GOLD STANDARD VERIFICATION REPORT

for the GS-VER Project Activity

Ceará Renewable Energy Bundled Project

(GS-No. 1042)

in

Brazil

1st Monitoring period: 01/09/10 - 31/12/11
(incl. both days)

Report No. 5520.11

Version No.: 04, 2012-11-29

TÜV Rheinland Group

I. Project data:

Project title:	Ceará Renewable Energy Bundled Project			
Registration No. / Date:	GS-No. 1042 / 05/01/2012			
Monitoring period:	01/09/10 - 31/12/11(incl. both days)			
Methodology:	AMS-I.E, version 04			
Average emission reductions of eqv Monitoring Period:	Estimated:	48,231 tCO_2e [(36,173/12*4) [1] + 36,173]	Verified:	40,577 tCO_2e (11,314 + 29,263)

Party	Project participants	Party considered a project participant
The project is voluntary: no Kyoto Party participates	Sustainable Carbon - Projetos Ambientais Ltda Antônio Cavalcante de Souza Olaria-ME Ceará Cerâmica Ltda Ceagra – Cerâmica e Agropecuária Assunção Ltda Eliane Cavalcante de Souza EPP Cerâmica Santa Rita Ltda	N/A

II. Retroactive Verification:

Contract party:	Sustainable Carbon - Projetos Ambientais Ltda

Verification team

Role	Full name	Affiliation
Team Leader	Sebastián del Valle	TÜV Rheinland do Brasil Ltda
Team Member	Tais Gennari Luciano	TÜV Rheinland do Brasil Ltda
Technical Reviewer	Ralf Kober	TÜV Rheinland Energy and Environment GmbH

III. Verification report:

Report No.:	Current revision No.:	Date of current revision:	Date of first issue:
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Final approval:	Released on:	Designated Operational Entity (DOE):
☒	**2012-11-29**	**TÜV Rheinland (China) Ltd.** Unit 707, AVIC Building, No.10B Central Road, East 3rd Ring Road Chaoyang District Beijing 100022, P .R. China Tel.: +4008831300, Fax: +86 10 65666667 E-mail: cdm@tuv.com

[1] Corresponds to an equivalent estimated emissions reductions of four months of 2010

Verification opinion — summary

The verification team assigned by the DOE (TÜV Rheinland (China) Ltd.) concludes that the GS-VER Project Activity “Ceará Renewable Energy Bundled Project” in Brazil, as described in the registered PDD (Version 5, 08/03/2012) and 1st period monitoring report (Version 5, 27/11/2012), meets all relevant requirements of the UNFCCC for CDM project activities including article 12 of the Kyoto Protocol, the modalities and procedures for CDM (Marrakesh Accords) and the subsequent decisions by the COP/MOP and CDM Executive Board as well as Gold Standard requirements for GS-VER projects.

The project activity was correctly implemented according to selected monitoring methodology and monitoring plan. The monitoring equipment was installed, calibrated and maintained in a proper manner, while collected monitoring data allowed to verify the amount of achieved GHG emission reductions. The TÜV Rheinland therefore is pleased to issue a positive verification opinion expressed in the attached Certification statement.

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Abbreviations

ABRAF	Brazilian Association of Forest Plantation Producers
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CL	Clarification Request
CO_2	Carbon Dioxide
COEMA	Environmental Council of Ceará
CONAMA	National Environmental Council of Brazil
DOE	Designated Operational Entity
DOF	Document of Forest Origin of the State of Ceará
DR	Document Review
EB	Executive Board
EIA	Environmental Impact Assessment
ER	Emission Reductions
GHG	Greenhouse Gas
GS	Gold Standard
I	Interview
IPCC	Intergovernmental Panel on Climate Change
kWh	Kilo Watt Hours
MDGs	Millennium Development Goals
MoV	Means of Validation
MW	Mega Watt
NGO	Non Government Organization
PDD	Project Design Document
PP	Project Proponent
SD	Sustainable Development
SEMACE	State Superintendent of Environment of the State of Ceará
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
VVM	Validation and Verification Manual

1. INTRODUCTION

Sustainable Carbon has commissioned the TÜV Rheinland to perform a verification of the Gold Standard VER Project Activity “Ceará Renewable Energy Bundled Project” in Brazil (hereafter “project activity” or project). This report summarizes the findings of the verification of the project, performed on the basis of paragraph 62 of the CDM modalities and procedures, as well as criteria given to provide for consistent project operations, monitoring and reporting and the subsequent decisions by the CDM Executive Board and the requirements of Gold Standard Foundation for GS-VER. The GS criteria refer to GS requirements version 2.1, GS Toolkit and supporting annexes.

1.1 Objective

The purpose of verification is to review the monitoring results and verify that the monitoring methodology was implemented according to the monitoring plan and monitoring data, used to confirm the reductions in anthropogenic emissions by sources is sufficient, definitive and presented in a concise and transparent manner.

The objective of this verification/certification was to verify and certify emission reductions and effectively implementation of the monitoring of sustainable development indicators and mitigation measures, reported for the “Ceará Renewable Energy Bundled Project” for the period 01/09/10 - 31/12/11(both days included).

In particular, monitoring plan, monitoring report and the project’s compliance with relevant UNFCCC and host Party criteria are verified in order to confirm that the project has been implemented in accordance with previously registered design and conservative assumptions, as documented.

1.2 Scope

The verification comprises a review of the monitoring report over the monitoring period from 01/09/10 - 31/12/11(both days included), based on the PDD, submitted for registration with regard to the monitoring parameters and monitoring plan, emission reduction calculation spreadsheet, sustainable development indicator screening, monitoring methodology, monitoring tool and all related evidences provided by project participants. These documents have been reviewed against the requirements of the Kyoto Protocol, the CDM Modalities and Procedures and rules and guidance of Gold Standard.

On-site visit, stakeholder’s interviews and follow-up interviews were also performed on 29/02/2012, 01/03/2012 and 02/03/2012 as part of the verification process. The verification considers both quantitative and qualitative information on emission reductions and sustainable development indicators. The verification is not meant to provide any consultancy towards the client. However, stated requests for clarifications, corrective and/or forward actions may provide input for improvement of the monitoring activities.

2. METHODOLOGY

The verification consists of the following three phases:

1. Desk review of the monitoring plan, monitoring report, project design document and other relevant documents;
2. Onsite visit (including follow-up interviews with project stakeholders, when deemed necessary);
3. Resolution of outstanding issues and the issuance of the final Verification report and Certification statement.

The following sections outline each step in more detail.

