

LIUCHENG BIOMASS POWER GENERATION PROJECT IN GUANGXI ZHUANG AUTONOMOUS REGION, CHINA



Document Prepared By LGAI Technological Center, S.A.

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Summary:

LGAI Technological Center, S.A. (hereafter referred to as “Applus+ Certification”) has been commissioned by Beijing Ruifang Information Technology Co., Ltd to perform a gap validation of registered CDM project activity “Liucheng Biomass Power Generation Project in Guangxi Zhuang Autonomous Region, China” (UNFCCC Ref. No. 3664, hereafter referred to as “the project activity”) reported in the Project Description.

The project activity has been validated by Japan Consulting Institute based on the CDM PDD version 05 dated 29/03/2010 and reported in the validation report No. JCI-CDM-VAL-09/027, version 02, completed on 30/03/2010. The project activity was registered as a CDM project activity on 24/09/2010 which is available at <http://cdm.unfccc.int/Projects/DB/JCI1272000505.51/view>.

The project activity is a biomass generation project located at Liucheng County, Guangxi Zhuang Autonomous, People’s Republic of China which is to use biomass resource for electricity generation. The installed capacity of the project activity is 30 MW, consisting of 2 sets of steam turbines and generators with unit capacity of 15 MW. The total quantity of biomass residues used by the proposed project will be 178,198 tons. The average annual power delivered to the grid by the project is expected to be 180,000 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants South China Power Grid (SCPG) also by avoiding natural decay or uncontrolled burning of anthropogenic sources of biomass residues. It’s estimated that the proposed project could achieve GHG emission reductions of 123,324 tCO₂e annually.

The purpose and scope of this validation is to ensure that reported information in the Project Description is complete and accurate in accordance with applicable VCS standards and relevant UNFCCC requirements. A desk review and a site visit have been conducted to verify the data submitted in the Project Description. Applus+ Certification confirms the following has been reviewed:

- Project Description, version 1.0, dated 07/09/2018;
- CDM PDD version 05 dated 29/03/2010;
- Validation report No. JCI-CDM-VAL-09/027, version 02, completed on 30/03/2010;
- Approved methodology, ACM0006, version 09.0, dated 31/07/2009;
- VCS standards and guidance version 3.7, as well as relevant UNFCCC requirements;
- All information and references relevant to the project activity’s description.

During this validation, no finding was identified related to the 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 projects description compliance with, the requirements of Article 12 of the Kyoto Protocol,

the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS guideline and standard version 3.7

- The project's baseline and additionality is assessed against "ACM0006 version 09.0 for CDM large scale project
- The project's monitoring plan is assessed against "ACM0006 version 09.0 for CDM large scale project
- A risk-based approach has been followed to perform this validation activity. The review of the project description and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews with Project Owner have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence for positive validation opinion as per the requirement of VCS.

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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 a gap validation of registered CDM project activity “Liucheng Biomass Power Generation Project in Guangxi Zhuang Autonomous Region, China” (UNFCCC Ref. No. 3664, hereafter referred to as “the project activity”) reported in the Project Description.

LGAI Technological Center, S.A. 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 “Liucheng Biomass Power Generation Project in Guangxi Zhuang Autonomous Region, China” 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 design document (PDD). The PDD is reviewed against the criteria stated in Article 12 of the Kyoto Protocol, the CDM modalities and procedures as agreed in the Marrakech Accords and the relevant decisions by the CDM Executive Board, including the approved baseline and monitoring methodology ACM0006 version 09.0. The validation was based on the requirements in the CDM Validation and Verification standard for project activities version 01.0 and VCS guideline and standard version 3.7.

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

1.3 Level of Assurance

The validation report is based on the CDM-PDD, VCS-PD, supporting evidences made available to the validator 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	Liucheng Biomass Power Generation Project in Guangxi Zhuang Autonomous Region, China
UNFCCC reference number	3664
Project Participants	Liuzhou City Xin'neng Biomass Power Generation Co., Ltd. (Project Owner, host country, P. R. China); Mitsubishi Corporation (CERs Buyer, host country, Japan) DEMETER VENTURE UK LIMITED (VERs Buyer, host country, UK)
Location of the project	Liucheng County, Guangxi Zhuang Autonomous, People's Republic of China Geographic coordinates: east longitude of 109°11'35" and north latitude of 24°39'27"
Project start date	Construction start date: 24/02/2009 Operation start date: 10/09/2009
Date of registration as CDM project	24/09/2010
Version of registered CDM PDD	Version 05, dated 29/03/2010
Applied Methodology/Version	ACM0006, version 09.0, dated 31/07/2009
Scope/Technical Area	1/1.1

The project activity is a biomass generation project located at Liucheng County, Guangxi Zhuang Autonomous, People's Republic of China which is to use biomass resource for electricity generation. The installed capacity of the project activity is 30 MW, consisting of 2 sets of steam turbines and generators with unit capacity of 15 MW. The total quantity of biomass residues used by the proposed project will be 178,198 tons. The average annual power delivered to the grid by the project is expected to be 180,000 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants South China Power Grid (SCPG) also by avoiding natural decay or uncontrolled burning of anthropogenic sources of biomass residues. It's estimated that the proposed project could achieve GHG emission reductions of 123,324 tCO₂e annually.

