




**Validation report form for renewal of crediting period for
CDM project activities
(Version 03.0)**

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	Biogas Support Program –Nepal (BSP- Nepal) Activity-2 Ref. No. 0139
Number and duration of the next crediting period	3 rd Crediting Period 01 Aug 2019 - 31 Jul 2026
Version number of the validation report	1.2
Completion date of the validation report	16/09/2019
Version number of PDD to which this report applies	6.0
Project participants	Alternative Energy Promotion Center(AEPC); Household Min Prasad Gautam; Household Madhu Prasad Simkhada
Host Party	Nepal
Applied methodologies and standardized baselines	AMS.I.E. (ver. 09) Switch from Non-Renewable Biomass for Thermal Applications by the User
Mandatory sectoral scopes	01
Conditional sectoral scopes, if applicable	13
Estimated amount of annual average GHG emission reductions or GHG removals by sinks in the next crediting period	35,357 tCO _{2e}
Name and UNFCCC reference number of the DOE	KBS Certification Services Pvt. Ltd E-0051
Name, position and signature of the approver of the validation report	 Kaushal Goyal Managing Director

SECTION A. Executive summary

>> KBS Certification Services Pvt. Ltd. has been contracted by 'Alternative Energy Promotion Center (AEPC)' to perform a validation of the CDM registered project 'Biogas Support Program –Nepal (BSP- Nepal) Activity-2' (UNFCCC Ref #0139) in Nepal for renewal of crediting period.

The scope of the validation is defined as an independent and objective review of the revised project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against the CDM Validation and Verification Standard (version 02), Project Cycle Procedure (version 02) and Project Standard (version 02) for CDM project activities, Kyoto Protocol requirements and UNFCCC rules.

The report is based on the assessment of the project design document, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., on site visit, electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance and CDM decisions.

Biogas Support Program - Nepal (BSP-Nepal) Activity-2 of the Nepal Biogas Program implemented by the Alternative Energy Promotion Center aims to sell biogas digesters (biogas units) to households in the rural areas of Nepal. The project activity is a sub-project of the BSP-Nepal umbrella biogas program that aimed to install a total of 200,000 biogas digesters all over Nepal. Since it is the first sub-activity of the umbrella biogas program, the sub-project is named BSP-Nepal Activity-2. The umbrella biogas program is the fourth phase of the Nepali government's biogas program at the national level. Under the first three phases, a total of 111,395 biogas units were installed all over Nepal

The review of the project design documentation and the subsequent follow-up interviews have provided KBS with sufficient evidence to determine the project's fulfilment of all the stated criteria. In our opinion, the project meets all applicable UNFCCC requirements for the CDM.

☒ The project will be recommended to the CDM Executive Board with a request for renewal of crediting period.

☐ The project is not recommended for renewal of crediting period

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/ Technical expert	IR	Kandari	Sanjay	Central Office	x	x	x	x
2	Local Expert	EI	Kharel	Jiyangjee	Central Office	x	x	x	

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	IR	Badaya	Rohit	Central Office
2	Manager (Technical & Certification)	IR	Sharma	Chetan Swaroop	Central Office
3	Authorizer	IR	Goyal	Kaushal	Central Office

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

>> The report is based on the assessment of the project design document, application of standard auditing techniques including but not limited to desk review, follow up actions (e.g., on site visit, electronic (telephone or e-mail) interviews) and also the review of the applicable approved methodological and relevant tools, guidance and CDM decisions.

All the documents used for arriving validation conclusion are listed in Appendix 03 and referenced accordingly in validation report.

