




**Validation report form for renewal of crediting period for
CDM project activities
(Version 02.0)**

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

BASIC INFORMATION

Title and UNFCCC reference number of the project activity	Social Education and Development Society (SEDS) Biogas CDM project for the rural poor UNFCCC ID: 3541 (TN P-No. 8000475227-17/125)
Number and duration of the next crediting period	CP-No.: 2 – 01/01/2018 to 31/12/2024 (incl. both days)
Version number of the validation report for RCP	2.0
Completion date of the validation report for RCP	06/06/2018
Version number of PDD to which this report applies	14.0
Project participant(s)	M/s Social Education and Development Society (SEDS) Evangelisches Werk für Diakonie und Entwicklung e.V.
Host Party	India
Applied methodologies and standardized baselines	AMS-I.E.: Switch from non-renewable biomass for thermal applications by the user, Version 7)
Mandatory sectoral scopes linked to the applied methodologies	Scope 1 : / Technical Area: 1.2
Conditional sectoral scopes linked to the applied methodologies	Scope 13 : / Technical Area: 13.2 (applicable to this project activity) Scope 15: / Technical Area: 15.1 (not applicable to this project activity)
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period	15,749 tCO _{2e}
Name and UNFCCC reference number of the DOE	TÜV NORD CERT GmbH (TÜV NORD); E-0022
Name, position and signature of the approver of the validation report for RCP	 Stefan Winter Final Approval

SECTION A. Executive summary

M/s Social Education and Development Society (SEDS) has commissioned the TÜV NORD JI/CDM Certification Program to carry out validation of the request for renewal of crediting period (RCP) for the project:

“Social Education and Development Society (SEDS) Biogas CDM project for the rural poor”

with regard to the relevant requirements for GS project activities.

The project was registered on 09/09/2010 under the UNFCCC registration No 3541. The PPs have chosen a 7 year crediting period which is now due for renewal. The PPs have thus notified the UNFCCC about their intention to request the renewal of the crediting period through email dated 03/06/2017 and the reply from UNFCCC via mail received 09/06/2017 and the copy is submitted to the DOE.

The objective of this RCP validation is the review by an independent entity whether the project is still compliant with the applicable sections of:

- the CDM project standard for project activities (version 1.0)^{/PS/},
- the Validation and Verification Standard for project activities (version 1.0)^{/VVS}
- the updated applied UNFCCC Methodology AMS-I.E., Version 07.0 Switch from non-renewable biomass for thermal applications by the user (Version 7.0)^{/meth/} and
- the methodological tool “Assessment of the validity of the original / current baseline and update of the baseline at the renewal of the crediting period” (Version 03.0.1)^{/TVB/}.

As per the requirements of the CDM Validation and Verification Standard^{/VVS/} (section 10) the validation is based on

- the registered and/or latest updated version of the PDD (including revisions of the monitoring plan)^{/PDD/},
- the updated emission reduction calculation spread sheet^{/XLS/},
- further supporting documents made available to the validator as well as
- information collected through performing interviews and during the on-site assessment.

Furthermore publicly available information, such as the host country legislation, was considered as far as available and required.

The project reduces GHG emissions due to

The project activity involves the installation of 5,000 biogas digesters of 2 m³ capacity each, in the five (5) Mandals of Roddam, Somandepalli, Penukonda, Chilamathur and Gorantla in Anantapur district, state of Andhra Pradesh, India.

The biogas digester equipment consists of a digester of 2 m³ capacity with a fixed, non-movable gas space. Gas is produced through anaerobic digestion of cow dung and other organic wastes which is stored in the upper part of the digester before being piped to the biogas stove in the kitchen. The gas pressure displaces the digested slurry into the compensating tank, which then can be used as manure. The technology used in the project activity is indigenously available in India and is based on the Deenbandhu digester model approved by the Ministry of Non-Conventional Energy Sources (MNES).

The project activity involves the installation and operation of 5 000 digesters in phases, at individual households and use of biogas produced in biogas stoves for cooking purpose and heating of hot water, replacing the commonly used inefficient wood fired mud stoves technology, thus avoiding the use of non-renewable biomass like the fuel wood from forests and the use of kerosene in the baseline scenario. In accordance with the chosen methodology, AMS-I.E. version 07 in the absence of the project activity, the baseline scenario would be the use of fossil fuels (kerosene) for meeting similar thermal energy needs.

The actual installed capacity of biogas is 5,000 and the same was confirmed by checking the data base and compared with the sample digester IDs at the site. It was also confirmed through the interview with the database^{/DB/} that there is no change of equipment between the 1st and the 2nd crediting period.

The first biogas unit was commissioned and started use on 03/03/2011.

Details of the project location are given in table A-1 below:

Table A-1: Project Location

No.	Project Location
Host Country	India
Region:	Andhra Pradesh
Project location address:	Roddam, Somandepalle, Penukonda, Chilamatturu and Gorantla Mandals in Anantapur District
Penukonda	
Latitude:	14° 05' 00" N
Longitude:	77° 35' 00" E
Roddam	
Latitude:	14° 06' 00" N
Longitude:	77° 26' 00" E
Somandepalle	
Latitude:	14° 00' 44" N
Longitude:	77° 36' 30" E
Gorantla	
Latitude:	13° 59' 21" N
Longitude:	77° 46' 13" E
Chilamathur	
Latitude:	13° 34' 25" N
Longitude:	80° 00' 12" E

Basic technical details of the project are summarized in table A-2.

Table - A-2: Technical data of the project activity

Parameter	Unit	Value
Capacity of the biogas digester	m ³	2
Number of biogas digesters	-	5,000
Biogas digester Model	-	Fixed dome, Deenbandhu

SECTION B. Validation team, technical reviewer and approver**B.1. Validation team member**

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)	Involvement in			
						Desk review	On-site inspection	Interview(s)	Validation findings
1.	Team Leader	EI	G.	Ezhilarasu	TUV India Private Limited	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.	Team member	EI	Borekar	Manoj Kumar	TUV India Private Limited	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

No.	Role	Type of resource	Last name	First name	Affiliation (e.g. name of central or other office of DOE or outsourced entity)
1.	Technical reviewer	EI	Lubanga	David	-
2	Technical reviewer /Approver	IR	Winter	Stefan	TUV NORD CERT GmbH

SECTION C. Means of validation**C.1. Desk /document review**

During the desk review all documents initially provided by the client and publicly available documents relevant for the validation were reviewed. The main documents are listed below:

- the last revision of the PDD including the monitoring plan^{/PDD/},
- the last revision of the validation report^{/VAL/},
- documentation of previous verifications^{/VER/}
- the monitoring report, including the claimed emission reductions for the project^{/VER/},
- the emission reduction calculation spreadsheet^{/XLS/}.

Other supporting documents, such as publicly available information on the UNFCCC website and background information were also reviewed.

