



**Proposed new small scale baseline and
monitoring methodology form
(Version 01.0)**

INFORMATION TO BE COMPLETED BY PROPONENTS

To be used by proponents when submitting proposed new small-scale methodologies in accordance with "Procedure: Development, revision and clarification of baseline and monitoring methodologies and methodological tools" (CDM-EB70-A36-PROC). This form shall not be used to submit proposed new large-scale methodologies.

Name of the proponent:	Value Network Ventures Advisory Services Pte. Ltd.
Title of the proposed small scale methodology:	Switch from Non –renewable biomass to electric cooking
Type to which the new proposed methodology (category) belongs to:	<input type="checkbox"/> Type I Renewable energy projects <input type="checkbox"/> Type II Energy efficiency improvements <input checked="" type="checkbox"/> Type III Other project activities
Justification for the submission of the proposed small scale methodology:	No related methodology applicable to electric cooking appliances is currently available.

Information and instructions for completing the form

- For proposing a new small scale methodology all sections below should be completed. Approved small scale methodologies shall be used as a reference for language and structure used. If necessary, attach files or refer to sources of relevant information.
- In using this form, please follow "Guidelines for completing the proposed new small scale baseline and monitoring methodology form", which is found at http://cdm.unfccc.int/Reference/Guidclarif/pdd/PDD_guid11.pdf
- The form provides the formatted headings which should be used throughout the document;
- Please note that each paragraph should have a paragraph number, as demonstrated through example. When adding further paragraphs, please ensure it is numbered;
- Please use word equation editor to write equations;
- Please format figures, tables and footnotes to update automatically;
- Please note the footnotes have a separate format (Arial - size 9).

A. Technology/measure: please specify and provide reference to the exact technology/measure the proposed small scale methodology is applicable to and describe in detail the applicability conditions of the proposed methodology.

1.

Introduction –

- (a) The following table describe the key elements of the methodology
- (b) Table 1. Methodology key elements

Typical project(s)	Dissemination of electric cooking appliances that displace the use of non-renewable biomass. Examples of these technologies include, but are not limited to induction cook stoves, hot plates, heating coils, pressure cookers, rice cookers, multi-cookers
Type of GHG emission mitigation action	Fuel switch Displacement of more GHG-intensive, non-renewable biomass-fuelled applications by introducing electric cooking appliances

2. Scope

(i) This methodology comprises of activities to displace the use of non-renewable biomass for cooking by introducing renewable energy or less GHG intensive technologies to households/ communities/ institutions¹. Examples of these technologies include, but are not limited to electric cooking appliances such as induction cook stoves, hot plates, heating coils, pressure cookers, rice cookers, multi cookers solar electric cookers etc.

(ii) Project participants are able to show that non-renewable biomass has been used since 31 December 1989, using survey methods or referring to published literature, official reports or statistics.

3. Applicability

i) The methodology is applicable to electric cooking appliances displacing use of non-renewable biomass.

ii) Project participants or coordinating and managing entities shall describe in the PDD/PoA-DD how the double counting of emission reductions has been addressed (e.g. between end users, distributors and producers of stoves).

iii) Project participants or coordinating and managing entities shall demonstrate that the electric cooking appliances are designed, constructed and operated to the requirements (e.g. with regard to safety) of a relevant national or local standard or comparable literature. Latest guidelines issued by a relevant national authority or an international organisation may also be used.

iv) In cases where this methodology is combined with “AMS-I.F.: Renewable electricity generation for captive use and mini-grid”, the project proponent shall separately demonstrate the additionality of each of the component (i.e supply of renewable energy to the households (Type I) and use of

¹ Institutions such as schools, prisons and hospitals.

electric cooking appliances (Type III)). Furthermore while combining the two components applicable requirements on start date and prior clean development mechanism (CDM) consideration shall be met in accordance with the CDM project standard and CDM project cycle procedures.

v) Measures are limited to those that result in emission reductions of less than or equal to 60 kt CO₂ equivalent annually.

vi) For the purpose of this methodology, the following **definitions** shall apply:

a) **Electrical cooking appliances** – Electrical cooking appliances are electric powered cooking device for heating and cooking of food. This may amongst others include induction cookstoves, electric pressure cookers, hot plates, slow cookers (or crock pots), rice cookers, electric teakettles, solar electric cookers.