C.2. On-site inspection

Duration of on-site inspection: 25/04/2019 to 29/04/2019 (Clubbed with verification)				
No.	Activity performed on-site	Site location	Date	Team member
1.	Opening Meeting, Office Inspection, Verification of monitoring records, interviews and database inspection	Hill and Taria Region of Nepal	25/04/2019 to 29/04/2019	Sanjay Kandari Jyangjee Kherel
2	Visit to sample number of households	Beneficiary households	25/04/2019 to 29/04/2019	Sanjay Kandari

C.3. Interviews

No.	Interviewee¹			Date	Subject	Team member
	Last name	First name	Affiliation			
1.	Pokhrel	Prem Kumar	Climate and Carbon Financing Expert, AEPC Nepal	25/04/2019 to 29/04/2019	<ul style="list-style-type: none"> - General aspects of the project - Changes since validation / previous verification - Remaining issues from validation/ previous verification - Quality management system - Involved personnel and responsibilities - Training and practice of the operational personnel - Implementation of the monitoring plan - Monitoring data management - Data uncertainty and residual risks - Procedural aspects of 	Sanjay Kandari

¹ This list is indicative, several household were interviewed during on site assessment.

					the Monitoring - Maintenance - Data analysis - Data Analysis - Issues in the MR - ER calculation	
2	Katuwal	Gita	Biogas users	27/04/2019	- Verification of data collected through survey - Awareness about ownership of CERs - Working condition of bio-digester unit - SD parameters verification	
3	Katuwal	Kailash		27/04/2019		
4	Khatiwada	Yuvraj		27/04/2019		
7	Khadka	Prem bdr.		27/04/2019		
8	Dulal	Krishna		27/04/2019		
9	Khadka	Lila bdr.		27/04/2019		
10	Chaudhari	Kailash		27/04/2019		
11	Das	Kalyan		27/04/2019		
12	Bholan	Aitimaya		27/04/2019		
13	Lama	Nar bdr		27/04/2019		
14	Syangtan	Padam bdr		27/04/2019		
15	Singh	Pratap waiba		27/04/2019		
16	Yonjan	Laxmi		27/04/2019		
17	Sharma Rijal	Neelam	Prakriti Consult Pvt. Ltd.	26/04/2019	Sampling method	Sanjay Kandari

C.4. Sampling approach

>> During the on-site audit a sampling approach has been used by the validation team to verify the reported values for the ex-ante parameters and ex-post parameters which are determined through sample survey. Verification team has determined acceptance sample size for all the sample survey parameters based on the table 1 of standard "Sampling and surveys for CDM project activities and programmes of activities" version 7. Considering AQL - 1%, UQL - 20%, producer risk – 10% & consumer risk – 10%, the verification team determined the minimum sample size (n) as 18 and acceptance number (c) as 1. The same is intimated to PP prior to the site visit.

During site visit, validation team visited the selected sample households and interviewed the biogas plant user to check the data reported by PP.

Validation team finds no error in the PP's records. Hence validation team accepts all the data determined through sample survey by PP.

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	-	CAR#01	-
Application and selection of methodologies and standardized baselines	-	-	-
Validity of original baseline or its update	-	-	-
Estimated emission reductions or net anthropogenic removals	CL#01	-	-
Validity of monitoring plan	-	-	-
Crediting period	-	-	-
Project participants	-	-	-
Post-registration changes	-	-	-
Others (please specify)	-	-	-
Total	01	01	-

SECTION D. Validation findings

D.1. Compliance with PDD form

Means of validation	Validation team checked the Project Design Document with latest version of PDD template available in the UNFCCC website (i.e., version 11.0)/9/ and “Instructions for filling out the project design document form for small-scale CDM project activities” mentioned as attachment to SSC PDD form (version 11.0)/9/.
Findings	CAR-01 was raised and closed successfully.
Conclusion	Validation team confirms that final PDD is completed using the valid version of the applicable CDM-SSC-PDD-Form i.e. version 11.0 /9/.

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

Means of validation	By means of comparison of the PDD with following documents/evidences: (i) the applied CDM methodology (ii) all applicable CDM Meth tools and (iii) if applicable, a standardized baseline verification team has checked whether the updated PDD is in compliance with the requirements of the applied methodology/tools/SB.
Findings	Nil
Conclusion	The project fulfills all relevant criteria of the applied methodology ‘AMS-I.E– Version 9.0. Hence use of the selected methodology is appropriate for this project activity.

