



Indicative simplified baseline and monitoring methodologies
for selected small-scale CDM project activity categories

TYPE II - ENERGY EFFICIENCY IMPROVEMENT PROJECTS

Project participants shall take into account the general guidance to the methodologies, information on additionality, abbreviations and general guidance on leakage provided at:
<http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html> .

II.G. Energy Efficiency Measures in Thermal Applications of Non-Renewable Biomass

Technology/measure

1. This category comprises small appliances involving the efficiency improvements in the thermal applications of non-renewable biomass. These technologies and measures include high efficiency cook stoves and ovens using non-renewable biomass. Project activities, which also involve the switch to renewable biomass, shall apply category I.E.

Boundary

2. The project boundary is the physical, geographical area of the use of non-renewable biomass.

Baseline

3. It is assumed that in the absence of the project activity, the baseline scenario would be the use of fossil fuels for meeting similar thermal energy needs.

4. Emission reductions would be calculated as:

$$ER_y = B_{y,savings} \cdot NCV_{biomass} \cdot EF_{projected_fossilfuel}$$

where:

ER_y	Emission reductions during the year y in tCO ₂ e
$B_{y,savings}$	Quantity of non-renewable biomass that is saved in tonnes
$NCV_{biomass}$	Net calorific value of the non-renewable biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)
$EF_{projected_fossilfuel}$	Emission factor for the substitution of non-renewable biomass by similar consumers. The substitution fuel likely to be used by similar consumers is taken: 71.5 tCO ₂ /TJ for Kerosene, 63.0 tCO ₂ /TJ for Liquefied Petroleum Gas (LPG) or the IPCC default value of other relevant fuel

$$B_{y,savings} = B_y \cdot \left(1 - \frac{\eta_{old}}{\eta_{new}}\right)$$

where:

B_y	Quantity of non-renewable biomass used in the absence of the project activity in tonnes
η_{old}	Efficiency of the system being replaced, use 0.10 (i.e. 10%) as default value or local data if available (fraction)

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η_{new} Efficiency of the system being deployed as part of the project activity (fraction)

B_y is determined by using one of the two following options.

(a) Calculated as the product of the number of appliances multiplied by the estimate of average annual consumption of non-renewable biomass per appliance (tonnes/year). This can be derived from historical data or a survey of local usage, OR

(b) Calculated from the thermal energy generated in the project activity as:

$$B_y = \frac{HG_{p,y}}{NCV_{\text{biomass}} \cdot \eta_{\text{old}}}$$

where:

$HG_{p,y}$ Amount of thermal energy generated by the new technology in the project in year y (TJ)

Non-renewable biomass

5. Project proponents shall demonstrate that the biomass used in the baseline is not renewable as per annex 18 of EB 23 ('Definition of Renewable biomass' by inversion). If the biomass cannot be classified as renewable, the following shall be used to confirm that it is non renewable. National or local statistics, or other sources of information such as remote sensing data can be used for this purpose. Alternatively the following indicators from the local areas derived from historical data or estimated using survey methods may be used:

- Increasing trend of time spent by users for gathering fuel wood;
- Increasing trend of distance travelled in order to collect fuel wood;
- Increasing trends in fuel wood price indicating scarcity;
- Trends in the type of biomass collected by users, e.g. a switch from wood to small branches and twigs, or to non-woody biomass, suggesting scarcity of woody biomass.

A single indicator may not provide sufficient evidence that biomass in the region is indeed non-renewable and therefore more than one indicator shall be used.

Leakage

6. No Leakage calculation is required.

Monitoring

7. Monitoring shall consist of an annual check of efficiency of all appliances or a representative sample thereof to ensure that they are still operating at the specified efficiency (η_{new}) or replaced by an equivalent in service appliance. Where replacements are made, monitoring shall also ensure that the efficiency of the new appliances is similar to the appliances being replaced.

8. Monitoring shall ensure that the replaced low efficiency appliances are disposed off and not used within the boundary.

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