2.1 Desk review

The following table outlines the documentation reviewed during the verification:

Project Documents
/ 1/ PDD Version 05, 08/03/2012
/ 2/ GS Passport, Version 05, 08/03/2012
Monitoring Documents
/ 3/ /3.1/ Monitoring Report Version 01.1, 24/02/2012
/3.2/ Monitoring Report Version 05, 27/11/2012
/ 4/ /4.1/ MR Calculation_Ceará Renewable Energy Bundled_01.09.2010_31.12.2011_v1.1
/4.2/ MR Calculation_Ceará Renewable Energy Bundled_01.09.2010_31.12.2011_v05

Requirements, Procedures, Rules and guidance documents

/ 5/ UNFCCC, Approved Baseline & Monitoring Methodologies: AMS-I.E: “Switch from non-renewable biomass for thermal applications by the user”, Version 04, EB 60

/ 6/ CDM Validation and Verification Manual, Version 01.2, EB 55 Annex 1

/ 7/ Gold Standard Requirements and Toolkit (with its Annexes), Version 2.1, 01/06/2009

/ 8/ UNFCCCC, Approved small scale methodologies: AMS-I.C: “Thermal energy production with or without electricity”, Version 19 EB 61.

/ 9/ General guidance on leakage in biomass project activities (Attachment C of Appendix B)

/ 10/ UNFCCCC, ACM0006 “Consolidated methodology for electricity and heat generation from biomass” Verion 12.1.1 EB 69.

Stakeholder Consultation Documents
/ 11/ Local Stakeholder Consultation Report, 27/09/2011
/ 12/ Records of Stakeholder Feedback round

Documents/ Evidences for monitored parameters

/ 13/ Records of Sales Report Control, ceramic pieces production for each ceramic included in the project.
/ 14/ Records of the receipts purchase of renewable biomass (such as cashew nut shell, residues from cashew tree, coconut husk) for each ceramic.

Documents SD Indicators

/ 15/ Tests of particulate material made by SENAI (Brazilian National Service for Industrial Education) of Antonio Ceramic and Eliane Ceramic, samples collected on Jun/2011.

/ 16/ Reports "Control of index of smoke produced by the chimney" based on Ringelmann smoke charts of Antonio Ceramic, Ceara Ceramic Eliane Ceramic, dated Jan/2012 to May/2012

Other documents

/ 17/ EB 23, Annex 18 – Definition of renewable biomass[2].
/ 18/ Article "Construction industry grows in state of CE"[3]
/ 19/ Economic Information "Brazilian Chamber of the Construction Industry (CBIC)"[4]
/ 20/ Renewable Biomass Surplus In The State Of Ceará, Brazil, Version 01.2 October, 2012

Onsite visit and follow-up interviews with project stakeholders

In order to confirm all physical features of the project activity described in the registered PDD are in place and that the project participant has operated and correctly monitored all parameters of the registered GS-VER project activity as per the registered PDD, the verification team had carried out an onsite visits on 29/02/2012, 01/03/2012 and 02/03/2012 . The action items covered during the onsite visit include, but are not limited to:

- The on-site assessment included an investigation of whether all relevant equipment is installed and works as anticipated.
- Assessment of any permanent changes in the project activity in comparison with the registered PDD.
- The operating staff was interviewed and observed in order to check the risks of inappropriate operation and data collection procedures.
- Information flows for generating, aggregating and reporting the selected monitored parameters were reviewed.
- The monitoring processes, routines and documentations were audited to check their proper application.
- The monitoring data were checked completely.
- The data aggregation trails were checked via spot sample down to the level of the meter recordings and original recoded data.
- Identification of QA/QC procedures.

During the onsite visit, a number of identified stakeholders were interviewed. Prior to the visit salient points to be discussed were planned. Date of interview, interviewee, organization and title are given in the following table:

[2] <http://cdm.unfccc.int/EB/Meetings/023/eb23_repan18.pdf>.
[3] <http://g1.globo.com/ceara/noticia/2012/01/pib-da-construcao-civil-no-ce-cresce-acima-da-media-do-pais-diz-sindicato.html>.
[4] <http://www.cbicdados.com.br/files/textos/064.pdf>.

	Date	Name	Organization	Title
/i/	29/02/2012, 01/03/2012 and 02/03/2012	Mariana dos Santos Silva	Sustainable Carbon	Technical Analyst
/ii/		Ailton Luiz da Silva	Sustainable Carbon	Consultant
/iii/		Francisco Evanildo de Souza	Eliane Ceramic	Manager of the ceramic
/iv/		Antonio Carlos Medeiros	Antônio Ceramic	Manager of the ceramic
/v/		Marcos Antonio Gonçalves Melo	Ceará Ceramic	Manager of the ceramic
/vi/		Humberto Fernandes da Costa	Ceagra Ceramic	Manager of the ceramic
/vii/		José Erinaldo Duarte Matos	Santa Rita Ceramic	Manager of the ceramic

2.2 Resolution of outstanding issues

The objective of this phase of the verification is to resolve any outstanding issues which have to be clarified prior to final conclusions of the verifier on the project implementation, monitoring practices and achieved emission reductions. In order to ensure transparency a verification protocol is completed for the project activity. The protocol shows in transparent manner criteria (requirements), means of verification and resulting statements on verification actual project activity against identified criteria.

The verification protocol serves the following purposes:

- It organizes in a table form, details and clarifies the requirements, which GS-VER project is expected to meet;
- It ensures a transparent verification process where the verifier will document how a particular requirement has been verified and the result of the verification.

The verification protocol consists of two tables. Table 1 reflects the verification requirements and reference to the materials used to verify the project activity against those requirements, as well as means of verification, reference to Table 2 and preliminary and final opinion of the DOE on every particular requirement. The completed verification protocol for this project is enclosed in Appendix A to this report.

Findings during the verification can be interpreted as a non-compliance with CDM criteria and GS-requirements or a risk to the compliance. Corrective action requests (CARs) are raised, in case:

(a) Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;

(b) Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;

(c) Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

Requests for clarification (CLs) are raised, if information is insufficient or not clear enough to determine whether the applicable CDM and GS-requirements requirements have been met.

2.3 Internal quality control

The final verification report and draft verification report have passed a technical review before being submitted to the project participants. The technical review was performed by a technical reviewer qualified in accordance with TÜV Rheinland's qualification scheme for CDM validation and verification.

3. VERIFICATION FINDINGS

The findings of the verification are described in the following sections. The verification criteria (requirements), the means of verification and the results of validation are documented in detail in the verification protocol in Appendix A.

3.1 Project implementation

3.1.1 The implementation of the project activity

The project activity consists in reducing the greenhouse gases (GHG) emissions through the substitution of non-renewable biomass for renewable biomasses to generate thermal energy on five red ceramic factories belonging to Grupo Tavares as described in the registered PDD / 1/. As renewable biomasses, the project activity utilizes mostly biomass residues (such as cashew nut shells, residues from cashew tree, coconut residues) and wood from areas with sustainable forest management plan to feed the ceramic's kilns.

The project activity site is located in Brazil, in the state of Ceará in the northeast region of the country. The coordinates for each of the five red ceramics are clearly stated on MR / 3/ as the registered PDD / 1/.