b) **Batch** - is defined as the population of the device of the same type commissioned during a certain period of time (e.g. week or month) in a certain calendar year. To establish the date of commissioning, the Project Participant may opt to group the devices in “batches” and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch

4 . Normative references

(a) Project participants shall apply the “General guidelines for SSC CDM methodologies”, “TOOL21: Guidelines on the demonstration of additionality of small-scale project activities” and “TOOL19: Demonstration of additionality of microscale project activities” available at:

<http://cdm.unfccc.int/Reference/Guidclarif/index.html#meth>

and

<https://cdm.unfccc.int/Reference/tools/index.html> mutatis mutandis.

(b) This methodology refers to the latest approved versions of the following tool and methodologies:

(i) AMS-I.F.: Renewable electricity generation for captive use and mini-grid;

(ii) AMS-II.G.: Energy efficiency measures in thermal applications of non-renewable biomass

(iii) AMS-I.E.: Small-scale Methodology: Switch from non-renewable biomass for thermal applications by the user

(iv) TOOL:07: Tool to calculate the emission factor for an electricity system;

(v) “TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation”;

(vi) “TOOL30: Calculation of the fraction of non-renewable biomass

(vii) Standard: Sampling and surveys for CDM project activities and programme of activities

B. Boundary: please specify the project boundary of the proposed methodology.

5.

(a) The project boundary is the physical, geographical site of the use of electric cooking appliances.

(b) For project activities involving national or regional grids, the spatial extent of the project boundary includes all power plants within the host country physically connected through transmission and distribution lines to the national or regional grid.

(c) For project activities involving mini-grids, the spatial extent of the project boundary includes all power plants connected through transmission and/or distribution lines to the mini-grid which is being built or extended through the project activity.

(d) For all project types, the spatial extent of the project boundary also includes the physical sites of the end-use consumers served by the project activity.

(e) For projects involving multiple technologies (e.g. grid extension and stand alone system), the project boundary includes all of the relevant locations from the previous three paragraphs.

C. Baseline: please specify the baseline scenario and the way baseline emissions are calculated.

6. Baseline scenario

(a) It is assumed that in the absence of the project activity, the baseline scenario would be the use of non renewable biomass for meeting similar thermal energy needs by the household user/institutions.

For all project system, the project type is classified into 3 types –

a) Type I – Household user / institution connected to/using mixed national/regional grid (renewable & fossil fuel based) for running electric cooking appliances

b) Type II - Household user / institution connected to/using mini grid (100% renewable grid) for running electric cooking appliances

c) Type III - Household user / institution using only individual renewable energy generation systems(e.g. solar electric cooker etc.) for running electric cooking appliances

Project participants shall provide an ex-ante estimate of the number of Household user / institution that will fall into each group, based on business plans or other similar project documents. During project implementation, the exact number of Household user / institution will be recorded as part of the monitoring plan. As example of the consumer numbers if presented in Table 1.

Table 1. Reporting of household / institution numbers by type and project technology/measure

Project technology/measure			
Type	Mixed national/regional grid connected	Mini Grid(100% renewable grid)	Individual renewable energy generation systems
I		N/A	N/A
II	N/A		N/A
III	N/A	N/A	

7. Additionality

Additionality is demonstrated using one of the options below

Option 1 (Positive list):

Demonstrate ex-ante that the penetration of electric cooking appliances is equal to or less than 5 per cent of the technologies/measures providing similar services in the region² in order to be considered as automatically additional

² Region/Applicable geographical area - should be the entire host country. If the project participants opt to limit the applicable geographical area to a specific geographical area (such as province, region, etc.) within the host country, then they shall provide justification on the essential distinction between the identified specific geographical area and rest of the host country.

The penetration shall be determined using one of the following options:

- (a) Official statistics or reports, relevant industry association reports or peer-reviewed literature;
- (b) Results of a sampling survey conducted by project participants or a third party as per the latest version of “Standard: Sampling and surveys for CDM project activities and programme of activities”; covering technologies/measures providing similar services as the project technology/measure;

To determine the penetration using the above paragraph, the most recent data available at the time of submission of the CDM-PDD or CDM-CPA-DD for validation/inclusion, shall be used, and the data vintage used shall not include data older than three years prior to: (a) the start date of the CDM project activity; or (b) the start of validation/inclusion, whichever is earlier.