C.2. On-site inspection

Duration of on-site inspection: 14/07/2017 and 03/02/2018**				
No.	Activity performed on-site	Site location	Date	Team member
1.	Opening meeting	Anantapur	14/07/2017	G Ezhilarasu
2.	On-site inspection Interview with PP Representative and Operation Staff Biogas Users at village level		03/02/2018	G Ezhilarasu Manoj Kumar Borekar
3.	Documents check			
4.	Discussion on findings			
5.	Close Meeting			

**Second Site visit is conducted to fulfil Scope 13.2 Requirements

C.3. Interviews

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Jayasena	Manil	SEDS - CEO	14/07/2017	Implementation, Funding overall project status	G Ezhilarasu
2	Joshua	Rohith	SEDS – Project Co ordinator		Project Technology/ Schedules / Identification of Beneficiaries/ Surveys	
	Nagamani	P	SEDS / Co-ordinator			
3	Rommy	Suet	SEDS Advisor		Monitoring / Maintenance coordination Data logs	
4	Padmanabha	Sudha	Fair Climate-CDM specialist		Baseline CER calculation PDD preparation	
5	Field Level coordinators		SEDs		Monitoring/ Break down logs/ maintenance information flow	
6	End Users		Village		Technology satisfaction Comparable output to traditional stoves Project Impact on sustainability	
	1.Buddama 2, G Prameelamma 3. T Venkatamma 4. Lakshmiddevamma 5. S Prameelamma 6 D Shakeena Farraddin 7. G Ramanjiamma 8. V Subbamma		Seshsapuram			
	1. H Narasamma 2. P Shantamma 3. B, Ramanujima 4. B. Achamma 5. N Syamalamma 6,. Narayanamma		B. R Palli			
	1. S. Rukminamma 2. K. Kankiamma 3. Rukminamma 4. R Thilsamma 5. P Parvathamma 6. G Venkatalakshmi 7. Ramakrishnamma (Sivamani – Daughter) 8. Venkatalakshmmamma		N G R Palli			

No.	Interviewee			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Joshua	Rohith	SEDS – Project Co ordinator	03/02/2018	Implementation, Funding overall project status	G Ezhilarasu/ Manoj Kumar Borekar
2	Nagamani	P	SEDS / Co-ordinator		Project Technology/ Schedules / Identification of Beneficiaires/ Surveys	
3	Padmanabha	Sudha	Fair Climate-CDM specialist		Monitoring / Maintenance coordination Data logs	
				Baseline CER calculation PDD preparation		

				Survey results	
4	Field Level coordinators	SEDs		Monitoring/ Break down logs/ maintenance information flow	
5	End Users	Village		Technology satisfaction Comparable output to traditional stoves Project Impact on sustainability	
	B Ramanjima S Jayamma	Roddam S Palli			
6	Non Project House holds	Village		Current fuel wood usage Baseline information	
	U Siddamma V Venkatamma B R Achamma Rathnamma U Gangamma	B. R Palli			
	Puspha Buddi Naik S Peerabhai Kamali Bhai Lakshmi Devi Kamalabhai	A Thanda			

C.4. Sampling Approach

The PP does not opt for sampling and they do 100% monitoring of the operational days of the biogas digesters. However the PP has taken sample survey of 24,136 households to access the amount of fuel wood used in the pre-project devices. The PP covered an extensive sampling and which is more than the required number of samples, thus as per paragraph 2.1.2 "Sampling and surveys for CDM project activities and programmes of activities version 4", using the exact equation for large population size the samples required is 271 with 90/10 precision and also per FAO "A guide for woodfuel surveys" (<http://www.fao.org/docrep/005/Y3779E/y3779e00.htm> chapter 3.5, the number of samples required is estimated and comes out as 384 as per version 8 of the registered PDD in the first crediting period. Hence the number samples taken for the survey by the PP is adequate.

During the validation the validation team took 20 samples out of 5,000 bio-digester households (already implemented by the PP) for on-site inspection on 14/07/2017 randomly from three villages in the project area (Village with high number of bio-digester, (considering the travel time) are selected and randomly picked 6-8 end users). Again during the onsite visit on 03/02/2018, 11 sample house-holds across two villages in which old baseline stoves are used are selected and assessed. As per appendix 5 table 1 of "Sampling and surveys for CDM project activities and programmes of activities version 4" and considering 1% AQL (Acceptance Quality Level) and 10% UQL (Unacceptable Quality Level) the number samples required would be 22. As 20 have been visited without adverse issue the DOE considered 20 as reasonable and adequate.

The majority of the non-project households use fuel wood for cooking, boiling water and cow feed preparation. It should be noted that majority of the non-project households (those who don't have bio-digesters) are not ready to give the details as they are yet to get the biogas units even after many surveys (they took the site visit interview as one such). Hence the samples taken for baseline estimation is adequate.

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

Area of validation findings	No. of CL	No. of CAR	No. of FAR
Compliance with PDD form	0	1	0
Application and selection of methodologies and standardized baselines	0	0	0
Validity of original baseline or its update	0	0	0

Estimated emission reductions or net anthropogenic removals	0	1	0
Validity of monitoring plan	0	1	0
Crediting period	0	0	0
Project participants	0	0	0
Post-registration changes	0	0	0
Total	0	3	0

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	<p>A draft revised PDD was submitted to the validation team by the project participants. By means of the UNFCCC website it has been checked whether the latest applicable PDD template CDM-PDD-FORM has been used.</p> <p>Further it has been checked whether the latest instructions for filling out the PDD template have been followed. Every section has been checked against the respective guidance.</p> <p>The following sources of information have been used in this context:</p> <ul style="list-style-type: none"> • /PDD/ • /PDD-T/ • /unfccc/ 		
Findings	<input checked="" type="checkbox"/>	The latest reporting template CDM-PDD-FORM as listed on the UNFCCC website has been used for the PDD.	
	<input type="checkbox"/>	The latest instructions for filling out the PDD have been followed. No adverse finding has been identified in the course of this validation.	
	<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>- CAR D1</p>	
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.	
	<input checked="" type="checkbox"/>	<p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p> <p>The project participants used the later version of the PDD form (version 10.1) for the updated PDD than the version of the PDD form of the registered PDD. It is confirmed that the information transferred to the later version of the PDD form is materially the same as that in the registered PDD.</p> <p>The revised PDD only the changes pertaining to the baseline change, methodological requirements and new VVS and PCP of project activities version 01 are done.</p>	

D.2. Application and selection of methodologies and standardized baselines

Means of validation	By means of comparison of the PDD with (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline the validation team has checked whether the updated PDD is in compliance with the requirements of the applied methodology & tools. The following sources of information have been used in this context: <ul style="list-style-type: none">• /PDD/• /meth/• /TVB/• /TA/• /TB/• /unfccc/		
Findings	<input checked="" type="checkbox"/>	The updated PDD is completely in accordance with the approved methodology applicable for the CDM project	
	<input checked="" type="checkbox"/>	The breakdown of PDD accordance of the referenced tools is as follows:	
		1	Title (of the tool)
		Version	03.0.1

		PDD compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A	
	2	Title (of the tool)	Demonstration of additionality of small-scale project activities	
		Version	11	
		PDD compliance	<input checked="" type="checkbox"/> full compliance <input type="checkbox"/> findings have been raised <input type="checkbox"/> N/A	
	<input type="checkbox"/>	The breakdown of PDD accordance of the applicable SB is as follows:		
		1	Title (of the SB)	n/a
			Version	-
			MP compliance	
	<input type="checkbox"/>	In this context the following CARs, CLs, FARs have been raised:		
	-			
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.		
	<input type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.		
	For both the methodology and applicable tools it is confirmed that all applicable references in the updated PDD are correct and all applicable tools have been correctly identified in the updated PDD, and in accordance with the applicable requirements in the Project standard. All applicability conditions of the updated methodology are met.			