The project activity has been validated by Japan Consulting Institute based on the CDM PDD version 05 dated 29/03/2010 and reported in the validation report No. JCI-CDM-VAL-09/027, version 02, completed on 30/03/2010. The project activity was registered as a CDM project activity on 24/09/2010 which is available at <http://cdm.unfccc.int/Projects/DB/JCI1272000505.51/view>.

2 VALIDATION PROCESS

2.1 Method and Criteria

Validation 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. No sampling was utilized during the site visit as well as validation for project activity.

Applus+ Certification 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.

Applus+ Certification 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.

The information of the assessment team is included in below 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 (AT)
- Technical Reviewer (TR)
- Technical Experts (TE)

Name	Qualification	Coverage of scope	Coverage of Technical Area	Host country experience

<i>Hanshen (Denny) Xue</i>	<i>LA/TE</i>	<i>Y (1.1)</i>	<i>Y</i>	<i>Y</i>
<i>Meng (Simon) Shen</i>	<i>TR</i>	<i>Y (1.1)</i>	<i>Y</i>	<i>Y</i>

Hanshen (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.

Meng (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 project design version 1.0 dated 07/09/2018, version 2.0 dated 15/10/2018 were assessed as part of the validation. In addition the registered CDM PDD version 05 dated 29/03/2010 and the registered CDM validation report version 02 dated 30/03/2010, 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. Zhang Huang	Chief	Liuzhou City Xin'neng Biomass Power Generation Co., Ltd.	Project design and operation of the project activity; Baseline scenario of the project activity; Monitor plan for the project activity;
Mr. Li Wei	Operator	Liuzhou City Xin'neng Biomass Power Generation Co., Ltd.	
Ms. Sun Mingxia	Operator	Liuzhou City Xin'neng Biomass Power Generation Co., Ltd.	
Mr. Teng Haipeng	Project Manager	Demeter Venture UK Limited	Data collection and ER calculation

2.4 Site Inspections

The assessment team performed the on-site validation (Liucheng County, Guangxi Zhuang Autonomous, People's Republic of China) on 27-28/09/2018. 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 assessment 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 assessment 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.

There is no CARs and CLs raised for the project.

2.5.1 Forward Action Requests

As this is the gap validation for the project, there are no FARs involved in the validation 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 biomass generation project located at Liucheng County, Guangxi Zhuang Autonomous, People's Republic of China which is to use biomass resource for electricity generation. The installed capacity of the project activity is 30 MW, consisting of 2 sets of steam turbines and generators with unit capacity of 15 MW. The information of equipment has been confirmed by checking nameplate of the equipment. The total quantity of biomass residues (mulberry leaf and sugarcane leaf) used by the proposed project will be 178,198 tons. The average annual power delivered to the grid by the project is expected to be 180,000 MWh. The Project can reduce GHG emissions by replacing the electricity generated by fossil fuel fired power plants South China Power Grid (SCPG) also by avoiding natural decay or uncontrolled burning of anthropogenic sources of biomass residues. It's estimated that the proposed project could achieve GHG emission reductions of 123,324 tCO₂e annually.

The project activity was invested and operated by Liuzhou City Xin'neng Biomass Power Generation Co., Ltd. which is the project proponent of project by checking the business license of the project. DEMETER VENTURE UK LIMITED was the VERs buyer as well as consultancy company for the project activity.

By checking the registered CDM PDD and site visit interview with project owner, it is confirmed that the project started operation on 10/09/2009 which is the project start date according to the requirement of VCS. Therefore, the crediting period of the project started from 10/09/2009 to 09/09/2019 last for 10 years.

As the installed capacity of the project is 30 MW which falls under large scale project according to the requirement of CDM. However due the annually estimated emission reductions are less than 300,000 tCO₂, the project falls under project under VCS standard.

The project is located at Liucheng County, Guangxi Zhuang Autonomous, People's Republic of China. The geographic coordinates are east longitude of 109°11'35" and north latitude of 24°39'27" verified by the site visit.

Before the implementation of the project activity, the biomass residues used for the project would be either dumped or left to decay under mainly aerobic conditions or are burnt in an uncontrolled manner without utilizing it for energy purposes. The electricity generated by the project would be supplied by SCPG in the baseline scenario.