Option 2:

Demonstrate additionality applying the “TOOL21: Demonstration of additionality of SSC project activities.”

Option 3:

Demonstrate additionality applying the “TOOL19: Demonstration of additionality of microscale project activities.”

8. Baseline emissions

8.1 Baseline emissions for Type I, Type II & Type III would be calculated as:

$$BE_y = B_y \times f_{NRB,y} \times NCV_{biomass} \times EF_{projected_fossil_fuel} \quad \text{Equation (1)}$$

Where:

BE_y	=	Baseline emissions during the year y in t CO 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) ³
$NCV_{biomass}$	=	Net calorific value of the non-renewable woody biomass that is substituted (IPCC default for wood fuel, 0.0156 TJ/tonne)
$EF_{projected_fossil_fuel}$	=	Emission factor for the substitution of non-renewable woody biomass by similar consumers.

8.2 For the emission factor for the substitution of non-renewable woody biomass by similar consumers, the default regional values in table 1 below may be used.

Table 1. Regionwise⁴ default values of the fossil fuel emission factor (CO₂ and non-CO₂ GHG emissions)

³ Default values endorsed by designated national authorities and approved by the Board are available at < <https://cdm.unfccc.int/DNA/fNRB/index.html> >.

	Fossil fuel emission factor (t CO ₂ e/TJ) incl. CH ₄ and N ₂ O emissions
Middle East and North Africa	63.9
East Asia and the Pacific	85.7
Europe and Central Asia	57.8
Latin America and the Caribbean	68.6
South Asia	64.4
Sub-Saharan Africa	73.2

8.3 The value of fNRB shall be calculated using either of the following two options:

(a) **Ex ante:** the fNRB value is determined once at the validation stage, thus no monitoring and recalculation of the fNRB value during the crediting period is required;⁵

(b) **Ex post:** the fNRB_y value is determined for the year “y” in the crediting period, requiring the fNRB value to be updated annually, following a consistent calculation procedure throughout the crediting period.

8.4 B_y is determined by using one of the following options:

- (a) Calculated as the product of the number of households multiplied by the estimate of average annual consumption of woody biomass per household that is displaced by the project activity (tonnes/household/year);

$$B_y = N_{HH} \times (BC_{BL,HH,y} - BC_{PJ,HH,y}) \quad \text{Equation (2)}$$

Where:

N_{HH} = Number of households in the project activity, number

$BC_{BL,HH,y}$ = Average annual consumption of woody biomass per household before the start of the project activity, tonnes/household/year

$BC_{PJ,HH,y}$ = 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, tonnes/household/year

- (b) Calculated as the product of the number of persons served per household multiplied by the number of households and the estimate of average annual consumption of woody biomass per person that is displaced by the project activity (tonnes/person/year);

$$B_y = N_{HH} \times N_{p,HH} \times (BC_{BL,PP,y} - BC_{PJ,PP,y}) \quad \text{Equation (3)}$$

Where:

$N_{p,HH}$ = Average number of persons served per household, number

⁴ Refer to Appendix 1 for the definition of the regions which is primarily based on the “developing regions” classification used by the United Nations Development Programme but tailored to the purpose of this CDM methodology (Retrieved on 27.11.19 from <http://hdr.undp.org/en/content/developing-regions>).

⁵ The ex ante value may not be changed until the end of the crediting period, even if the default national value applied previously as endorsed by the DNA at the time of validation may have expired before the end the crediting period.