The project is fully implemented according to the description presented in the PDD / 1/. The verification team confirms, through visual inspection that all physical features of the proposed project activity including data collection and storage have been implemented in accordance with the PDD / 1/. The project activity is completely operational and the same has been confirmed on-site during on-site visit.

3.1.2 The actual operation of the project activity

As per onsite visit and interview with shareholders the verification team confirmed that the project activity is in accordance with the registered PDD / 1/ and is operating in a normal condition during the entire reported monitoring period (01/09/10 - 31/12/11. The facilities have not been modified and presented proper operating condition.

3.2 Compliance of the monitoring plan with the monitoring methodology

The monitoring plan and the monitoring system implemented are in compliance to the applied UNFCCC, Approved Baseline & Monitoring Methodologies: AMS-I.E: "Switch from non-renewable biomass for thermal applications by the user", Version 04, EB / 5/, as per the requirement of § 203 of VVM, version 01.2 / 6/. All other requirements of the applied methodology are met. Verification team confirms that the monitoring plan in the PDD complies with the applied methodology and with the sustainability indicators established by the Gold Standard requirements / 7/.

3.3 Compliance of the monitoring with PDD and monitoring plan

Monitoring of reductions in GHG emissions as a result from the proposed GS-VER project activity were implemented in accordance with the monitoring plan contained in the registered PDD / 1/ and in the MR / 3/.

During the verification, some CARs and CLs were identified, as can be seen on Appendix A of this report, and all them were properly responded and accepted by the verification team.

3.3.1 Monitored parameters

The monitored parameters assessed in the monitoring plan are listed below with description about source of data used and means of verification. It was cross-checked with documents listed in the desk review.

Parameter	PR_y
Description	Amount of products produced in year y
Data unit	Thousands of ceramic pieces
Source of data used	Values used for the calculations were taken from sales reports control documents. Measurements were done by an internal control sheet monitored by the project proponent. Controlled by the ceramic owners.
Means of verification	The verification team verified this parameter through desk review and on-site visit, checked that the amount of products produced by the project used in the calculation and reported in the MR are correct and traceable to the data. Evidences of sales production control for each ceramic / 13/ were verified and accepted by the verification team.

Parameter	$Q_{renbiomass}$
Description	Amount of renewable biomass used during year y of the crediting period
Data unit	Tonnes
Source of data used	It was monitored through purchase invoice, delivery notes or other documents concerning the acquisition of renewable biomasses.
Means of verification	During the onsite visit and desk review, the verification team verified the amount of renewable biomass used during year y of the crediting period by the project used in the calculation and reported in the MR are correct and traceable to the data. Evidences of records of the receipts purchase of renewable biomass (such as cashew nut shell, residues from cashew tree, coconut husk) for each ceramic / 14/ were verified and accepted by the verification team.

Parameter	$f_{NRB,y}$

Description	Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable using survey methods
Data unit	Fraction or percentage
Source of data used	Survey methods
Means of verification	Since PDD / 1/ was completed on 08/03/2012 and it contains the most recent information available to determine, the monitored value for this parameter is equal to the figures described in version 05 of the PDD / 1/.

Parameter	Leakage due to competing uses of biomass
Description	This source of leakage was relevant for biomass residues and biomass from existing forests, according to the general guidance on leakage in biomass project activities. The quantity of renewable biomass available was assessed annually to determine the occurrence of leakage.
Data unit	tCO_2e
Source of data used	Calculated Surplus of each type of renewable biomass used by the project activity was assessed by Sustainable Carbon from July to October 2012. Information on the biomass availability and consumption was assessed by Sustainable Carbon following a methodological plan that was based on the application of questionnaires to relevant biomass experts, producers and suppliers. An independent third party expert opinion on the results and findings of such study was obtained, to ensure the results are appropriate and conservative. The following surplus of each biomass is considered, as based on a study developed by Sustainable Carbon / 20/. More details are available on Section E.3 of the MR / 3/ and Section 3.4 of this Report.

Biomass type	Surplus (%)	Year
Cashew nut shell	45%	2010/2011
Residues from cashew tree	25%	2010/2011
Coconut residues	1,444% for dry coconut 3,491% for green coconut	2010/2011
Babaçu residues	83%	2010/2011
Mamona Husk	2,206%	2010/2011
Sawdust	65%	2010/2011
Wood from sustainable management areas	10%	2010/2011

<table>
<tr><td></td><td>Leakage emissions due to the competing use of are considered for wood from sustainable forest management area, since the surplus of such biomass was assessed as lower than 25%.

Leakage emissions were calculated by PP according to procedures described on Approved consolidated baseline and monitoring methodology ACM0006, version 12.1.1 / 10/, and resulted in a total of 24,403 tCO_2e in this monitoring period, as detailed below:

<table>
<tr><th>Year</th><th>Leakage emissions (tCO2e)</th></tr>
<tr><td>2010</td><td>4,350</td></tr>
<tr><td>2011</td><td>20,053</td></tr>
<tr><td>Total</td><td>24,403</td></tr>
</table>
</td></tr>
<tr><td>Means of verification</td><td>The verification team accessed the Study “Renewable Biomass Surplus In The State Of Ceará, Brazil”, Version 01.2 October, 2012 / 20/ and all documents related to this study.

The verification team considered appropriate the calculation methods utilized to leakage emissions due to competing uses of biomass.</td></tr>
</table>

With respect to GS requirements, the project has to monitor the sustainability indicators, as defined by the Sustainability Monitoring Plan described in the Gold Standard Passport, version 05 / 2/.

As this is a retroactive verification and the Sustainability Monitoring Plan was revised during the validation and Gold Standard review phases, which occurred in 2012, after the end of this monitoring period, the monitoring of the Sustainability indicators was not complete for this first monitoring period, then monitoring of the sustainability indicators was based on best available sources of information.

The **FAR 1** has been raised regarding the indicators 01, 02, 03 and 04 which were not monitored because of the lack of information available during the monitoring period, then for the next periodic verification they should be implemented and correctly monitored.

The verification of the parameters required by the monitoring plan is provided as follows:

No.	01
Indicator	Air quality
Chosen parameter	Emissions to the atmosphere
Way of monitoring	Evaluations by applying Ringelmann smoke charts as recommended by SEMACE (Environmental Superintendence of the State of Ceará), the environmental authority. Results shall be stored to assess the intensity of atmospheric emissions.

Means of verification	The project proponents have failed to perform the regular monitoring of this parameter since the Sustainability Monitoring Plan was being revised during the validation and Gold Standard review phases. In order to demonstrate that the monitoring of air quality has been already implemented, the PP made available to the verification team evidences of the monitoring being executed by the ceramics / 16/. Also, to express that the ceramic owners were managing their impacts on air quality, some tests of particulate material in two of the five ceramics included in the project were carried out on June/2011 / 15/. The statements of the stakeholders during the meetings part of the Stakeholder Feedback round shows several positive opinions of the participants related to improved air quality / 12/. Evidences provided were analyzed and the verification team considers that, although the monitoring of air quality was not performed in proper manner during the monitoring period, the PP demonstrated that from the beginning of the project the management of air quality was taking into account and the monitoring of air quality has been already implemented. **FAR 1** has been raised for this indicator.