By checking laws and regulation, it is confirmed that the project activity is in complicate with all laws and regulations in China.

By checking information on the Internet, it is confirmed that the project activity has been validated by Japan Consulting Institute based on the CDM PDD version 05 dated 29/03/2010 and reported in the validation report No. JCI-CDM-VAL-09/027, version 02, completed on 30/03/2010. The project activity was registered as a CDM project activity on 24/09/2010 which is available at <http://cdm.unfccc.int/Projects/DB/JCI1272000505.51/view>. By checking statement issued by the project proponent, it is confirmed that in this crediting period, the project would either been issued under CDM or VCS.

The project does not participate in the other emissions trading program by checking public information on Internet and interviewing with project owner. Of course, no rejection from other GHG programs.

As the project is not a grouped project, the eligibility criteria for grouped project is not applicable; No leakage management as not a AFOLU project; No commercially sensitive information confirmed through site visit.

The project activity would contribute sustainable development in the region in following aspects confirmed by site visit:

- (1) Use biomass residues resources effectively, promote recycle economy; control the burning of mulberry leaf and sugarcane leaf safely, protect the environment;
- (2) To increase local power supply, accelerate local economic development; displace part of the electricity generated by SCPG, which is dominated by fossil fuel fired power plants, and reduce air pollutant emissions such as CO₂, SO₂ and NO_x.
- (3) The project will facilitate the local employment and create a lot of opportunities in construction period and 111 employees in operation period. Application of Methodology

3.1.1 Title and Reference

According to the requirement of VCS standard, for projects registered under the CDM, the cover page and sections 1.1, 1.2, 1.3, 1.5, 1.6, 1.7, 1.9, 1.10, 1.12.1, 1.12.2, 1.12.3, 1.12.4, 1.13 and 2.6 of the VCS Project Description Template shall be completed. A validation/verification body shall undertake a validation of same, which shall be accompanied by a validation representation, to provide a gap validation for the project's compliance with the VCS rules.

Therefore, this part is not applicable. The project would use the same methodology and tools indicated in the registered CDM PDD. The same for below sections when applicable.

3.1.2 Applicability

Not applicable.

3.1.3 Project Boundary

Not applicable.

3.1.4 Baseline Scenario

Not applicable.

3.1.5 Additionality
Not applicable.

3.1.6 Quantification of GHG Emission Reductions and Removals
Not applicable.

3.1.7 Methodology Deviations
No methodology deviation was requested.

3.1.8 Monitoring Plan
Not applicable.

3.2 Non-Permanence Risk Analysis
Not applicable.

4 SAFEGUARDS

4.1 No Net Harm

Not applicable.

4.2 Environmental Impact

Not applicable.

4.3 Local Stakeholder Consultation

Not applicable.

4.4 Public Comments

Not applicable.

5 VALIDATION CONCLUSION

Applus+ Certification has been engaged by Beijing Ruifang Information Technology Co., Ltd to perform a gap validation of registered CDM project activity “Liucheng Biomass Power Generation Project in Guangxi Zhuang Autonomous Region, China”

Our Validation approach was based on the requirements as defined under the Kyoto Protocol, Marrakesh accord, as well as those defined by the CDM Executive Board and VCS board. Our approach is risk-based, drawing on an understanding of the risks associated with estimated GHG emissions data and the controls in place to mitigate these. The validation can confirm that:

- The projects description compliance with, the requirements of Article 12 of the Kyoto Protocol, the CDM Modalities and Procedures as agreed in the Marrakech Accords under decision 3/CMP.1, the annexes to this decision, subsequent decisions and guidance made by COP/MOP & CDM Executive Board and other relevant rules, including the Host Country legislation and sustainability criteria along with VCS guideline and standard version 3.7
- The project's baseline and additionality is assessed against “ACM0006 version 09.0 for CDM large scale project
- The project's monitoring plan is assessed against “ACM0006 version 09.0 for CDM large scale project
- A risk-based approach has been followed to perform this validation activity. The review of the project description and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews with Project Owner have provided LGAI Technological Center S.A. (Applus+ Certification) with sufficient evidence for positive validation opinion as per the requirement of VCS.

APPENDIX 1: REFERENCE LIST

1. Project Description, version 1.0, dated 07/09/2018; version 2.0, dated 15/10/2018
2. Registered CDM PDD, version 05, dated 29/03/2010
3. Validation report, No. JCI-CDM-VAL-09/027, version 02, completed by Japan Consulting Institute
4. VCS standard version 3.7, dated on 21/06/2017
5. Approved methodology ACM0006, version 09.0, dated 31/07/2009
6. Nameplate of the equipment
7. Business License
8. Statement issued by project owner