D.3. Validity of original baseline or its update

Means of validation	<p>In according with VVS version 02.0 for CDM project activities, assessment team reviewed the updated PDD version 06 and evaluated whether project participants assess and incorporate the impact of national and/or sectoral policies and circumstances existing at the time of requesting renewal of the crediting period on the current baseline GHG emissions, without reassessing the baseline scenario. Where data and parameters used for determining the original baseline that was determined ex ante (and not monitored during the crediting period) are no longer valid, the assessment team identified whether PP update such data and parameters in accordance with the CDM project standard version 2 for project activities by following paras 278-286 and demonstrated below.</p> <p>Step 1: Applicability of a Standardized Baseline: 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</p>
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UNFCCC website.

Step 2: Baseline Scenario:

The baseline scenario of the project as per the registered project can be described as follows:

"In the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs"

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.

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 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 in compliance 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 Ministry of Forests and Environment, Government of Nepal

[https://www.aepc.gov.np/uploads/docs/2018-06-19_RE%20Subsidy%20Policy,%202073%20\(English\).pdf](https://www.aepc.gov.np/uploads/docs/2018-06-19_RE%20Subsidy%20Policy,%202073%20(English).pdf)
<http://www.mofe.gov.np/>

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 related to renewable energy policy of the government of Nepal 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. The following changes were required:

Parameter	Previous value	Updated value	Reference	Justification
fNRB,Y	0.86	0.861	Calculated based on Tool 30 and approved by the DNA of the host Country, Ministry of Forests and Environment, Government of Nepal.	The validation team confirms that the updated value has been correctly calculated using the tool 30 i.e Calculation of the fraction of non-renewable biomass and the assumptions and data sources are appropriate. The value has been approved by the DNA of the host Country, Ministry of Forests and Environment, Government of Nepal.
EF _{projected_fossilfuel}	81.6 tCO ₂ /TJ	63.7 tCO ₂ /TJ	It is fixed as per methodology	The validation team confirms that the assumptions and data sources of the updated value applied are appropriate.
NCV biomass	0.015 TJ/tonne	0.0156 TJ/tonne	It is fixed as per methodology	The validation team confirms that the assumptions and data sources of the updated value applied are appropriate.

By (Quantity of woody biomass that is substituted or displaced in tonnes) is calculated by using the formula (option a) of para 21 of the methodology) Thus

$$By = NHH \times (BCBL_{HH,y} - BCPJ_{HH,y})$$

NHH

=

Number of households in the project activity, number

$BCBL_{HH,y}$

=

Average annual consumption of woody biomass per household before the start of the project activity, tonnes/household/year

$BCP_{J,HH,y}$ = 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, tonnes/household/year

Where as the in the previous second crediting period By is calculated by using the formula $By = N \times Py \times AAFC$)

where, N: Number of digesters installed in the Project

Py : Percentage of digesters implemented that is operational in year y

AAFC : Estimate of average annual consumption of woody biomass substituted or displaced per digester

In this crediting period the value of Average annual consumption of woody biomass per household before the start of the project activity, tonnes/household/year is

	<p>estimated and fixed as 5.02 tonnes/household/year, the increase in the value of $BC_{BL,H,y}$ is due to the improvement in life style (more intake of milk / tea) and two times cooking when compared to 15 years back.</p> <p>These changes have been appropriately considered in the updated PDD.</p> <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> <p>As per the check in step 1 above, it is confirmed that the current baseline does not need to be updated</p> <p>Step 2.2: Check of the update to the data and parameters</p>
Findings	CL-01 is raised and closed successfully.
Conclusion	<p>The original baseline scenario of the project as per the registered PDD is still valid for the 3rd crediting period.</p> <p>However fNRB is the changed from 0.86 to 0.861 for this crediting period, , By is recalculated as per the equation 2 of the latest version of the applied methodology and emission factor and NCV of biomass is fixed as per the applied methodology.</p>