D.3. Validity of original baseline or its update

Means of validation	<p>In order to check the validity of the original baseline or its updates the validation team has applied the following stepwise approach:</p> <p><i>Step 1:</i> Check of Applicability of a Standardized Baseline</p> <p><i>Step 2:</i> Check of Baseline Scenario</p> <p><i>Step 3:</i> Compliance check of the baseline with relevant policies</p> <p><i>Step 4:</i> Assessment of impact of circumstances</p> <p><i>Step 5:</i> Assessment of likelihood of investments</p> <p><i>Step 6:</i> Validity check of ex-ante determined parameters.</p> <p>All necessary documentation has been either provided by the client or the validation team has acquired appropriate information required for assessment independently. For a detailed list of reviewed documentation please refer to appendix 3.</p>
Findings	<p><u><i>Step 1: Applicability of a Standardized Baseline:</i></u></p> <p>No standardized baseline is applicable to the project activity. This has been checked by an analysis of the current list of valid standardized baselines on the UNFCCC website^{/unfccc/}.</p> <p><u><i>Step 2: Baseline Scenario:</i></u></p> <p>The baseline scenario of the project as per the registered project can be described as follows:</p> <p>“In the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs”</p> <p>As per the project standard this scenario is not subject to re-assessment and is thus deemed to be applicable for the next crediting period.</p> <p>However the baseline itself i.e. the calculation of baseline emissions has been checked regarding the continued validity of underlying assumptions and parameter values. The assessment steps are</p>

described in the following subsections.

Step 3: Assessment of the compliance of the current baseline with relevant mandatory national and/or sectoral policies:

The baseline of the registered PDD has been assessed to be compliant with the national legislation and policies applicable for the project activity at the time of validation. During the first crediting period the PP has frequently reviewed the legal requirements and policies relevant for the baseline of the project. On the basis of this the PP has arrived at the conclusion that the baseline is still in line with all applicable legislations and policies.

The validation team has independently reviewed the host country legislation as well as current policy of the MNRE (Ministry of New and Renewable Energy) along with the government of Andhra Pradesh <http://nredcap.in/Biogas.aspx> policy on biogas were reviewed and concluded that still the government encourages the promotion of biogas plants through subsidies and other programs.

On the basis of this analysis the validation team confirms that the baseline is still in compliance with the currently applicable national legislation and other national and/or sectoral policies. Therefore the baseline did not need to be adjusted due to changes in this respect.

Step 4: Assessment of the impact of circumstances:

As the baseline scenario might be affected by changed circumstances, e.g. market conditions, market prices etc. the PP has checked the baseline against such changes that have occurred since validation.

In the current case no such changes have been identified by the project participants as

- still no revenues other than from CDM are gained from the project activity and
- thus changed market conditions are not likely to impact the PA.

The validation team has independently checked whether there are changes in circumstances renewable energy policy of the government of India and state government of Andhra Pradesh which have an impact on the baseline. No such changes have been identified and thus it is deemed appropriate not to revise the baseline due to changes in circumstances.

Step 5: Assessment of whether the continuation of use of current baseline equipment(s) or an investment is the most likely scenario for the crediting period for which renewal is requested

For AMS-I.E project the baseline equipment is the use of fixed mud stoves or three stone fired stoves and which cannot be exchanged. Furthermore no other reasons for possible investments have been identified.

Thus, the validation team confirms the conclusion that no changes to the baseline are required due to the likeliness of investments in equipment which impacts the baseline.

Step 6: Check of assessment of the validity of the data and parameters:

The parameters which have been determined ex-ante in the registered PDD are basically still valid. Only the following changes were required:

Parameter	Previous value	Updated value	Reference
f _{NRB,Y}	0.90	0.95	www.forests.ap.gov.in/pdf/SFR2014.pdf The report on Forest & Tree Resources in State of Andhra Pradesh and http://fsi.nic.in/details.php?pgID=sb_62 The report on Forest & Tree Resources in States and Union Territories are considered

	BCBL,HH,y	3.37 tonnes / year / hh	2.85 tonnes / year / hh	<p>The new survey for the fuel wood consumption is taken in the district where the project is located. The Survey results show the decrease in consumption of the fuel wood per family per year from the first crediting period.</p> <p>The PP conducted as survey to implement a cook stove project in the district. During the survey 24136 household were interviewed and data about the fire wood collected and fire wood purchased and analysed by the PP.</p> <p>The Average family size is arrived and the average monthly fuel wood usage per house hold is calculated and per capita daily fuel wood consumption is calculated and thus the value arrived is 1.8576 kgs. Thus per household the annual consumption is 2.85 tonnes. The calculation procedures are checked and found correct</p> <p>The Calculation based on the survey is reviewed and found conservative when compared with the following recently registered CDM project under same methodology titled: CDM Biogas Project of Mahasakthi Women Cooperative Federation (UNFCCC ID 10061). This project is also implemented in the same district as the submitted project activity. The value of 2.85 t/HH/year is taken for this project case whereas for the registered project - 10061 it is 2.98 t/HH/year. Hence conservative. Also as observed in the region the majority of the households are into dairy farming</p> <p>http://www.thehansindia.com/posts/index/Andhra-Pradesh/2018-02-05/Kambadur-women-turn-to-dairy-milk-profits/356675</p> <p>shodhganga.inflibnet.ac.in/bitstream/10603/31184/9/09_chapter%203.pdf</p> <p>so they use fire wood / biogas not only for cooking also for boiling water (cleaning the milk drums), making animal feed etc. So the value of 2.85 tonnes/year/HH for the parameter BCBL,HH,y is justified.</p>
These changes have been appropriately considered in the updated PDD.				
<p>Step 2: Check of the update to the current baseline and the data and parameters</p>				
<p>Step 2.1: Check of the update to the current baseline</p>				
As per the check in step 1 above, it is confirmed that the current baseline does not need to be updated				
<p>Step 2.2: Check of the update to the data and parameters</p>				
Refer to the check results of step 1.4.				
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:		
		CAR D2		
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.		
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.		
<p>The original baseline scenario of the project as per the registered PDD is still valid for the 2nd crediting period.</p> <p>However f_{NRB} is changed from 0.90 to 0.95 for this crediting period. And emission factor and NCV of biomass is as per the applied methodology.</p> <p>The increase in the value for f_{NRB} is justified as the district forest cover has been decreased by 75.11 hectares from the previous year in the project region page 28/128 of the report (www.forests.ap.gov.in/pdf/SFR2014.pdf)</p> <p>$f_{NRB,y}$ is calculated based on the information available in State of Forest Report, 2011. Forest Survey of India, Ministry of Environment and Forests, accordingly it is taken as 0.95. However the recent forest reports of 2015 and 2017 do not provide the information about the biomass extracted from the forest and it gives only the change in forest cover. But PP used the recent data available for the district and obtained 0.98, the same is presented in the ER sheets. As a conservative measure</p>				