No.	02
Indicator	Soil condition
Chosen parameter	Procedures related to the control and disposal of ashes
Way of monitoring	Quantification of ashes using standard storage bags with a known weight. Spreadsheets to control the amount of storage bags, with information of the person/entity responsible for collecting and the place of destination. Photographs to evidence the final destination, whenever is feasible. Interviews and meetings with stakeholders and ceramic personnel on each ceramic.
Means of verification	The PP have failed to perform the regular monitoring of Soil Conditions, no monitoring on the handling of ashes was performed since during this monitoring period the Sustainability Monitoring Plan was being revised during the validation and Gold Standard review phases. During this monitoring period, ceramic owners have provided a proper destination to ashes resulted from biomass combustion, but have failed to document its destination method. Ashes were removed from kilns after each burning cycle and were stored in bags until final disposal. The quantity of ashes formed was not quantified, but ceramic owners agree the quantity was low (less

	than 60 kg per week on each ceramic). The indicator "Ashes" from Social Carbon Standard allows classifying the project activity into scenario 1, defined as: "Scenario 3: - Ashes are totally reused or donated, but without specific control". During the onsite visit verification team could verify that the ashes have been removed from kilns from burning cycle and were stored in bags until final disposal, but no control during the monitoring period was done as mentioned before. **FAR 1** has been raised for this indicator.

No.	03
Indicator	Quality of employment
Chosen parameter	Actions of health and security
Way of monitoring	Site visits and interviews with employees and Managers of each ceramic.
Monitoring Value and Frequency	According to the indicator from Social Carbon Standard: Social Carbon indicators for Ceramic Industry: Actions of Health and Security, the project activity can be classified into scenario three, defined as: *"Scenario 3: Only occasional campaigns or lectures of awareness regarding the occupational health and security in the last 12 months AND/OR Security internal communication in specific places (ex: posters, warnings, etc)."* The PP have failed to achieve a higher score than the baseline situation for the indicator of Actions of Health and Security during this monitoring period. Corrective actions were taken in February 2012, and the monitoring is being executed in a proper manner since then. Ceramic managers are committed to improve this indicator for the next monitoring periods. And during the current monitoring period, ceramic owners have installed safety grids around engines on the molding machines and have installed warning signs regarding the use of safety equipments in part of the ceramics included in the project, aiming to improve Health and Security conditions. Evidences to such actions were made available to the verification team Evidences regarding the installed safety grids around engines on the molding machines and warning signs regarding the use of safety equipments in part of the ceramics included in the project (actions performed after de end on this monitoring period) were made available to the verification team during the Gold Standard review phase. Even though the verification team considered that the PP is intended to improve the Health and Security conditions, the **FAR 1** has been raised for this indicator.

Means of verification	

No.	04
Indicator	Quality of employment
Chosen parameter	Use of safety equipments
Way of monitoring	Ceramic managers shall use spreadsheets to control the use of safety equipments by employees.
Means of verification	No data available for verification since during this monitoring period, no monitoring on the use of safety equipments was performed, as the Sustainability Monitoring Plan was being revised during the validation and Gold Standard review phases. As the final version was not available until the end of 2011, there was no definition on how to monitor sustainability indicators. **FAR 1** has been raised for this indicator.

No.	05
Indicator	Access to affordable and clean energy services
Chosen parameter	Total energy produced from renewable sources
Way of monitoring	The amount of renewable biomass used by each ceramic was monitored during the crediting period (through purchase invoice, delivery notes or other documents concerning the acquisition of biomass). By using default values of energy content, the project proponents were able to determine the amount of renewable energy produced during each year of the crediting period.
Monitoring Value and Frequency	Biomass acquisition was monitored for each purchase, by storing documents such as invoices or receipts. These allowed Sustainable Carbon to determine the amount of energy produced from renewable sources.
Means of verification	Through onsite visit and desk review the verification team checked the records of purchase of biomass / 14/ and found the calculation for the amount of energy produced correct.

No.	06
Indicator	Quantitative employment and income generation
Chosen parameter	Voluntary Emission Reductions issued
Way of monitoring	The issuance of Voluntary Emission Reductions (or similar assets from the carbon market) will be monitored.
Means of verification	No data available for verification since no emission reductions were issued at this moment.

No.	07
Indicator	Quantitative employment and income generation

Chosen parameter	Additional revenues for biomass suppliers
Way of monitoring	Total revenues will be monitored by storing purchase invoices, receipts of sale and other documents concerning biomass acquisition and then compared to the baseline fuel cost for the ceramics which were destined to native firewood suppliers.
Monitoring Value and Frequency	Biomass acquisition was monitored for each purchase, by storing documents such as invoices or receipts. These allowed Sustainable Carbon to determine the payments for biomass suppliers.
Means of verification	Through onsite visit and desk review the verification team checked the records of purchase of biomass / 14/ and MR Calculation spreadsheet / 4/ and found the calculation for additional revenues for biomass suppliers to be correct.

No.	08
Indicator	Origin of renewable biomass
Chosen parameter	Origin of renewable biomass
Way of monitoring	The origin of the renewable biomass will be assessed storing documents (receipts, invoices) from the biomasses providers, thus allowing determining its origin. The biomasses shall be considered renewable as fulfilling definitions of renewable biomass approved by the CDM Executive Board
Monitoring Value and Frequency	The guarantee of acquiring renewable wood was achieved by invoices from the providers. Biomasses were considered renewable as fulfilling the options described in the methodology applied.
Means of verification	Through onsite visit and desk review the verification team checked the records of purchase of renewable biomass / 14/ and verify that all fulfill the definition described in EB 23, Annex 18 – Definition of renewable biomass / 17/.

No.	09
Indicator	Competing uses of biomass
Chosen parameter	Biomass surplus
Way of monitoring	According to the Gold Standard Passport / 2/, national and international articles and databases should be assessed to determine the availability of each type of biomass used during the project operation. However, in response to FAR 1 raised by the Gold Standard Secretariat during project registration, Sustainable Carbon has developed a detailed Study on the surplus of all types of biomass used by the project activity / 20/. Also, an independent third party expert opinion on the results and findings of the assessment of biomass surplus was obtained, to ensure the results are appropriate and conservative.
Monitoring Value and Frequency	Monitoring values and frequency are available on Section 3.3.1 of this report.
Means of verification	Through desk review the verification team accessed the Study “Renewable Biomass Surplus In The State Of Ceará, Brazil”, Version 01.2 October, 2012 / 20/ and all documents related to this study and

	verified that the analysis and the calculations were performed in a conservative manner.