D.4. Estimated emission reductions or net anthropogenic removals

Means of validation	<p>The verification team has checked whether calculations of GHG emissions calculation have been carried out in accordance with the formulae and methods described in the registered monitoring plan.</p> <p>In detail the following has been verified:</p> <p><u>Transparency</u>: It has been checked whether the calculation of baseline emissions is fully traceable and, where used, the Excel calculation provides all calculation formulae.</p> <p><u>Parameter consistency</u>: It has been checked whether all internal and external parameters and data used for the calculation are applied consistently in the monitoring report and the calculation spread sheet.</p> <p><u>Correctness</u>: It has been checked whether the applied formulae and methods for calculating baseline emissions are in accordance with the monitoring plan and the approved methodology.</p> <p><u>Completeness</u>: It has been checked whether all calculations are complete and without omissions</p> <p>The baseline emissions are calculated for the three components – (i) displacement of kerosene, (ii) displacement of non-renewable biomass and (iii) the capture and destruction of methane from animal manure. The equations applied for the determination of baseline GHG emissions is consistent with the registered PDD and methodology:</p> <p>The baseline emission from avoidance of non-renewable biomass is calculated using the formula:</p> $BE_y = B_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil_fuel}$ <p>From the calculated baseline emission from above formula, the baseline emission per day is calculated. The project emission per day is multiplied with the actual number of operating days (average operating days of all biogas units during the monitoring period) to estimate the actual baseline emission. Since the baseline emission is adjusted with actual number of operating days, the verification team found this to be appropriate.</p> <p>PP has submitted the calculation in the excel sheet/2/. The baseline calculation in the excel sheet is checked whether the calculation is in accordance with the formula given in the registered PDD/3/ and the selected methodologies/6/.</p> <p>N_{HH} is taken as 9688 households, $BC_{BL,HH,y}$ is 5.02 tonnes/ household/ year as per the biogas User Survey for project activity 2 for 2017/18, this conservative as the per capita fuel wood consumption is 1192 kgs and with the average family size of 4.6 in Nepal the value considered is conservative.</p> <p>For $BC_{PJ,y}$ is estimated as 0.53 tonnes/household /year. The parameter $BC_{PJ,y}$ and NHH are monitored parameters and will be estimated by sample survey.</p>
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	<p>Thus $By = 9688 \times (5.02 - 0.53) = 43499.12$ tonnes/annum</p> <p>fNRB,y is taken as 0.861, the calculation is based on value estimated based on Tool 30 by the PP and approved by the DNA of Nepal, the ministry of forests and Environment Government of Nepal.</p> <p>Project emission due to biomass consumption is calculated as zero as per the methodology.</p> <p><u>Leakage emissions LEy:</u></p> <p>As per the methodology, if By 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 By is multiplied by 0.95 and thus By is 43499.12 tonnes</p> <p>Thus the baseline Emission reductions calculated is $= 43499.12 \times 0.861 \times 0.0156 \times 63.7 = 37217.24$ t CO₂e</p> <p>The estimated amount of GHG emission reductions of the project is 247,499 tCO₂e during the third crediting period (7 years) from 01/08/2019 to 31/07/2026, resulting in estimated average annual emission reductions of 35,357 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	Nil
Conclusion	<p>The verification team confirms the following:</p> <ul style="list-style-type: none"> • The calculations of baseline GHG emissions have been carried out in accordance with the equations and methods described in the registered monitoring plan and applied methodology. • The emission factor applied is an ex-ante value valid for the crediting period. • Any assumptions used in emission or removal calculations have been justified. • Appropriate emission factor and other reference values have been correctly applied. It can be confirmed that the baseline calculation is overall correct. • The ER calculation sheet provided is clear, transparent and the calculations provided in the sheet are reproducible. • Hence, the emission reported in the monitoring report for the monitoring period is verified to be correct

D.5. Validity of monitoring plan

Means of validation	<p>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 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	Nil
Conclusion	The monitoring plan provided in the PDD is in line with applied methodology AMS-I.E., version 09. From the verification of the monitoring procedure provided in the PDD, validation team could conclude that the project participant is able to implement the monitoring plan.