	<p>value of 0.95 calculated based 2011 forest report is taken</p> <p>The PP demonstrated the Non renewability of the woody biomass by</p> <p>(i) conducting a survey which showed the increase in the time spent for collecting the fuel wood, during the site visit the project households and some of the non-project households indicated that they spent more time to collect the fuel than a decade ago</p> <p>(ii) The area under the dense forest cover in Anantapur district is decreased from 182 km² to 144 km² as per the GIS assessment by Forest Survey of India for 2001 and 2011. Thus showing the reduction in carbon stocks. The latest forest Survey of 2017 does not indicate the total inventory.</p> <p>(iii) Increase trend in the fuel wood price.- The following publically available analysis is referred from the following web link https://mpira.ub.uni-muenchen.de/83566/1/MPRA_paper_83566.pdf as assessed on 31/05/197 and confirmed that there is an increasing trend in the fuel wood price across the host country based the latest 68th NSSO round conducted for Energy Consumption and Expenditure in 2011-2012 was released in 2015.(ref: http://www.thehindu.com/data/nss-survey-says-twothirds-of-rural-households-still-use-firewood-for-cooking/article7486657.ece web page assessed on 31/05/2018)</p> <p>This is in line with para 16 of the methodology. Hence accepted</p>
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D.4. Estimated emission reductions or net anthropogenic removals

Means of validation	<p>For validation of the estimated GHG emission reductions the client has provided the validation team with the following documentation:</p> <ul style="list-style-type: none"> - Updated PDD/^{PDD/} - XLS spreadsheet/^{XLS/}. <p>Further, the validation team has downloaded from the UNFCCC website the applicable version of the CDM methodology and all referenced methodological tools^{/unfccc/}.</p> <p>1) Baseline emissions BE_y:</p> <p>According to the applied methodology, in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.</p> <p>Hence, Baseline emissions BE_y (tCO₂e) are to be calculated as follows:</p> $BE_y = B_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil_fuel}$ <table> <tr> <td>BE_y</td><td>Baseline emissions during the year y in tCO₂e</td></tr> <tr> <td>B_y</td><td>Quantity of woody biomass that is substituted or displaced in tonnes</td></tr> <tr> <td>f_{NRB,y}</td><td>Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable biomass (fNRB)¹</td></tr> <tr> <td>NCV_{biomass}</td><td>Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)</td></tr> <tr> <td>EF_{projected_fossilfuel}</td><td>Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 81.6 t CO₂/TJ²</td></tr> </table>	BE _y	Baseline emissions during the year y in tCO ₂ e	B _y	Quantity of woody biomass that is substituted or displaced in tonnes	f _{NRB,y}	Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable biomass (fNRB) ¹	NCV _{biomass}	Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)	EF _{projected_fossilfuel}	Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 81.6 t CO ₂ /TJ ²
BE _y	Baseline emissions during the year y in tCO ₂ e										
B _y	Quantity of woody biomass that is substituted or displaced in tonnes										
f _{NRB,y}	Fraction of woody biomass used in the absence of the project activity in year y that can be established as non-renewable biomass (fNRB) ¹										
NCV _{biomass}	Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)										
EF _{projected_fossilfuel}	Emission factor for the substitution of non-renewable woody biomass by similar consumers. Use a value of 81.6 t CO ₂ /TJ ²										

¹ Default values endorsed by designated national authorities and approved by the Board are available at http://cdm.unfccc.int/methodologies/standard_base/index.html

	<p>B_y is taken as 2.85 tonnes/household/year as per the first crediting period thus for 5,000 families it is 14,257 tonnes per year.</p> <p>$f_{NRB,y}$ is taken as 0.95, the calculation is based on State of Forest Report, 2011. Forest Survey of India, Ministry of Environment and Forests as it is conservative when the using the recent data the value obtained is 0.98, the same is presented in the ER sheets.</p> <p>2) Project emissions PE_y:</p> <p>There is no cultivation of biomass for the project activity. Hence project emission is zero.</p> <p>3) Leakage emissions LE_y:</p> <p>As per the methodology, if B_y is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, then surveys will not be required.</p> <p>Accordingly to account leakage B_y is multiplied by 0.95 and thus with the inclusion of leakage the value of B_y is 13,544 tonnes.</p> <p>Thus the Emission reductions calculated is = $13,544 \times 0.95 \times 0.015 \times 81.6 = 15,749 \text{ t CO}_2\text{e}$</p> <p>The estimated amount of GHG emission reductions of the project is 110,243 tCO₂e during the second crediting period (7 years) from 01/01/2018 to 31/12/2024, resulting in estimated average annual emission reductions of 15,749 tCO₂e.</p> <p>The ER calculation has been duly checked. Further it has been checked whether the results have been correctly transferred to the updated PDD for determination of ex-ante ER. The validation team has further checked the updated PDD against the latest version of the applicable methodology incl. the referenced methodological tools for consistency. Special focus was laid on the changes against the previous crediting period.</p>	
Findings	<input type="checkbox"/>	The calculation of ERs is done as per the applied methodology. The calculation in the Excel spreadsheet and the corresponding calculation tables in the PDD have been checked and no mistakes have been identified. The estimation of emission reductions for the 2 nd crediting period is deemed plausible and conservative.
	<input checked="" type="checkbox"/>	The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context: - CAR D1
Conclusion	<input type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input checked="" type="checkbox"/>	The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.
		All changes due to the upgraded methodology and the re-assessment of the baseline have been considered appropriately and in line with the CDM PS. The calculation in the Excel spreadsheet and the corresponding calculation tables in the PDD have been checked and both are in line. The estimation of emission reductions for the 2 nd crediting period is deemed plausible and conservative.

D.5. Validity of monitoring plan

Means of validation	The validation team has checked the monitoring plan of the updated PDD against the required changes due to the update of the baseline and other methodological
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² This value represents the emission factor of the substitution fuels likely to be used by similar users, on a weighted average basis. It is assumed that the mix of present and future fuels used would consist of a solid fossil fuel (lowest in the ladder of fuel choices), a liquid fossil fuel (represents a progression over solid fuel in the ladder of fuel use choices) and a gaseous fuel (represents a progression over liquid fuel in the ladder of fuel use choices). Thus a 50 per cent weight is assigned to coal as the alternative solid fossil fuel (96 t CO₂/TJ) and a 25 per cent weight is assigned to both liquid and gaseous fuels (71.5 t CO₂/TJ for kerosene and 63.0 t CO₂/TJ for liquefied petroleum gas (LPG)).