$BC_{BL,PP,y}$ = Average annual consumption of woody biomass per person before the start of the project activity, tonnes/person/year

$BC_{PJ,PP,y}$ = 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 person in the pre-project devices during the project activity, tonnes/person/year

- (c) Calculated as the product of the number of persons served per institution⁶ multiplied by the number of institutions and the estimate of average annual consumption of woody biomass per person that is displaced by the project activity (tonnes/person/year);

$$B_y = \sum_1^i N_{p,I,y,i} \times N_{I,i} \times (BC_{BL,PP,y} - BC_{PJ,PP,y}) \quad \text{Equation (4)}$$

Where:

$N_{p,I,y,i}$ = Average number of persons served per institution in year y , number

$N_{I,i}$ = Number of institutions type i prior to project implementation, number

8.5 Where charcoal is used as the fuel by baseline (old) devices, the quantity of woody biomass shall be determined by using a default wood to charcoal conversion factor of 6 kg of firewood (wet basis) per kg of charcoal (dry basis).⁷ Alternatively, credible local conversion factors determined from a field study or literature may be applied.

D. Leakage: please specify if leakage emissions can occur and how they should be calculated.

9. Leakage

Leakage emissions (LEy)(related to the non-renewable woody biomass saved by the project activity shall be assessed based on ex post surveys of users and the areas from which this woody biomass is sourced (using 90/30 precision for a selection of samples). The following potential source of leakage shall be considered: The use/diversion of non-renewable woody biomass saved under the project activity by non-project households/users that previously used renewable energy sources. If this leakage assessment quantifies an increase in the use of non-renewable woody biomass used by the non-project households/users that is attributable to the project activity, then B_y is adjusted to account for the quantified leakage. Alternatively, B_y is multiplied by a net to gross adjustment factor of 0.95 to account for leakages, in which case surveys are not required.

E. Project activity emissions: please specify possible project activity emissions and how they should be calculated.

10. Project Emission

The following sources of project emissions shall be considered as applicable

- (a) CO₂ emissions from electricity consumption by the project activity using the latest version of

⁶ Institutions such as schools, prisons and hospitals.

⁷ Refer to: <<http://www.ipcc-nggip.iges.or.jp/public/gl/guidelin/ch1ref3.pdf>>. The term 'wet basis' assumes that the wood is 'air-dried' as is specified in the IPCC default table.

“TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation”.

The project emission of the project in year y (PE_y) shall be calculated as follows

$$PE_y = PE_{EC,y} \quad \text{Equation (5)}$$

Where:

PE_y = Project emissions in year y (tCO₂/yr)

$PE_{EC,y}$ = Project emissions from electricity consumption in year y (tCO₂/yr)

For Type II & Type III, PE_y = 0

For Type I, the project emission from electricity consumption will be calculated as

$$PE_{EC,y} = EC_{PJ,i,y} \times EF_{EL,j,y} \times (1 + TDL_{j,y}) \quad \text{Equation (6)}$$

Where,

$EC_{PJ,i,y}$ = Quantity of electricity consumed by the electric cooking appliance i in the project scenario in year y (MWh/yr)

$EF_{EL,j,y}$ = CO₂ emission factor for electricity generation for source j in year y (t CO₂/MWh)

$TDL_{j,y}$ = Average technical transmission and distribution losses for providing electricity to source j in year y. Consider a 10% default value.

The quantity of electricity consumed by electric cooking appliances is determined as per the following:

$$EC_{PJ,i,y} = N_{HH,y} \times EC_{AVG,y} \quad \text{Equation (7)}$$

Where

$N_{HH,y}$ = Total number of households/institution in year (nos.)

$EC_{AVG,y}$ = Average consumption of electricity by electric cooking appliance(s) in year y per household / institution (MWh/y)

The electricity consumption by the electric cooking appliance(s) for Type I is determined by following two options –

Option 1 - $EC_{AVG,y}$ is either determined by a custom built-ins attachment measuring the average electricity consumption of the electric cooking appliance(s) from a representative sample of households/institutions. Annual checks that of a sample of electric cooking appliance, done with a statistically significant sample of households/institutions. Electricity consumption is recorded on a sample basis to determine the annual average electricity consumptions.

Use 90/10 or 95/10 precision for annual or biennial checks.

Option 2 - $EC_{AVG,y}$ is determined as a product of the rated capacity of the electric cooking appliance

and the utilization hours:

$$EC_{AVG,y} = EC_{i,j} \times t_{y,i,j}$$

Where is

$EC_{i,j}$ = Rated capacity of the electric cooking appliances (Watts)

$t_{y,i,j}$ = Number of hours of utilization of the electric cooking appliances during the year y (hrs).