D.6. Crediting period

Means of validation	As verified from the PDD, the start date of 3 rd crediting period proposed for this project is 01/08/2019 with the length of 7 years.
Findings	No findings.

Conclusion	The start date of 3rd crediting period is next date of the end date of 2 nd crediting period and hence it is acceptable.
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D.7. Project participants

Means of validation	The validation team has checked the revised PDD and the UNFCCC website the latest version of the Modalities of Communication to check whether the listed project participants have duly been authorized and if communication requirements are met.
Findings	Nil
Conclusion	The validation team has reviewed the Host country approval confirmed the project participants as Alternative Energy Promotion Centre (AEPC).

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, standardized baselines or other methodological regulatory documents ²	N	NA	NA
Corrections	N	NA	NA
Change to the start date of the crediting period	N	NA	NA
Inclusion of a monitoring plan	N	NA	NA
Permanent changes to the registered monitoring plan, or permanent deviation of monitoring from the applied methodologies, standardized baselines, or other methodological regulatory documents	N	NA	NA
Changes to the project design	N	NA	NA
Changes specific to afforestation and reforestation project activities	N	NA	NA

SECTION E. Internal quality control

>> Following the completion of the assessment process and a recommendation by the assessment team, the validation opinion prepared by Team Leader is independently reviewed by internal Technical Reviewer. TR reviews if all the KBS procedures have been followed and all conclusions are justified in accordance with applicable standards, procedures, guidance and CDM decisions. The TR either is qualified for the technical area within the CDM sectoral scope(s) applicable to project activity or is supported by qualified independent technical expert at this stage.

The Technical Reviewer will either accept or reject the recommendation made by the assessment team. The findings can be raised at this stage and PP must resolve them within agreed timeline.

The opinion recommended by Technical Reviewer will be confirmed by Manager Technical & Certification and finally authorized by the Managing Director on behalf of KBS as final validation opinion. The Technical Reviewer and Manager T&C maybe be same person.

SECTION F. Validation opinion

>> KBS Certification Services Pvt. Ltd. Has been contracted by 'Alternate Energy Promotion Centre (AEPC).' To perform a validation of the CDM registered project 'Biogas Support Program –Nepal (BSP-Nepal) Activity-2' (UNFCCC Ref #0139) in India for renewal of crediting period.

The validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism, latest version of Validation and Verification Standard and related Standards/Guidance and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

² Other standards, methodologies, methodological tools and guidelines (to be) applied in accordance with the applied(selected) methodologies are collectively referred to as the other (applied) methodological regulatory documents).

The CDM project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change. In our opinion, the project meets all relevant UNFCCC, CDM criteria and all relevant host country criteria.

The review of the project design documentation and the subsequent follow-up interviews have provided validation team with sufficient evidence to determine the validity of the original baseline and/or its update through an assessment. The project design document (dated 16/09/2019) correctly applies small scale methodology AMS-I.E. Version 9.0. It is demonstrated that the project baseline scenario is not changed and also all necessary parameters are updated correctly for the 3rd crediting period.

The total emission reductions from the project are estimated to be 247,499 i.e. $(35,357 \times 7)$ tCO₂e for the 3rd crediting period during 01 Aug 2019 - 31 Jul 2026, averaging 35,357 tCO₂e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achievable given the underlying assumptions do not change.

The monitoring plan provides for the monitoring of the project's emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design, and it is validation team's opinion that the project participants are able to implement the monitoring plan.