3.3.2 Monitoring responsibility

The responsibility for the registration, monitoring, measurement and reporting the monitored data was Mr. Francisco Evanildo de Souza /iii/ for Antônio Ceramic, Ceará Ceramic, Ceagra Ceramic and Eliane Ceramic. And for these scopes for Santa Rita Ceramic was Mr. Erinaldo Duarte /vii/. The responsible for applying monitoring methodology and the elaboration of the MR was the entity Sustainable Carbon – Projetos Ambientais Ltda and its project developers: Thiago de Avila Othero and Marcelo Hector Sabbagh Haddad: Technical Coordinators. Mariana dos Santos Silva and Camila Vaccari, Technical Analysts.

In summary it can be concluded by the verification team that the monitoring plan and relevant procedures reflect good monitoring practice and appropriate to the project type. After interviews during the on-site visit, the verification team confirms that the project participant was able to implement the monitoring plan as per the requirements of the applied monitoring methodology, the VVM and the Gold Standard requirements.

3.3.3 Accuracy of equipment

No monitoring equipment was used to determine any parameter.

3.3.4 Deviation from and Revision of the registered monitoring plan

The project participants have not deviated from the provisions of the registered monitoring plan, hence the DOE has not submitted a request for deviation.

3.4 Assessment of data and calculation of greenhouse gas emission reductions

During the onsite visit, the verification team checked the implemented process and the actual monitoring plan (monitored parameters, source of data, frequency of measurements). Through desk review and stakeholders interviews the verification team confirms the implementation of the project activity and the monitoring plan are in accordance with the registered PDD / 1/ and the MR / 3/.

– Baseline emissions

According to the registered PDD / 1/ and the approved methodology / 5/, the formula used to calculate the baseline emissions are:

$ER_y = B_y * f_{NRB,y} * NCV_{biomass} * EF_{projected\_fossilfuel}$, where:

Emission reductions (ER_y) are calculated by multiplying the quantity of woody biomass that was substituted (B_y), with fraction of woody biomass used in the absence of the project activity ($f_{NRB,y}$), with the net calorific value of non-renewable woody biomass that was substituted ($NCV_{biomass}$), with emission factor for substitution of non-renewable woody biomass by similar consumers ($EF_{projected\_fossilfuel}$).

B_y was calculated as: $\mathbf{B_y = PR_y \times BF_y}$ where:

The quantity of woody biomass that was substituted (B_y) is calculated by multiplying the amount of products produced (PR_y) with the quantity of woody biomass fired (BF_y).
The counting of the total production was monitored by employees on each ceramic. Data was aggregated on a monthly basis in a sales control, measured by monthly reports. During de onsite visit and desk review the verification team checked the amount of products produced (PR_y) through records of Sales Report Control / 13/. The value of (BF_y) was determined with the use of the historical records from the ceramics included in the project, by dividing monthly average consumption in the baseline by monthly average baseline production. The values are inputted in an electronic spreadsheet by the ceramic responsible and Sustainable Carbon have access to the information and then applied to the baseline emission calculations. The verification team confirms the correctly application of the values on the MR Calculation spreadsheet / 4/.

The fraction of woody biomass used in the absence of the project activity ($f_{NRB,y}$) applied in the calculation is equal to the figures described in version 05 of the PDD / 1/ which was completed on 08/03/2012 and it contains the most recent information available to determine this parameter.

– Leakage emissions

The sources of leakage relevant to the present project activity are the competing use of biomass for biomass from existing forests and for biomass residues or waste, in which follows the general guidance on leakage in biomass project activities (Attachment C of Appendix B) / 9/.

In response to FAR 1 raised by the Gold Standard Secretariat during project registration, PP (Sustainable Carbon) has developed a detailed Study “Renewable Biomass Surplus In The State Of Ceará, Brazil” / 20/ on the surplus of all types of biomass used by the project activity. Such study was developed from July to October, 2012, where questionnaires were applied and information was collected from experts, producers and suppliers of biomass. Through desk review the verification team accessed the Study / 20/ and all documents related to this study and verified that the analysis and the calculations were performed in a conservative manner.

The conclusion reached by this Study / 20/ is that the estimates of the surplus of each biomass analyzed, the data assessed demonstrates a surplus of at least 25% for coconut residues, Mamona husks, babaçu residues, sawdust, cashew nut shells and residues from cashew tree. The surplus of wood from sustainable management areas has not been confirmed to be of at least 25%, for this reason, PP calculated the leakage emissions for the amount of wood from sustainable forest management areas. Leakage is calculated according to procedures provided in Approved consolidated baseline and monitoring methodology ACM0006, version 12.1.1 / 10/, as described below:

$$LE_y = EF_{CO2,LE} \cdot \sum_n BR_{B5/B8,n,y} \cdot NCV_{BR,n,y}$$

Where,

LEy	Leakage emissions in year y (tCO2)
$EF_{CO2,LE}$	CO2 emission factor of the most carbon intensive fossil fuel used in the country (tCO2/GJ)
$BR_{B5/B8,n,y}$	Quantity of biomass residues of category n used in the CDM project activity in year y, for which the baseline scenario is B5, B6, B7 or B8 (tonnes on dry-basis).
$NCV_{BR,n,y}$	Net calorific value of biomass residue of category n in year y (GJ/tonne on dry-basis)
n	Biomass residue category
y	Year of the crediting period

For the calculation of leakage, $BR_{B5/B8,n,y}$ is determined by PP as the amount of wood from sustainable forest management used by each ceramic on each year of the crediting period. Also, to provide further consistency with AMS-I.E version 4 / 5/, instead of using the CO_2 emission factor of the most carbon intensive fossil fuel used in the country, leakage emissions are calculated using $EF_{projected\_fossilfuel}$.

The verification team has the check the calculations and the inputs value and found this approach appropriate.

The applied methodology does not include any source of project emissions, then the emission reductions for the project activity is baseline emission minus leakage emissions.

Ceará Renewable Energy Bundled Project	2010	2011	Total monitoring period
Baseline emissions (tCO_2e)	15,664	49,316	64,980
Project emissions (tCO_2e)	0	0	0
Leakage emissions (tCO_2e)	4,350	20,053	24,403
Emission reductions for the project acitivity (tCO_2e)	11,314	29,263	**40,577**

The baseline calculations, leakage and emission reduction calculations are carried out electronically with a spreadsheet; therefore the calculations are transparent, traceable and of high quality.

– Comparison with the estimated emission reduction in the registered PDD

The emission reductions declared during the 1st monitoring period is 40,577 tCO2e, compared with the estimated and stated in the registered PDD / 1/ 48,231 tCO2e[5], it was verified that value is 15,86% lower than the estimation, this is explained due to account of leakage due to the competing use of renewable biomass, which had not been foreseen at the time of validation.