A default value of 7 hours of daily utilization of electric cooking appliance can be used or otherwise Number of hours of utilization ($t_{y,i,j}$) shall be estimated at least once every two years (annually or biennially). The biennial survey shall follow a 90/95 per cent confidence interval and a 10 per cent margin of error in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities.

$EF_{EL,j,y}$ is determined following the procedures outlined in "TOOL05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation" for determination of the emission factor for electricity generation.

11. Emission Reduction

The emission reductions of the project in year y (ER_y) are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \quad \text{Equation (8)}$$

Where :

ER_y = The emission reductions of the project in year y (t CO₂e/yr)

BE_y = Baselines emissions of the project in year y (t CO₂e/yr)

PE_y = The project emission of the project in year y (t CO₂e/yr)

LE_y = Leakage emissions for the project in year y (t CO₂e/yr)

F. Monitoring: please specify which parameters should be monitored and how they should be monitored.

12. Data and parameters not monitored

Data / parameter:	$\eta_{old,i}$
Data unit:	(i) Default 0.1 or 0.2 (please see details below); (ii) Establish prior to start of implementation based on survey
Description:	Efficiency of pre-project device
Source of data:	-
Measurement procedures (if any):	Efficiency of pre - project device, which is a three-stone fire using firewood (not charcoal), or a conventional device with no improved combustion air supply or flue gas ventilation, that is without a grate or a chimney; for other types of devices, a default value of 0.2 may be optionally used. Use weighted average values (taking the amount of woody biomass consumed by each device as the weighting factor) if more than one type of device is being replaced
Monitoring frequency:	Fixed for each individual household/institution when included in the project activity database
QA/QC procedures:	-

Any comment:	
--------------	--

Data / parameter:	$BC_{BL,HH,y}$
Data unit:	tonnes/household/year
Description:	Average annual consumption of woody biomass per household before the start of the project activity
Source of data:	-
Measurement procedures (if any):	<p>Determined ex ante using one of the following options:</p> <p>(a) $N_{p,HH}$ times $BC_{BL,PP,y}$; or</p> <p>(b) Historical data or a sample survey conducted as per the latest version of the “Standard: Sampling and surveys for CDM project activities and programme of activities;” or</p> <p>(c) Country or region specific values approved through the “procedure for development, revision, clarification and update of standardized baselines”, which are available on the CDM website http://cdm.unfccc.int/methodologies/standard_base/index.html</p>
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$N_{p,HH}$
Data unit:	number
Description:	Average number of persons served per household prior to project implementation
Source of data:	Established ex ante prior to project implementation based on records of households served by the project
Measurement procedures (if any):	-
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$BC_{BL,PP,y}$
Data unit:	tonnes/person/year
Description:	Average annual consumption of woody biomass per person before the start of the project activity

Source of data:	-
Measurement procedures (if any):	Determined ex ante using one of the following options: (a) A default value of 0.5 tonnes/person per year ⁸ ; (b) Historical data or a sample survey conducted as per the latest version of the “Standard: Sampling and surveys for CDM project activities and programme of activities;” (c) Country or region specific values approved through the “procedure for development, revision, clarification and update of standardized baselines,” which are available on the CDM website http://cdm.unfccc.int/methodologies/standard_base/index.html
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$f_{NRB,y}$
Data unit:	-
Description:	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass
Source of data:	-
Measurement procedures (if any):	As per “TOOL30: Calculation of the fraction of non-renewable biomass”
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$NCV_{biomass}$
Data unit:	TJ/tonne
Description:	Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in baseline devices
Source of data:	-
Measurement procedures (if any):	IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is ‘air-dried’ may be used if fuel used in project device is also woody biomass. If briquette is used as project fuel, NCV shall be measured annually
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$EF_{EL,j,y}$
Data unit:	tCO ₂ /MWh
Description:	Emission factor for electricity generation for source j in year y
Source of data:	Utility or government records or official publications

⁸ Refer to “Annex 5 - Information note on the rationale for default factors used in AMS-I.E. and AMS-II.G.” of the SSC WG 42 meeting report.