In summary, it is validation team's opinion that the CDM project activity "Biogas Support Program –Nepal (BSP- Nepal) Activity-2" (UNFCCC Ref #0139) in India meets all relevant UNFCCC requirements for the renewal of the crediting period. Hence KBS requests the renewal of the crediting period of the project.

Appendix 1. Abbreviations

Abbreviations	Full texts
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM EB	CDM Executive Board
CERs	Certified Emission Reductions
CH ₄	Methane
CL	Clarification Request
CO ₂ e	Carbon dioxide equivalent
COP	Conference of Parties
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
DNA	Designated National Authority
DOE	Designated Operational Entity
EF	Emission Factor
ERs	Emission Reductions
FAR	Forward Action Request
GHGs	Greenhouse Gas(es)
GWP	Global Warming Potential
HH	Household
ISO	International Organization of Standardization
IPCC	Intergovernmental Panel on Climate Change
KBS	KBS Certification Services Pvt. Ltd.
KP	Kyoto Protocol
LE	Leakage Emissions
MR	Monitoring Report
MP	Monitoring Plan
PE	Project Emissions
PDD	Project Design Document
PS	Project Standard
PCP	Project Cycle Procedure
PA	Project Activity
QA/QC	Quality Assurance/Quality Control
SETM	Sustainable Energy and Technology Management P. Ltd.
UNFCCC	United Nations Framework Convention on Climate Change
VVS	Validation & Verification Standard

Appendix 2. Competence of team members and technical reviewers

Personnel Name:		Sanjay Kandari	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy Industries (renewable/non-renewable sources)	TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
Waste Handling and Disposal	TA 13.1 Waste Handling and Disposal TA 13.2 Manure		
Approved by (Manager C & T)	Gagandeep Kakkar		
Approval date:	03/11/2015		

Personnel Name:		Jyangjee Kharel	
Qualified to work as:			
Team Leader	<input type="checkbox"/>	Technical Expert	<input type="checkbox"/>
Validator/Verifier	<input type="checkbox"/>	Financial Expert	<input type="checkbox"/>
Technical Reviewer	<input type="checkbox"/>	Local Expert (Nepal)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
NA	NA		
Approved by (Manager C & T)	Gagandeep Kakkar		
Approval date:	31/12/2014		

Personnel Name:		Chetan Swaroop Sharma	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope	Technical Area		
Energy industries (renewable/non-renewable sources)	TA 1.2: Energy generation from renewable energy sources		
	TA 1.1: Thermal energy generation from fossil fuels and		

	biomass including thermal electricity from solar
Approved by (Manager C & T)	Gagandeep Kakkar
Approval date:	09/10/2015

Personnel Name:		Rohit Badaya	
Qualified to work as:			
Team Leader	<input checked="" type="checkbox"/>	Technical Expert	<input checked="" type="checkbox"/>
Validator/Verifier	<input checked="" type="checkbox"/>	Financial Expert	<input checked="" type="checkbox"/>
Technical Reviewer	<input checked="" type="checkbox"/>	Local Expert (India)	<input checked="" type="checkbox"/>
Area(s) of Technical Expertise			
Sectoral Scope		Technical Area	
Energy Industries (renewable/non-renewable sources)		TA 1.1: Thermal energy generation from fossil fuels and biomass including thermal electricity from solar	
Energy industries (renewable/non-renewable sources)		TA 1.2: Energy generation from renewable energy sources	
Energy demand		TA 3.1. Energy Demand	
Waste Handling and Disposal		TA 13.1 Solid waste and wastewater TA 13.2 Manure	
Approved by		Manager Competency & Training	
Approval date:		16/10/2017	