Also is possible to observe that the production increased in the ceramic companies, which is justified by the market demand and economic scenario. Civil construction in Brazil has

[5] Annual average of estimated emissions reductions plus equivalent of 2009 (4 months) = [36.173 + (36.173/12*4)].

observed constant growth in recent years. This scenario is also observed in the State of Ceará, where the project is located, verified through articles and economic information / 18/, / 19/. Also as can be observed on Table 09 of the MR / 3/, during the current monitoring period, there was a gradual increase in thermal energy generation and production output in most of the five ceramic companies.
Santa Rita ceramic had a significant increase in production caused by arrangements in this factory that allowed the simultaneous operation of all three kilns existing in the ceramic, in the period used for the assessment of the baseline (year 2009) the kilns in Site 2 were not operating simultaneously due to the lack of employees and infrastructure. This was verified by verification team through onsite visit interviews and desk review of production control / 13/.

Hence, based on these evidences and justification, the Verification Team deemed that the difference between the estimated and the verified amount of emission reductions are feasible and real.

3.5 Issues remaining from the previous verification period

There was no previous verification period, therefore this chapter is only applicable in the next periodic monitoring periods and related verification reports.

Appendix A

Verification protocol

CEARÁ RENEWABLE ENERGY BUNDLED PROJECTin BRAZIL

to Report No. 5520.11

Table 1: Verification requirements (based on §56, §57 and §62 of the CDM Modalities and Procedures and on CDM Verification and Verification Manual, Annex 3 of EB44)					
Checklist question	**Ref.**	**MoV[6]**	**Findings, comments, references, data sources**	**Draft conclusion**	**Final conclusion**
1. Implementation					
1.1 Have all physical features proposed in the registered PDD been implemented at the project site?		DR	Yes, the physical features proposed in the registered PDD have been implemented at the project sites.	**OK**	**OK**
1.2 Has the project activity been operated in accordance with the project scenario described in the registered PDD and relevant guidance? Reference: <http://cdm.unfccc.int/EB/033/eb33rep.pdf>, §75		DR	Yes, the project activity has been operated in accordance with the project scenario described in the registered PDD. The five red ceramics factories, belonging to Grupo Tavares, have utilizing thermal energy generated by the use of renewable biomass.	**OK**	**OK**
1.3 If the project activity is implemented on a number of different locations, has the Monitoring report provided the verifiable starting dates for each site?		DR	Yes, the starting date of the project activity was considered by the PP to be 02/07/2010, when Grupo Tavares and Sustainable Carbon signed contracts for the development of a GHG emission reduction project in the five ceramic factories included in the current project.	**OK**	**OK**

[6] MoV = Means of Verification, DR = Document Review, I = Interview, www = internet search.

Checklist question	Ref.	MoV[6]	Findings, comments, references, data sources	Draft conclusion	Final conclusion
2. Monitoring plan and methodology					
2.1 Is the monitoring plan established in accordance with the monitoring methodology?		DR	Yes, the monitoring plan established is in accordance with the monitoring methodology.	**OK**	**OK**
2.2 In case the implemented monitoring plan defers from the monitoring methodology, has any requests for revision to or deviation from the monitoring methodology been officially communicated to the CDM EB? Reference: <http://cdm.unfccc.int/EB/033/eb33rep.pdf>, §84, §58		DR	Not applicable.	**OK**	**OK**
2.2.1 Have the above changes to the monitoring plan been approved by the CDM EB?		DR	Not applicable.	**OK**	**OK**
3. Monitoring and the monitoring plan					

Checklist question	Ref.	MoV[6]	Findings, comments, references, data sources	Draft conclusion	Final conclusion
3.1 Is monitoring established in full compliance with the monitoring plan, contained in the registered PDD (or new monitoring plan approved by the CDM EB)?		DR	Yes, the monitoring established is in full compliance with the monitoring plan contained in the registered PDD. **CAR 1:** Correct template used for Monitoring Report. The header and number of pages are missing. **CAR 2:** Revise MR with the last version of PDD. **CL 1:** Please clarify the last statement on Section B.1 of MR "This Monitoring Report refers to the first monitoring period of this project, and includes data from 01/01/2011 to 31/12/2011." The period is not in line with the referred monitoring period.	~~**CAR 1**~~ ~~**CAR 2**~~ ~~**CL 1**~~	**CLOSED** **CLOSED** **CLOSED**
3.2 Are all baseline emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology and relevant CDM EB decisions?		DR	**CAR 3:** Revise data and records of the parameter $Q_{renbiomass}$ (Amount of renewable biomass used during year y of the crediting period) and update the "MR Calculation_Ceará Renewable Energy Bundled" spreadsheet.	~~**CAR 3**~~	**CLOSED**

Checklist question	Ref.	MoV[6]	Findings, comments, references, data sources	Draft conclusion	Final conclusion
3.2.1 Was the monitoring equipment for baseline emission parameters controlled and monitoring results recorded as per approved frequency?		DR	Not applicable. No monitoring equipment was used to determine the baseline emission parameters.	**OK**	**OK**
3.2.2 Was the monitoring equipment for baseline emission parameters calibrated in accordance with QA&QC procedures described in the registered monitoring plan?		DR	Not applicable.	**OK**	**OK**
3.3 Are all project emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology and relevant CDM EB decisions?		DR	Not applicable. The applied methodology does not include any source of project emissions.	**OK**	**OK**
3.3.1 Was the monitoring equipment for project emission parameters controlled and monitoring results recorded as per approved frequency?		DR	Not applicable.	**OK**	**OK**
3.3.2 Was the monitoring equipment for project emission parameters calibrated in accordance with QA&QC procedures described in the registered monitoring plan?		DR	Not applicable.	**OK**	**OK**
3.4 Are all leakage emission parameters monitored and updated in accordance with monitoring plan, monitoring methodology and relevant CDM EB decisions?		DR	Yes, all leakage emission parameters monitored and updated are in accordance with monitoring plan, monitoring methodology and relevant CDM EB decisions. **CAR 4:** The values for the parameter $f_{NRB,y}$ are not in accordance with the last version o PDD. Please revise it.	~~**CAR 4**~~	**CLOSED**

Checklist question	Ref.	MoV[6]	Findings, comments, references, data sources	Draft conclusion	Final conclusion
3.4.1 Was the monitoring equipment for leakage emission parameters controlled and monitoring results recorded as per approved frequency?		DR	Not applicable. No monitoring equipment was used to determine the baseline emission parameters.	**OK**	**OK**
3.4.2 Was the monitoring equipment for leakage emission parameters calibrated in accordance with QA&QC procedures described in the registered monitoring plan?		DR	Not applicable.	**OK**	**OK**
3.5 Were all monitoring parameters available and verifiable through the whole monitoring period?		DR	Idem **CAR 3**	~~**CAR 3**~~	**CLOSED**
3.5.1 In case, only partial monitoring data is available and PP(s) provide estimations or assumptions for the rest of data, was it possible to verify those estimations and assumptions? Reference: <http://cdm.unfccc.int/EB/026/eb26rep.pdf>, §109(b)		DR	Not applicable.	**OK**	**OK**
3.6 Was management and operation system established and operated in accordance with the monitoring plan?		DR	Yes. The management and operation system established and operated was in accordance with the monitoring plan.	**OK**	**OK**
3.7 Was is it possible to verify that involved management and operation personal is fully aware of the responsibilities and perform all operations according to the registered monitoring plan and internally developed manuals?	/i/-/vii/	DR, I	Yes. The operation personal and the responsible for data collection are highly educated. Through interviews, during the on-site visit, it could be confirmed that this personal is fully aware of the responsibilities and perform all operations according to the registered monitoring plan.	**OK**	**OK**