Measurement procedures (if any):	As per Tool05: Baseline, project and/or leakage emissions from electricity consumption and monitoring of electricity generation; The determination of the emission factors for electricity generation ($EF_{EL,i,y}$) in the project scenario depends on which scenario (A, B or C), as described in Section 2.2, paragraph 5 that applies to the source of electricity consumption that would be displaced in the baseline by electricity generated in the project:
Monitoring frequency:	Fixed at the time of validation
QA/QC procedures:	-
Any comment:	-

Data / parameter:	EC_{i,j}
Data unit:	Watts
Description:	Rated capacity of electric cooking appliance as per manufacturer specification (W)
Source of data:	-
Measurement procedures (if any):	As per manufacturer specification
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

13.Data and parameters monitored

Data / parameter:	N_{y,i,j}
Data unit:	No units
Description:	Number of electric cooking appliances of type i (Type I, Type II, Type III) and batch j operating during year y
Source of data:	-
Measurement procedures (if any):	Measured directly or based on a representative sample. Sampling standard shall be used for determining the sample size to achieve 90/10 confidence precision. A discount shall be applied based on the percentage of devices operational as determined by the sample survey, e.g. if survey shows that 10% of the devices is non-operating, an adjustment factor of 0.9 shall be applied to number of project devices commissioned in a particular batch. Separate samples shall be taken for each batch
Monitoring frequency:	Annual/biennial
QA/QC procedures:	-
Any comment:	-

Data / parameter:	N_{HH}
Data unit:	Number
Description:	Number of households in the project activity in year y
Source of data:	-
Measurement procedures (if any):	Established ex ante prior to start of the project activity
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	Date of commissioning of project device of type i
Data unit:	Date
Description:	Actual date of commissioning of the project device.
Source of data:	Internal records
Measurement procedures (if any):	-
Monitoring frequency:	Fixed and recorded at the time of commissioning/distribution
QA/QC procedures:	-
Any comment:	-

Data / parameter:	Date of commissioning of batch j
Data unit:	Date
Description:	To establish the date of commissioning, the Project Participant may opt to group the devices in "batches" and the latest date of commissioning of a device within the batch shall be used as the date of commissioning for the entire batch
Source of data:	Internal records
Measurement procedures (if any):	-
Monitoring frequency:	Fixed and recorded at the time of commissioning/distribution of the last project device in the batch
QA/QC procedures:	-
Any comment:	To be reported in the monitoring report

Data / parameter:	$EC_{AVG,y}$
Data unit:	MWh/yr
Description:	Average consumption of electricity by electric cooking appliance(s) in year y per household/institution (MWh/y) (for Type I only)
Source of data:	-

Measurement procedures (if any):	<p>The average electricity consumption is either determined by -</p> <p>Option 1 - a custom built-ins attachment measuring the average electricity consumption of the electric cooking appliance(s) from a representative sample of households/institutions. Annual checks that of a sample of electric cooking appliance, done with a statistically significant sample of households/institutions. Electricity consumption is recorded on a sample basis to determine the annual average electricity consumptions. Use 90/10 or 95/10 precision for annual or biennial checks.</p> <p>Option 2 - $EC_{AVG,y}$ is determined as a product of the rated capacity of the electric cooking appliance and the utilization hours:</p> $EC_{AVG,y} = EC_{i,j} \times t_{y,i,j}$ <p>Where is</p> <p>$EC_{i,j}$ = Rated capacity of the electric cooking appliances (Watts)</p> <p>$t_{y,i,j}$ = Number of hours of utilization of the electric cooking appliances during the year y (hrs).</p> <p>A default value of 7 hours of daily utilization of electric cooking appliance can be used or</p> <p>Number of hours of utilization ($t_{y,i,j}$) shall be estimated at least once every two years (annually or biennially). The biennial survey shall follow a 90/95 per cent confidence interval and a 10 per cent margin of error in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities."</p>
Monitoring frequency:	Annual
QA/QC procedures:	Custom built-ins attachment measuring the average electricity consumption of the electric cooking appliance(s) shall be in conformity with industry standard and calibrated according to relevant requirements.
Any comment:	-