	<p>changes. Further, changes due to editorial updates of the applicable templates have been checked.</p> <p>In detail all parameters, ex-ante values and applicable formulae have been checked to determine the required changes for the next crediting period.</p> <p>Besides, based on conducted site-visit and interviews with related personnel the validation team has assessed the feasibility of the required changes.</p>				
Findings	<table border="1"> <tr> <td style="text-align: center; vertical-align: middle;"><input checked="" type="checkbox"/></td> <td> <p>The monitoring plan in the PDD has been updated to comply with the latest applicable version of the monitoring methodology (AMS-I.E ver 7.0). The basic changes from the current crediting period can be summarized as follows:</p> <ul style="list-style-type: none"> - The current crediting period monitors the non-operational days of all the biogas units and for those days the emission reductions are not accounted whereas the days of construction of biogas was also monitored as the construction was planned in phased manner in the previous crediting period which is in line with the para 6.1 of the methodology AMS-I.E., version 7.0 - The parameter B_y is calculated using the formula $B_y = N_{HH} \times (BC_{BL,HH,y} - BC_{PJ,HH,y})$, and N_{HH} the number of households and $BC_{BL,HH,y}$ Average annual consumption of woody biomass per household before the start of the project activity, $BC_{PJ,HH,y}$ If it is found that pre-project devices were not completely displaced but continue to be used to some extent, average annual consumption of woody biomass per household in the pre-project devices during the project activity and tonnes/household/year are monitored in this crediting period <p>The validation team has duly assessed all the required changes due to the upgraded methodological requirements and the re-assessment of the baseline. The validation team has concluded that</p> <ul style="list-style-type: none"> - all necessary changes have been appropriately reflected in the updated PDD, - the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, - the monitoring arrangements described in the updated PDD can be implemented and are feasible within the project design. </td> </tr> <tr> <td style="text-align: center; vertical-align: middle;"><input checked="" type="checkbox"/></td> <td> <p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CAR D3 is raised</p> </td> </tr> </table>	<input checked="" type="checkbox"/>	<p>The monitoring plan in the PDD has been updated to comply with the latest applicable version of the monitoring methodology (AMS-I.E ver 7.0). The basic changes from the current crediting period can be summarized as follows:</p> <ul style="list-style-type: none"> - The current crediting period monitors the non-operational days of all the biogas units and for those days the emission reductions are not accounted whereas the days of construction of biogas was also monitored as the construction was planned in phased manner in the previous crediting period which is in line with the para 6.1 of the methodology AMS-I.E., version 7.0 - The parameter B_y is calculated using the formula $B_y = N_{HH} \times (BC_{BL,HH,y} - BC_{PJ,HH,y})$, and N_{HH} the number of households and $BC_{BL,HH,y}$ Average annual consumption of woody biomass per household before the start of the project activity, $BC_{PJ,HH,y}$ If it is found that pre-project devices were not completely displaced but continue to be used to some extent, average annual consumption of woody biomass per household in the pre-project devices during the project activity and tonnes/household/year are monitored in this crediting period <p>The validation team has duly assessed all the required changes due to the upgraded methodological requirements and the re-assessment of the baseline. The validation team has concluded that</p> <ul style="list-style-type: none"> - all necessary changes have been appropriately reflected in the updated PDD, - the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, - the monitoring arrangements described in the updated PDD can be implemented and are feasible within the project design. 	<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CAR D3 is raised</p>
<input checked="" type="checkbox"/>	<p>The monitoring plan in the PDD has been updated to comply with the latest applicable version of the monitoring methodology (AMS-I.E ver 7.0). The basic changes from the current crediting period can be summarized as follows:</p> <ul style="list-style-type: none"> - The current crediting period monitors the non-operational days of all the biogas units and for those days the emission reductions are not accounted whereas the days of construction of biogas was also monitored as the construction was planned in phased manner in the previous crediting period which is in line with the para 6.1 of the methodology AMS-I.E., version 7.0 - The parameter B_y is calculated using the formula $B_y = N_{HH} \times (BC_{BL,HH,y} - BC_{PJ,HH,y})$, and N_{HH} the number of households and $BC_{BL,HH,y}$ Average annual consumption of woody biomass per household before the start of the project activity, $BC_{PJ,HH,y}$ If it is found that pre-project devices were not completely displaced but continue to be used to some extent, average annual consumption of woody biomass per household in the pre-project devices during the project activity and tonnes/household/year are monitored in this crediting period <p>The validation team has duly assessed all the required changes due to the upgraded methodological requirements and the re-assessment of the baseline. The validation team has concluded that</p> <ul style="list-style-type: none"> - all necessary changes have been appropriately reflected in the updated PDD, - the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, - the monitoring arrangements described in the updated PDD can be implemented and are feasible within the project design. 				
<input checked="" type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p> <p>CAR D3 is raised</p>				
Conclusion	<table border="1"> <tr> <td style="text-align: center; vertical-align: middle;"><input type="checkbox"/></td> <td> <p>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</p> </td> </tr> <tr> <td style="text-align: center; vertical-align: middle;"><input checked="" type="checkbox"/></td> <td> <p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p> </td> </tr> </table> <p>The Monitoring plan is in line with the requirements of the methodology AMS –I.E version 7. The PP does not opt for sampling and they do 100% monitoring of the operational days of the biogas digesters. The reporting mechanisms are robust and the field level village volunteers receive the breakdown message through mobile phones and also during their routine maintenance trip. Once the break down is received it is recorded in the data base (software made for this purpose) and after the completion of the repair work the same is intimated to the data abse administrator. The log books are also maintained by the field level village volunteers.</p> <p>Thus the 100% monitoring is done for the non-operational days of each of the 5,000 biogas digesters. The Quality control check are done by project co-ordinators and advisors. Apart from the project activity the PP being an NGO does lot of other social development activities thus enable them to have 100% monitoring which was verified during the site visit as well as based on the previous issuance documents.</p> <p>All necessary changes have been appropriately reflected in the updated PDD, the monitoring plan in the updated PDD is in compliance with the applied monitoring methodology, and the monitoring arrangements described in the updated PDD can be</p>	<input type="checkbox"/>	<p>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</p>	<input checked="" type="checkbox"/>	<p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p>
<input type="checkbox"/>	<p>No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.</p>				
<input checked="" type="checkbox"/>	<p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p>				

	implemented and are feasible within the project design.
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D.6. Crediting period

Means of validation	<p>The validation team has checked that the UNFCCC Secretariat has been notified within the specified timeframe, i.e., “an updated PDD to the secretariat by e-mail or through a dedicated interface on the UNFCCC CDM website, within 270 to 180 days prior to the date of expiration of the current crediting period. The secretariat shall make every effort to inform the project participants in advance of the period for notifying the intention of renewing the crediting period in accordance with the registered modalities of communication” as per paragraph 266 CDM project cycle procedure for project activities Version 01.0. But the PP informed the UNFCCC Secretariat on 09/06/2017 i.e., within 270 to 180 days prior to the expiration of the crediting period and the confirmation mail was also received from UNFCCC giving nod for the DOE to further process. The mail communication is verified^{/MAIL1/}.</p> <p>Hence the start date of the renewed crediting period is defined as the first day after the end date of the previous crediting period, i.e. 01/01/2018.</p>	
Findings	<input checked="" type="checkbox"/>	<p>As the respective requirements are met, the project's 2nd crediting period may start immediately after the expiration of the 1st one, given that all other applicable criteria are met.</p> <p>It is further confirmed that the start date (01/01/2018) and the length of the crediting period (7 years) are in compliance with the project standard.</p>
	<input type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p>
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	<p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p> <p>It is thus confirmed that the start date and the length of the 2nd crediting period (7 years) are in compliance with the project standard.</p>

