sources, it's confirmed that the values of the parameters from the raw data sources are consistent with those quoted in the ER Calculation Spreadsheet and the MR Report. The verification process for the same has been clearly described above in section 4.2 of the report.

4.4 Non-Permanence Risk Analysis

Not applicable as a renewable project.

5 SAFEGUARDS

5.1 No Net Harm

By checking the EIA summary and conclusion provided in the registered PD or PDD, it is confirmed that Wind power is green power and the impact caused by wind farm 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.

5.2 Local Stakeholder Consultation

The local stakeholder's meeting was held in Jiangggang Town on 06/01/2010. 30 participants attended the meeting including local residents, builders and members of the local authorities. The project owner introduced the proposed project, and then a survey was arranged through a one-page questionnaire, which was designed to be easily filled in. The opinions expressed by the stakeholders were recorded and are available on request.

The stakeholder meeting and the survey showed that the proposed project receives strong support from the local community. They all believe the proposed project will promote local economic development and agree with the project development and construction.

Communications with Local stakeholders was being carried out at periodic intervals. There are no negative comments received for the project.

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

6 VERIFICATION CONCLUSION

Applus+ Certification has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform the verification of greenhouse gas emission reductions of the project activity “Jiangsu Dongtai Phase II Wind Power Project” (UNFCCC Ref. No. 5924, VCS Ref. No. 1356).

The management of Guohua (Jiangsu) Wind Power Co., Ltd. is responsible for the preparation of the GHG emissions data and the reported GHG emissions reductions on the basis set out within the project’s Monitoring Plan in the registered VCS PD /4/, version 2.0 dated 24/08/2014.

Our verification approach was based on the requirements as defined under the applicable VCS standards and relevant UNFCCC requirements. Our approach is risk-based, drawing on an understanding of the risks associated with reporting GHG emissions data and the controls in place to mitigate these. The verification can confirm that:

- the project is implemented and operated as per the registered CDM PDD and VCS PD;
- the monitoring plan in CDM PDD and VCS PD is as per the applied methodology;
- the monitoring complies with the monitoring plan in the registered CDM PDD and VCS PD;
- the monitoring report and other supporting documents provided are complete and verifiable and in accordance with the applicable VCS and CDM requirements;
- the installed equipment being essential for generating emission reduction runs reliably and is calibrated appropriately;
- the monitoring system is in place and generates GHG emission reductions data;
- the GHG emission reductions are calculated without material misstatements.

In our opinion, the GHG emission reductions for “Jiangsu Dongtai Phase II Wind Power Project” during the monitoring period 01/06/2014 to 31/10/2018 as reported in Monitoring Report, prepared on the basis of the project’s Monitoring Plan are fairly stated. Based on the information we have seen and evaluated, we confirm the following statement:

Reporting period: From 01/06/2014 to 31/10/2018 (divided into 5 vintage periods). Verified GHG emission reductions or removals in the above reporting period:

Vintage period	Baseline emissions (tCO ₂ e)	Project emissions (tCO ₂ e)	Leakage (tCO ₂ e)	Emission Reductions (tCO ₂ e)
01/06/2014 to 31/12/2014	193,438	0	0	193,438
01/01/2015 to 31/12/2015	371,055	0	0	371,055
01/01/2016 to 31/12/2016	383,648	0	0	383,648
01/01/2017 to 31/12/2017	386,251	0	0	386,251
01/01/2018 to 31/10/2018	352,446	0	0	352,446
Total	1,686,838	0	0	1,686,838

APPENDIX 1: REFERENCE LIST

1. Monitoring report, version 1.0, dated 18/11/2019; version 2.0, dated 23/11/2019
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. Validation report, No. BVC/CHINA-VAL/0373/2010, version 01, completed by BV
6. Verification report, Version 01.1, completed on 31/08/2014 by LGAI Technological Center, S.A.
7. VCS standard version 3.7, dated on 21/06/2017
8. Approved methodology ACM0002, version 12.1.0, dated 17/09/2010
9. CDM Monitoring procedure
10. Nameplate of the equipment
11. Meter Reading Record (MRRs) for Main Meter(s)
12. Electricity Transaction Notes covering the monitoring period
13. Calibration certificates of meters covering the whole monitoring period issued by Jiangsu Electric Power Research Institute Corporation Limited
14. Notification on 2009 baseline emission factors for regional power grids in China issued by China on 30/12/2008