Appendix 3. Documents reviewed or referenced

No.	Author	Title	References to the document	Provider
1	AEPC	Project Design Document	Version 05, dated 22/01/2019 Version 05.1 dated 17/06/2019 Version 06, dated 16/09/2019	AEPC
2	AEPC	Ex-ante ER Calculation Sheet	Version 01, dated 17/06/2019	AEPC
3	AEPC	Registered PDD	version 4, dated 22/05/2012	Publically available
4	DoEs	Validation Report Previous verification Reports	-	Publically available
5	UNFCCC	Web page in UNFCCC	Web link	Publically available
6	UNFCCC	AMS.I.E – “Switch from Non-Renewable Biomass for Thermal Applications by the User”	Version 09	Publically available
7	IPCC	1. 1996 IPCC Guidelines for National Greenhouse Gas Inventories: work book 2. 2006 IPCC Guidelines for National Greenhouse Gas Inventories: work book	Web link	Publically available
8	UNFCCC	Kyoto Protocol (1997)	Web link	Publically available
9	UNFCCC	Project Design Document (CDM-PDD-FORM)	Version 11.0	Publically available
10	UNFCCC	CDM Project Standard for PAs	Version 2.0	Publically available
11	UNFCCC	Standard: Sampling and surveys for CDM project activities and programme of activities	Version 07	Publically available
	UNFCCC	Guidelines for sampling and surveys for CDM project activities and programme of activities	Version 04	Publically available
12	UNFCCC	CDM Validation and Verification Standard for Project activities.	Version 02	Publically available
13	UNFCCC	Glossary “CDM terms”	Version 09.1	Publically available
14	AEPC	Biogas basic record set: - Biogas application form - End user agreement for CER ownership - Completion certificate - Payment receipt	For the digesters installed	AEPC
15	SETM	Biogas user survey report	July 2018	AEPC

		conducted for the monitoring period		
17	AEPC	Training Records: Training conducted for user/beneficiary in monitoring and maintenance	-	AEPC
18	AEPC	Plant repair cards		AEPC
19	AEPC	Monthly monitoring report by monitoring staff	-	AEPC

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

Table 1. CL from this validation

CL ID	01	Section no.	D.1	Date: 16/06/2019
Description of CL				
Submit the evidence used for Fnrb. How the calculation complies the methodological tool to calculate fnrb.				
Project participant response				Date: 17/06/2019
Fnrb is approved by the DNA of Nepal. The value is calculated as 86.1% using the national statistics and also validated by the Ministry of Forest and Environment, Government of Nepal. This value is for the national level.				
Documentation provided by project participant				
Fnrb calculation				
DOE assessment				Date: 17/06/2019
Fnrb calculation is submitted by PP and it was assessed that it complies the methodological tool, moreover it was endorsed by the DNA of host country. CL is closed now.				

Table 2. CAR from this validation

CAR ID	01	Section no.	D.4	Date: 16/06/2019
Description of CAR				
Template of PDD used is no more valid. PP is required to update the PDD on latest version available on UNFCCC website.				
Project participant response				Date: 17/06/2019
PDD is updated by using the latest version.				
Documentation provided by project participant				
Revised PDD, version 06				
DOE assessment				Date: 17/06/2019
Revised PDD submitted by PP on latest version and assessed adequate by validation team. The fnrb is calculated based on the latest available data from the state of forest Nepal http://frtc.gov.np/downloadfile/state%20of%20forest_1470140234.pdf and also as per tool 30 "Calculation of the fraction of non-renewable biomass" version 02 and arrived as 86.1%. CAR is closed.				

Table 3. FAR from this validation

FAR ID	xx	Section no.		Date: DD/MM/YYYY
Description of FAR				
Project participant response				Date: DD/MM/YYYY
Documentation provided by project participant				
DOE assessment				Date: DD/MM/YYYY

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
03.0	31 May 2019	Revision to: <ul style="list-style-type: none"> • Ensure consistency with version 02.0 of the “CDM validation and verification standard for project activities” (CDM-EB93-A05-STAN) and version 02.0 of the “CDM project cycle procedure for project activities” (CDM-EB93-A06-PROC); • Make editorial improvements.
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		