



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

TYPE I - RENEWABLE ENERGY PROJECTS

Note: Categories I.A, I.B and I.C involve renewable energy technologies that supply electricity, mechanical and thermal energy, respectively, to the user directly. Renewable energy technologies that supply electricity to a grid fall into category I.D.

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>.

I.E. Switch from Non-Renewable Biomass for Thermal Applications by the User

Technology/measure

1. This category comprises small appliances involving the switch from non-renewable biomass to renewable sources of energy. These technologies include biogas stoves, use of solar cookers and measures that involve the switch to renewable biomass.

Boundary

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

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:

$$ER_y = B_y \cdot NCV_{\text{biomass}} \cdot EF_{\text{projected_fossilfuel}}$$

where:

ER_y	Emission reductions during the year y in tCO ₂ e
B_y	Quantity of non-renewable biomass that is substituted or displaced in tonnes
NCV_{biomass}	Net calorific value of the non-renewable biomass that is substituted (IPCC default for wood fuel, 0.015 TJ/tonne)
$EF_{\text{projected_fossilfuel}}$	Emission factor for the projected fossil fuel consumption in the baseline. The fossil 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 fossil fuel.



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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 estimated using survey methods, OR

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

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

where:

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

η_{old} Efficiency of the system being replaced, use 0.10 (i.e. 10%) as default value or local data if available

Non-renewable biomass

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 trend 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

5. If the project activity includes substitution of non-renewable biomass by renewable biomass, leakage in the production of renewable biomass must be considered using the attachment C of the general guidance.

Monitoring

6. Monitoring shall consist of an annual check of all appliances or a representative sample thereof to ensure that they are still operating or are replaced by an equivalent in service appliance.



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I.E. Switch from Non-Renewable Biomass for Thermal Applications by the User (cont)

7. Monitoring should confirm the complete displacement or substitution of the non-renewable biomass at each location. In the case of appliances switching to renewable biomass the quantity of renewable biomass used shall be monitored.