Data / parameter:	$t_{y,i,j}$
Data unit:	Number of hours
Description:	Number of hours of utilization of the electric cooking application i during the year y
Source of data:	-
Measurement procedures (if any):	The number of utilization hours shall be estimated at least once every two years (annually or biennially). The biennial survey shall follow a 90/95 per cent confidence interval and a 10 per cent margin of error in accordance with the "Standard for sampling and surveys for CDM project activities and programme of activities" . The average number of utilization hours of monitored sampled households/institution are then multiplied by annual number of days or number of days in the monitoring period to determine the number of hours of utilization of the electric cooking application i during the year y.
Monitoring frequency:	Annual
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$BC_{PJ,HH,y}$
Data unit:	tonnes/household/year
Description:	Average annual consumption of woody biomass per household in the pre-project devices during the project activity, if it is found that pre-project devices were not completely displaced but continue to be used to some extent
Source of data:	Surveys
Measurement procedures (if any):	Monitoring shall consist of estimation of all project devices or a representative sample thereof, at least once every two years (biennial)
Monitoring frequency:	At least once every two years (biennial)
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$BC_{PJ,PP,y}$
Data unit:	tonnes/person/year
Description:	Average annual consumption of woody biomass per person in the pre-project devices during the project activity, if it is found that pre-project devices were not completely displaced but continue to be used to some extent
Source of data:	Surveys
Measurement procedures (if any):	Monitoring shall consist of estimation of all project devices or a representative sample thereof, at least once every two years (biennial)
Monitoring frequency:	At least once every two years (biennial)
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$N_{p,I,y,i}$
Data unit:	Number
Description:	Average number of persons served per institution
Source of data:	-
Measurement procedures (if any):	Average number of persons served per institution shall be based on survey undertaken as per "Standard: Sampling and surveys for CDM project activities and programme of activities". This parameter shall be monitored every year. If the monitoring period is shorter or longer than one year, the result may be extrapolated for the monitoring period
Monitoring frequency:	Monitored annually ex post
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$f_{NRB,y}$
Data unit:	-

Description:	Fraction of woody biomass saved by the project activity during year y that can be established as non-renewable biomass
Source of data:	-
Measurement procedures (if any):	As per "TOOL30: Calculation of the fraction of non-renewable biomass"
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$NCV_{biomass}$
Data unit:	TJ/tonne
Description:	Net calorific value of the non-renewable woody biomass, briquettes or charcoal used in baseline devices
Source of data:	-
Measurement procedures (if any):	IPCC default for wood fuel, 0.0156 TJ/tonne, based on the gross weight of the wood that is 'air-dried' may be used if fuel used in project device is also woody biomass. If briquette is used as project fuel, NCV shall be measured annually
Monitoring frequency:	-
QA/QC procedures:	-
Any comment:	-

Data / parameter:	$EG_{LS\ FF,y}$
Data unit:	MWh/yr
Description:	Quantity of net electricity supplied by renewable power plant in year y (for type II)
Source of data:	Power production record of plant
Measurement procedures (if any):	This is applicable for 100% renewable grid This parameter is applicable to projects where renewable mini grid-connected power plants are deployed to power the electric cooking appliances, e.g. solar PV mini grid systems
Monitoring frequency:	Annual recording
QA/QC procedures:	-
Any comment:	-

G. Project activity under a programme of activities: if the proposed methodology is also intended for application to a project activity under a programme of activities (CPA of PoA) guidance on consideration of leakage when applying to the CPA of PoA shall be provided.

14.>>

The methodology is applicable to a programme of activities; no additional leakage estimations are

necessary other than that indicated under leakage section above.

If the generic CPA consists solely of units that qualify as “microscale CDM units” as defined in the “TOOL19: Demonstration of additionality of microscale project activities”, the conditions to ensure that CPAs that will be included meet the small-scale or microscale thresholds and remain within those thresholds throughout the crediting period of the CPAs are not required.

Date you are delivering the contribution:

Document information

<i>Version</i>	<i>Date</i>	<i>Description</i>
01.0	1 April 2013	Initial publication. This document supersedes and replaces the form “CDM: Proposed new Small Scale methodologies form” (F-CDM-SSC-NM) (version 01.1).
Decision Document Business		Class: Type: Function:
Keywords: approving methodologies and tools, simplified methodologies		Regulatory Form Methodology