D.7. Project participants

Means of validation	<p>The validation team has checked the revised PDD^{/PDD/} and the UNFCCC website^{/unfccc/} esp. the latest version of the Modalities of Communication^{/MOC/} to check whether the listed project participants have duly been authorized and if communication requirements are met.</p>	
Findings	<input checked="" type="checkbox"/>	<p>The names of the project participants as listed in the revised PDD (sections A.4. and appendix 1) are consistent with those listed on the dedicated UNFCCC project website as well as in the last version of the modalities of communication^{/MoC/}.</p>
	<input type="checkbox"/>	<p>The respective requirements have widely been complied with; however; the following issues needed to be addressed in this context:</p>
Conclusion	<input checked="" type="checkbox"/>	No CARs/CLs have been raised in this context. No correction was required in the context. The project is in line with the respective requirements.
	<input type="checkbox"/>	<p>The raised CARs/CLs have been addressed appropriately. The PP has carried out the requested corrections. All respective findings could be closed out. For details please refer to Appendix 4.</p>

	<p>The validation team has reviewed the Host country approval^{/HCA/} and LoA from Germany and confirmed the project participants as M/s Social Education and Development Society (SEDS) from the Host country and Evangelisches Werk für Diakonie und Entwicklung e.V. from annex-1 country - Germany.</p> <p>The latest version of the MoC available in the UNFCCC project webpage is checked and the listed the project participants are confirmed and in line with PDD.</p>
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D.8. Post-registration changes

Type of post-registration changes (PRCs)	Confirmation (Y/N)	Validation report for PRCs	
		Version	Completion date
Temporary deviations from the registered monitoring plan, applied methodologies or applied standardized baselines	N	-	-
Corrections	N	-	-
Change to the start date of the crediting period of the project activity	N	-	-
Inclusion of a monitoring plan	N	-	-
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other applied standards or tools	N	-	-
Changes to the project design	N	-	-
Changes specific to afforestation and reforestation project activities	N	-	-

SECTION E. Internal quality control

Before the submission of the final VAL RCP report a technical review of the whole validation procedure was carried out. The technical reviewers are competent GHG auditors being appointed for the scope this project falls under. The technical reviewers are not considered to be part of the validation team and thus not involved in the decision making process up to the technical review.

As a result of the technical review process the validation opinion and the topic specific assessments as prepared by the validation team leader may have been confirmed or revised. Furthermore reporting improvements might have been achieved.

After the successful technical review an overall (esp. procedural) assessment of the complete validation has been carried out by a senior assessor located in the accredited premises of TÜV NORD.

After this step the submission for requesting the renewal of crediting period is conducted.

SECTION F. Validation opinion

M/s Social Education and Development Society (SEDS) has commissioned the TÜV NORD JI/CDM Certification Program to re-validate the project "**Social Education and Development Society (SEDS) Biogas CDM project for the rural poor**" for the purpose of renewal of the crediting period. The validation is based on the relevant UNFCCC requirements.

The review of the updated project design documentation and additional documents related to baseline and monitoring methodology; the subsequent background investigation, follow-up interviews have provided TÜV NORD JI/CDM Certification Program with sufficient evidence to validate the fulfillment of the stated criteria applicable for RCP.

In detail the conclusions can be summarized as follows:

- The current baseline of the project is in line with the national and/or sectoral policies and circumstances at the time of requesting renewal of crediting period.
- The monitoring plan of GHG parameters is transparent and adequate and in line with the applicable monitoring methodology (AMS- I.E., version 7.0).
- The calculation of the project emission reductions is carried out in a transparent and conservative manner, so that the calculated emission reductions of **15,749 tCO₂e** are most likely to be achieved within the second renewable crediting period of 7 years.

The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the renewal of the crediting period.

Coimbatore, 06/06/2018



G Ezhilarasu
TÜV NORD JI/CDM Certification Program
Validation Team Leader

Appendix 1. Abbreviations

BAU	Business as usual
CA	Corrective Action / Clarification Action
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CL	Clarification Request
CO₂	Carbon dioxide
CO₂e	Carbon dioxide equivalent
CP	Certification Program // Crediting Period
DNA	Designated National Authority
EB	CDM Executive Board
ER	Emission Reductions
ETS	Emission Trading Scheme
FAR	Forward Action Request
GHG	Greenhouse gas(es)
IPCC	Intergovernmental Panel on Climate Change
LOA	Letter of Approval
MOC	Modalities of Communication
PCP	CDM Project Cycle Procedure
PDD	Project Design Document
PP	Project Participant
PS	CDM Project Standard
QC/QA	Quality control/Quality assurance
RCP	Renewal of Crediting Period
UNFCCC	United Nations Framework Convention on Climate Change
VVS	CDM Validation and Verification Standard

Appendix 2. Competence of team members and technical reviewers

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2020-02-06
VCS / ISO 14064-2	Senior Assessor	2020-02-06

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand
13.1	Solid waste and wastewater
13.2	Manure

130 – Rev. 5, Date: 2018-01-04

130_001-VA060-F20_2018-01-04_rev5.doc

001-VA060-F20 rev3 / 2012-10-25

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification)	2018-12-02
VCS / ISO 14064-2	Senior Assessor	2018-12-02

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal Energy Generation
1.2	Renewable Energies
3.1	Energy Demand
4.1	Cement and lime production
4.2	Paper
9.2	Iron, steel and Ferro-alloy production
13.1	Waste Handling and Disposal

038 – Rev.4, Date: 2016-04-07

038_001-VA060-F20_2016-04-07_rev4

001-VA060-F20 rev3 / 2012-10-25



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JIVCDM Certification Program

Mr. David Lubanga

SCHEME	STATUS	VALID UNTIL
CDM	Lead Assessor (Validation, Verification) Technical Reviewer	2018-10-20
VCS / ISO 14064-2	Lead Assessor Technical Reviewer	2018-10-20

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.2	Renewables
3.1	Energy demand

251 - Rev. 5, Date: 2017-12-01

251_001-VA060-F20_2017-12-01_rev5.docx

001-VA060-F20 rev3 / 2012-10-25



Statement of Competence
Appointment and authorization according to the procedures
of the TÜV NORD JIVCDM Certification Program

Mr. Stefan Winter

SCHEME	STATUS	VALID UNTIL
CDM	Senior Assessor (Validation, Verification) Technical Reviewer	2020-07-27
VCS	Senior Assessor (Validation, Verification) Technical Reviewer	2020-07-27

Authorization status for technical areas within sectoral scopes:

CODE	TECHNICAL AREA
1.1	Thermal energy generation
1.2	Renewables
2.1	Energy distribution
3.1	Energy demand
4.1	Cement and lime production
4.2	Paper
5.2	Caprolactam, nitric and adipic acid
9.1	Aluminium and magnesium production
9.2	Iron, steel and Ferro-alloy production
13.1	Solid waste and wastewater
13.2	Manure