<table>
<tr><th>Checklist question</th><th>Ref.</th><th>MoV[6]</th><th>Findings, comments, references, data sources</th><th>Draft conclusion</th><th>Final conclusion</th></tr>
<tr><td colspan="6">4. Parameters</td></tr>
<tr><td>4.1 Monitored parameter
Title: PR_y
Indication: Amount of products produced in year y
Units: Thousands of ceramic pieces
Measured value (ex-post):
<table>
<tr><th>Period</th><th>Antônio Ceramic</th><th>Ceagra Ceramic</th><th>Ceará Ceramic</th><th>Eliane Ceramic</th><th>Santa Rita Ceramic</th></tr>
<tr><td>Total Monitoring Period</td><td>8,351</td><td>34,520</td><td>13,571</td><td>10,371</td><td>23,942</td></tr>
</table></td><td></td><td>DR</td><td>CL 2: Please provide evidences that confirm the increase of production during the monitoring period for Santa Rita Ceramic, compared to baseline period.

CL 3: On Section D.2, on table of the parameter PR_y, please correct: the Period ”January to December 201” to ”January to December 2011”.</td><td><s>CL 2</s>

<s>CL 3</s></td><td>CLOSED

CLOSED</td></tr>
</table>

<table>
<tr><th>Checklist question</th><th>Ref.</th><th>MoV[6]</th><th>Findings, comments, references, data sources</th><th>Draft conclusion</th><th>Final conclusion</th></tr>
<tr><td>Title: $Q_{renbiomass}$
Indication: Amount of renewable biomass used during year y of the crediting period
Units: Tonnes
Measured value (ex-post):
<table>
<tr><th>Period</th><th>September to December 2010</th><th>January to December 2011</th><th>Total (tonnes)</th></tr>
<tr><th>Renewable Biomass</th><th>$Q_{renbiomass}$ (tonnes)</th><th>$Q_{renbiomass}$ (tonnes)</th><th></th></tr>
<tr><td>Babaçu</td><td>0.00</td><td>3,464.73</td><td>3,464.73</td></tr>
<tr><td>Cashew nut shells</td><td>1,075.40</td><td>2,158.23</td><td>3,233.63</td></tr>
<tr><td>Coconut residues</td><td>260.00</td><td>1,588.90</td><td>1,848.90</td></tr>
<tr><td>Mamona husk</td><td>281.15</td><td>1,219.52</td><td>1,500.67</td></tr>
<tr><td>Wood from sustainable management plan areas</td><td>4,180.21</td><td>27,908.68</td><td>32,088.90</td></tr>
<tr><td>Residues from cashew trees</td><td>512.40</td><td>3,715.79</td><td>4,228.19</td></tr>
<tr><td>Sawdust</td><td>85.11</td><td>15,153.02</td><td>15,238.13</td></tr>
<tr><td>Total</td><td>6,394.27</td><td>55,208.87</td><td>61,603.14</td></tr>
</table>
</td><td></td><td></td><td>Idem to CAR 3</td><td><s>CAR 3</s></td><td>CLOSED</td></tr>
</table>

Checklist question	Ref.	MoV[6]	Findings, comments, references, data sources	Draft conclusion	Final conclusion
Title: $f_{NRB,y}$ Indication: Fraction of woody biomass used in the absence of the project activity in year *y* that can be established as non-renewable using survey methods Units: Fraction or percentage Measured value (*ex-post*): 0.8300 for Antônio Ceramic 0.6134 for Ceará Ceramic 0.6548 for Ceagra Ceramic 0.7041 for Eliane Ceramic 0.8777 for Santa Rita Ceramic			Idem to **CAR 4**	~~**CAR 4**~~	**CLOSED**

Checklist question	Ref.	MoV[6]	Findings, comments, references, data sources	Draft conclusion	Final conclusion
4.2 **Default parameter** Title: $EF_{projected\_fossilfuel}$ Indication: Emission factor for substitution of non-renewable woody biomass by similar consumers. Units: tCO2/TJ Default/Used value: 81.6 Title: $NCV_{biomass}$ Indication: Net calorific value of the non-renewable woody biomass that is substituted Units: TJ/ton Default/Used value: 0.015 Title: $\rho_{biomass}$ Indication: Specific gravity of non-renewable biomass type *j* Units: Tonnes/m^3 Default/Used value: 0.88 Title: BF_y Indication: Quantity of woody biomass per thousand of ceramic units fired in year y Units: Tonnes of wood per thousand of ceramic pieces Default/Used value: 0.8176 for Antônio Ceramic 1.0261 for Ceará Ceramic 0.9627 for Ceagra Ceramic 0.8825 for Eliane Ceramic 0.7136 for Santa Rita Ceramic		DR	The verification team cross-check the independent sources of data and confirmed that all the references were correctly applied.	**OK**	**OK**

Checklist question	Ref.	MoV[6]	Findings, comments, references, data sources	Draft conclusion	Final conclusion
5. Calculations					
5.1 Have all the calculations related to the baseline emissions been carried according to the formulae and methods described in the registered PDD and applied methodology?		DR	Yes, all calculations related to the baseline emission been carried in accordance with the formulae and methods described in the registered PDD.	**OK**	**OK**
5.2 Have all the calculations related to the project emissions been carried according to the formulae and methods described in the registered PDD and applied methodology?		DR	Not applicable.	**OK**	**OK**
5.3 Have all the calculations related to the leakage emissions been carried according to the formulae and methods described in the registered PDD and applied methodology?		DR	Idem to **CAR 4**	~~**CAR 4**~~	**CLOSED**

Table 2: List of Requests for Corrective Action (CAR) and Clarification (CL)					
No.	Type of request	Observation	Reference (Table 1)	Summary of project owner response	Verification team conclusion
1.	CL	CL 1: Please clarify the last statement on Section B.1 of MR “This Monitoring Report refers to the first monitoring period of this project, and includes data from 01/01/2011 to 31/12/2011.” The period is not in line with the referred monitoring period.	3.1	The statement was corrected on Section B.1. The monitoring period is from 01/09/2010 to 31/12/2011.	The correction made was accepted by de verification team. This CL is CLOSED.
2.	CL	CL 2: Please provide evidences that confirm the increase of production during the monitoring period for Santa Rita Ceramic, compared to baseline period.	4.1	A comparison was made for the values of production output, thermal energy generation and the thermal energy required to produced one thousand of ceramic devices. Please see section E.5 table 09 of the Monitoring Report. The comparison was made between monitored data and values from the pre-project situation (baseline scenario). The increase of production during the current monitoring period is due increase in market demand and also due to the operation of three kilns in Santa Rita ceramic. Internal controls of production on each kiln were sent to the validation team as evidences of the three kilns operation. Besides that, monthly sales internal control of each ceramic company are being sent to the verification team, as evidence of production data,	The comparison made and added on MR was accepted by the verification team. This CL is CLOSED.