163 - Rev. 5, Date: 2017-07-20

163_001-VA060-F20_2017-07-20_rev5

001-VA060-F20 rev3 / 2012-10-25

Appendix 3. Documents reviewed or referenced

No.	Author	Reference	Title	References to the document	Provider
1	PP	/LoA/	Host Party approvals and Annex -1 party approval	Letter of Approval from DNA of India Ref no : F No .4/28/2008 dated 30/06/2009 Letter of approval from DNA of Germany date 09/01/2015	UNFCCC
2	PP	/MAIL1/	Mail send by PP to UNFCCC to intimate about crediting period renewal	Notification mail by the PP to the UNFCCC indicating the intention to renew the crediting period, dated 09/06/2017	PP
3	PP	/MAIL2/	Acknowledgement from UNFCCC	Confirmation mail by the UNFCCC in response to /MAIL1/ dated 09/06/2017	PP
4	PP	/MoC/	Modalities of Communication dated 17/01/2015	-	UNFCCC
5	PP	/PDD/	Revised PDD	RCP Project Design document "Social Education and Development Society (SEDS) Biogas CDM project for the rural poor" - Version No. 09.0, dated 01/06/2017 - Version No. 10.0, dated 04/10/2017 - Version No. 11.0, dated 05/02/2018 - Version No. 12.0, dated 20/02/2018 - Version No. 13.0, dated 19/03/2018 - Version No. 14.0, dated 31/05/2018	PP
6	PP	/PDD-Reg/	Registered PDD	Registered GS Project Design Document named "Social Education and Development Society (SEDS) Biogas CDM project for the rural poor" (Version No. 8, dated 26/03/2013)	UNFCCC
			Post registration changes	Post registration changes and the approvals- PRC -3541-001 http://cdm.unfccc.int/PRCContainer/DB/prcp372664830/view	UNFCCC
7	PP	/XLS/	Emission reduction calculation spread sheet	RCP Emission reduction calculation spread sheet - 2 nd Crediting Period with respect to PDD - Version No. 9.0, dated 01/06/2017 - Version No. 10.0, dated 04/10/2017 - Version No. 11.0, dated 05/02/2018	PP

				<ul style="list-style-type: none"> - Version No. 12.0, dated 20/02/2018 - Version No. 13.0, dated 19/03/2018 - Version No. 14.0, dated 31/05/2018 	
8	DOE	/CPM/	TÜV NORD JI / CDM Certification Program Manual (incl. procedures and forms)	TÜV NORD JI / CDM Certification Program Manual (incl. procedures and forms)	TÜV NORD
9	IPCC	/IPCC/	IPCC	<ul style="list-style-type: none"> • IPCC Good Practice Guidance & Uncertainty Management in National Greenhouse Gas Inventories, 2000 • 10Revised 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Reference Manual 	IPCC Website
10	UNFCCC	/KP/	Kyoto Protocol (1997)	-	UNFCCC
11	UNFCCC	/MA/	Marrakesh – Accords	Decision 3/CMP. 1 (Marrakesh – Accords & Annex to decision (17/CP.7))	UNFCCC
12	UNFCCC	/METH/	AMS-I.E., Version 07	AMS-I.E., Version 07- Switch from non-renewable biomass for thermal applications by the user http://cdm.unfccc.int/UserManagement/FileStorage/J2H11470Y38ZS6WFCEOPM5NBV/RG9QX	UNFCCC
13	UNFCCC	/PCP/	CDM project cycle procedure	CDM project cycle procedure for project activities, version 1.0 EB93 Annex 06 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20170307130803756/pc_proc03.pdf	UNFCCC
14	UNFCCC	/PDD-T/	Project Design Document Form	Project Design Document Form (CDM-PDD-FORM) - Version 10.1 including Attachment: Instructions for filling out the project design document form for CDM project activities	UNFCCC
15	UNFCCC	/PS/	CDM project standard	CDM project standard for project activities Version 01.0 EB 93 Annex 4 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20170307130848045/reg_stan04.pdf	UNFCCC
16	UNFCCC	/TVB/	Methodological Tool	Methodological Tool: “Assessment of the validity of the original/current baseline and update of the baseline at the renewal of the crediting period” version 03.0.1 http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-11-v3.0.1.pdf	UNFCCC

17	UNFC CC	/VAL/	Validation Report of 1 st CP	Validation Report for the CDM project "Social Education and Development Society (SEDS) Biogas CDM project for the rural poor" Revision no. 01, dated 15/02/2011	PP
18	UNFC CC	/VVS/	CDM Validation and Verification Standard	CDM validation and verification standard for project activities Version 01.0 https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20170502114945162/reg_stan06.pdf	UNFCCC
19	UNFC CC	/VER/	Previous periodic Verification Documents	Previous verification documents viewed from the project page http://cdm.unfccc.int/Projects/DB/RWTUV1269520327.35/view	UNFCCC
20	PP	/DB/	Data Base	Data base of the biogas digester included in the project activity along with the end user Agreements	PP
21	DOE	/PHT/	Photographs	Photographs of taken during the site visit	DOE
22	PP	/TP/	Technical Particulars	Technical Particulars of the biogas units- Deenabandhu model	PP
23	UNFC CC	/TA/	Tool 21	Demonstration of additionality of small-scale project activities, Version 11	UNFCCC
24	DOE	/IM01/	Site Visit Records	Interview memos photo graphs check list questionnaire filled by Validation team	DOE
25	PP	/sur/	Survey results	Survey done by PP in the Anantapur district to estimate the Fuel wood used in the baseline stoves along with the survey forms	PP

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

Table 3. CL from this validation

CL ID	NA	Section no.	Date: DD/MM/YYYY
Description of CL			
Project participant response			
Date: DD/MM/YYYY			
Documentation provided by project participant			
<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:	
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:	
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/> Other:			
DOE assessment			Date: DD/MM/YYYY
Conclusion Tick the appropriate checkbox			
<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed			

Table 4. CAR from this validation

CAR ID	D1	Section no.	All sections	Date: 29/09/2017
Description of CAR				
1. The latest project design document form is not used, kindly clarify. 2. The version 9 of the PDD submitted for Renewal of Crediting period is not in track change mode as the changes are not tracked from the previous approved version of the PDD.				
Project participant response				Date: 04/10/2017
1. The version 10.1 of the CDM PDD form is used which is the latest form 2. The Version 10 of the PDD is submitted in track change mode without changing the key characteristics of the project.				
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PDD	Section(s):	All sections	New version No.: 10.0
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:
<input checked="" type="checkbox"/>	Other:			
DOE assessment				Date: 05/02/2018
1. The Version 10.1 of the CDM- PDD – Form is the latest form for filling the PDD 2. The PP provided the PDD version 10 in track change mode without changing the material information from the registered PDD of the first crediting period. The changes related to version change in methodology and baseline alone is revised				
Conclusion <i>Tick the appropriate checkbox</i>		<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed		

CAR ID	D2	Section no.	PDD Section B.4	Date: 03/02/2018
Description of CAR				
1. The values used to calculate the f_{NRB} is not referenced from the recent sources. Kindly justify.				
Project participant response				Date: 05/02/2018
1. The latest data available to estimate the f_{NRB} from reliable sources is that available from Forest Survey of India, Government of India's Report which is published biennially, "The State of Forest Report". The Latest census was conducted in 2011, and accordingly sourced those values and used the survey results to estimate the f_{NRB} this crediting period and obtained 0.95. But with an independent assessment of f_{NRB} for Anantapur district using the same methodology AMS-I.E. version 7, yields an f_{NRB} of 0.98. The same is presented and compared in the CER sheets. However f_{NRB} used for this crediting period is only 0.95.and is conservative. The data sources are from the 2011 report. The rate of extraction is based on the population and it also please note that the latest population census happened in 2011, accordingly the values are sourced and used to estimate the f_{NRB} for this crediting period and obtained 0.95. However the latest data for the Anantapur district from Andhra Pradesh forest report was considered and estimated as 0.98. Also the forest cover in the project area is decreasing form the start of the project activity even though the conservation measures are taken by the government. The following link is evidenced for the same http://fsi.nic.in/sfr2009/andhra_pradesh.pdf https://www.datanetindia-ebooks.com/pdf_Samples/district.../Anantapur.pdf Thus conservative value is only taken for the ER calculations.				
Documentation provided by project participant				
<input type="checkbox"/>	Changes in the PDD	Section(s):		New version No.:
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:
<input checked="" type="checkbox"/>	Changes in XLS	Worksheet(s):	f_{NRB} new	New version No.:
<input type="checkbox"/>	Other:	All Sections ,		
DOE assessment				Date: 15/11/2017
The PP used equation 17 of the methodology AMS I-E., version 07. For determining the values of DRB, NRB they used the forest report and the latest census and along with the survey results and arrived f_{NRB} as 0.95. Also PP used the values available in the State forest report of Andhra Pradesh and estimated the value as 0.98. The same is presented in the CER sheets. The Validation team check the data available for Anantapur				

district from the following link - www.forests.ap.gov.in/pdf/SFR2014.pdf accessed as on 31/12/2017) and found that there is a decrease in the forest cover and in turn increase in f_{NRB} . Hence the estimated value of 0.95 conservative value than 0.98 arrived using latest data. Hence the clarification for using the value of 0.95 is accepted and CAR is closed

Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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CAR ID	D3	Section no.	B.7.1	Date:	03/02/2018
Description of CAR					
1. The monitoring parameter B_y as required by the methodology is not presented in the PDD, please clarify.					
Project participant response					Date: 05/02/2018
1. The Monitoring parameters in the PDD are revised in line with the present requirements. The applied methodology version remains valid.					
Documentation provided by project participant					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s):	All sections	New version No.:	11
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):		New version No.:	
<input type="checkbox"/>	Other:				
DOE assessment					Date: 06/02/2018
1. In the revised PDD the parameter B_y is included as a monitored and it is in line with the version 7 of the applied methodology and the monitoring plan described is feasible and can be implemented. The B_y is adjusted for the non –operational days and thus the monitoring is in line with the applied methodology. Hence CAR is closed. However during the technical round 2, a clarification about the applicability of old survey results for the quantity of woody biomass that is substituted or displaced					
CAR is reopened.					
Project participant response 2					Date: 20/02/2018
1. The New survey results taken in the region for the year 2017 is used thus the quantity of woody biomass that is substituted or displaced is estimated as 2.85 tonnes per year /year/ family. The revised CER sheets and PDD is submitted.					
Documentation provided by project participant 2					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s):	B.7.1	New version No.:	12
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	All	New version No.:	3
<input checked="" type="checkbox"/>	Other:	Survey results			
DOE assessment					Date: 23/02/2018
The Survey results are submitted to the DOE and the PP has done the survey for the entire district of Anantapur and based on the survey results the value of the quantity of woody biomass that is substituted or displaced estimated as 2.85 tonnes per year /year/ family.					
However during the Information check the EB has requested to clarify how the parameter BCPJ,HH,y is monitored and the suitability of the new survey taken . Hence CAR is opened on 28/05/2018.					
Project participant response					Date: 31/05/2018
1. The survey results are presented and the estimated value is conservative.					
2. The monitoring and estimation of the parameter BCPJ,HH,y is included the revised PDD. Also the monitoring of parallel usage of pre project stove is elaborated in section B.7.2					
Documentation provided by project participant					
<input checked="" type="checkbox"/>	Changes in the PDD	Section(s):	B.7.2	New version No.:	14
<input type="checkbox"/>	Changes in MR	Section(s):		New version No.:	
<input type="checkbox"/>	Changes in XLS	Worksheet(s):	f_{NRB} new	New version No.:	
<input type="checkbox"/>	Other:	All Sections ,			
DOE assessment					Date: 31/05/2018
1. The new survey for the fuel wood consumption is taken in the district where the project is located. The Survey results show the decrease in consumption of the fuel wood per family per year from the first crediting period.					

The PP conducted as survey to implement a cook stove project in the district. During the survey 24136 households were interviewed and data about the fire wood collected and fire wood purchased and analysed by the PP. The Average family size is arrived and the average monthly fuel wood usage per house hold is calculated and per capita daily fuel wood consumption is calculated and thus the value arrived is 1.8576 kgs.

Thus per household the annual consumption is 2.85 tonnes. The calculation procedures are checked and found correct

The Calculation based on the survey is reviewed and found conservative when compared with the following recently registered CDM project under same methodology Titled: CDM Biogas Project of Mahasakthi Women Cooperative Federation (UNFCCC ID 10061) implemented in the same district The value of 2.85 t/HH/year is taken for this project case and whereas for the registered project - 10061 it is 2.98 t/HH/year. Hence conservative. Also as observed in the region is majority of the households are into dairy farming

<http://www.thehansindia.com/posts/index/Andhra-Pradesh/2018-02-05/Kambadur-women-turn-to-dairy-milk-profits/356675>

shodhganga.inflibnet.ac.in/bitstream/10603/31184/9/09_chapter%203.pdf

so they use fire wood / biogas not only for cooking also for boiling water (cleaning the milk drums), making animal feed etc., So the value Of 2.85 tonnes/year/HH for the parameter BCBL,HH,y is justified

- The number of non - working days for each digester will be recorded continuously based on the input from users to the village level volunteers in the data base and for those non - working days BCPJ,HH,y will be arrived proportionately. But for the parallel usage of old stoves /fire wood the proportionate amount fire wood for each activity, Viz cooking, boiling water etc will be estimated based on a kitchen test performed at the start of the crediting period and will be applied for the entire crediting period

Also the data on the parallel usage of fire wood in the pre project devices for all the households will be collected a least once in a year and that proportion of the fire wood will be excluded to arrive at the overall fire wood saved by the project activity. The information is provided in section B.7.2 of the revised PDD and the assessment is given in the revised validation report and it can be implemented by the PP.

Hence CAR is closed

Conclusion Tick the appropriate checkbox	<input type="checkbox"/> Additional action should be taken (finding remains open) <input checked="" type="checkbox"/> The finding is closed
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Table 5. FAR from this validation

FAR ID	NA	Section no.	Date: DD/MM/YYYY
Description of FAR			
Project participant response			
			Date: DD/MM/YYYY
Documentation provided by project participant			
<input type="checkbox"/> Changes in the PDD	Section(s):	New version No.:	
<input type="checkbox"/> Changes in MR	Section(s):	New version No.:	
<input type="checkbox"/> Changes in XLS	Worksheet(s):	New version No.:	
<input type="checkbox"/> Other:			
DOE assessment			Date: DD/MM/YYYY
Conclusion Tick the appropriate checkbox			
<input type="checkbox"/> Additional action should be taken (finding remains open) <input type="checkbox"/> The finding is closed			

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Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
02.0	31 October 2017	Revision to align with the requirements of the “CDM validation and verification standard for project activities” (version 01.0).
01.0	23 March 2015	Initial publication.

Decision Class: Regulatory
Document Type: Form
Business Function: Renewal of crediting period
Keywords: crediting period, project activities, validation report

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