				described on section D.2, PRy.	
3.	CL	CL 3: **On Section D.2, on table of the parameter $PR_{y,}$ please correct: the Period "January to December 201" to "January to December 2011".**CL 1: Please clarify the last statement on Section B.1 of MR "This Monitoring Report refers to the first monitoring period of this project, and includes data from 01/01/2011 to 31/12/2011." The period is not in line with the referred monitoring period. **CL 2:** Please provide evidences that confirm the increase of production during the monitoring period for Santa Rita Ceramic, compared to baseline period. CL 3: On Section D.2, on table of the parameter $PR_{y,}$ please correct: the Period "January to December 201" to "January to December 2011".	4.1	The correction was made on section D.2.	The correction made was accepted by de verification team. This CL is CLOSED.
4.	CAR	CAR 1: Correct template used for Monitoring Report. The header and number of pages are missing.	3.1	The Monitoring Report was written following the template available at: http://cdm.unfccc.int/filestorage/L/M/Z/LMZTP76J48RDS1OY92XA3W5UCGENQF/Monitoring%20Report_Zhuchaxia_100603cl.pdf?t=MmV8bTF2MXN3fDDPJPHaRPMZihOHzITgPsjE. Last visited on April 2nd, 2012.	No changes on the MR. This CAR is CLOSED.
5.	CAR	CAR 2: Revise MR with the last version of PDD.	3.1	The Monitoring Report was revised according to the PDD version 05.	The revision made on MR was accepted by de verification team. This CAR is CLOSED.

6.	CAR	CAR 3: Revise data and records of the parameter $Q_{renbiomass}$ (Amount of renewable biomass used during year y of the crediting period) and update the "MR Calculation_Ceará Renewable Energy Bundled" spreadsheet.	3.2 3.5 4.1	Data of the parameter $Q_{renbiomass}$ were revised regarding evidences seen on the verification site visit. The corrected values were updated on the Monitoring Report version 2.1.	The revision made was accepted by de verification team. This CAR is CLOSED.
7.	CAR	CAR 4: The values for the parameter fNRB,y are not in accordance with the last version o PDD. Please revise it.	3.4 4.1 5.3	The values for the parameter $f_{NRB,y}$ were updated on the Monitoring Report, according to the PDD version 05.	The revision made was accepted by de verification team. This CAR is CLOSED.

Table 3: List of forward action requests (FARs)				
FAR number	Observation	Reference	Summary of project participants' response	Verification team conclusion
FAR1	Since the Sustainability Monitoring Plan was revised during the validation and Gold Standard review phases occurred in 2012, after the end of the first monitoring period, the monitoring of the Sustainability indicators was not complete, then the indicators no. 01, 02, 03 and 04 were not monitored because of the lack of information available during the monitoring period. Verify in the next verification if these indicators were correctly applied.		Project Participants are committed to apply the correct monitoring procedures related to indicators number 01, 02, 03 and 04 for the next monitoring period of the project activity.	Verification team accepted the PP's response and let the FAR OPEN for the next periodic verification.

Appendix B

Certification statement

to the Verification report 5520.11

Certification statement

The assigned verification team of TÜV Rheinland has performed an 1st periodic verification of the registered GS-VER project activity “Ceará Renewable Energy Bundled Project” in Brazil. The project activity is designed to generate emission reductions by the substitution of non-renewable biomass for renewable biomasses to generate thermal energy.

The verification was performed to identify the compliance of the project activity with implementation and monitoring requirements, and to verify the actual amount of achieved emission reductions.

The verification is based on:

— PDD version 05, dated 08/03/2012;

— Approved monitoring methodology AMS-I.E: “Switch from non-renewable biomass for thermal applications by the user”, Version 04, EB 60;
— Monitoring reports versions 01.1, 02.3, 03, 04 and 05 dated 24/02/2012, 24/04/2012, 11/06/2012, 15/10/2012 and 27/11/2012 respectively.

This statement covers verification period of 16 months between 01/09/10 - 31/12/11.

The verifier has raised 4 (four) CARs and 3 (three) CLs which have been successfully resolved by PPs.

The verifier TÜV Rheinland has raised 1 (one) Forward Action Requests which shall be addressed and verified during the next periodic verification.

The verifier herewith certifies that the project activity, achieved emission reductions by sources of GHG equal to 40,577 tCO_2 and all monitoring requirements have been fulfilled.

2012-11-29
Date

Sebastian Del Valle Rosales
Team Leader
TÜV Rheinland do Brasil Ltda.

Appendix C

Certificates of Competence

Qualification

del Valle Rosales, Sebastian /

Emission Trading
United Nations Framework Convention on Climate Change

(The following data is set by the certification body)

Auditor No.: (AuditorenRegNr)			
Appointed: (Zugelassen)	☑ ja	Qualification Level: (Qualifikationsstufe)	Lead Auditor
External: (Externer)	☐ ja	Add. reviewer: (Zusätzlicher Prüfer)	☐ yes
EAC Scopes: (EAC Branchen)	CDM 01 - Energy industries (renewable - / non-renewable sources) CDM 13 - Waste handling and disposal		
Add. qualification: (zus. Qualifikation)			
First Appointment: (Erstberufung)	11/01/2011	Valid to: (Gültig bis)	10/01/2014

Qualification

Gennari Luciano, Taís /

Emission Trading
United Nations Framework Convention on Climate Change

Auditor No.: (AuditorenRegNr)			
Appointed: (Zugelassen)	☒ ja	Qualification Level: (Qualifikationsstufe)	Trainee
External: (Externer)	☐ ja	Add. reviewer: (Zusätzlicher Prüfer)	☐ yes
EAC Scopes: (EAC Branchen)	CDM 13 - Waste handling and disposal		
Add. qualification: (zus. Qualifikation)			
First Appointment: (Erstberufung)	10/01/2011	Valid to: (Gültig bis)	30/10/2014

Qualification

Kober, Ralf /

Emission Trading
United Nations Framework Convention on Climate Change

(The following data is set by the certification body)

Auditor No.:
(AuditorenRegNr)

Appointed: (Zugelassen)	☑ ja	Qualification Level: (Qualifikationsstufe)	Lead Auditor
External: (Externer)	☐ ja	Add. reviewer: (Zusätzlicher Prüfer)	☐ yes
EAC Scopes: (EAC Branchen)	CDM 01 - Energy industries (renewable - / non-renewable sources) CDM 07 - Transport CDM 13 - Waste handling and disposal		
Add. qualification: (zus. Qualifikation)			
First Appointment: (Erstberufung)	02/08/2007	Valid to: (Gültig bis)	01/08/2013