

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.

Follow the link for [General guidance](#) / [Abbreviations](#) / [Full version of appendix B](#)

I.C. Thermal energy for the user

Technology/measure

15. This category comprises renewable energy technologies that supply individual households or users with thermal energy that displaces fossil fuel or non-renewable sources of biomass. Examples include solar thermal water heaters and dryers, solar cookers, energy derived from biomass for water heating, space heating, or drying, and other technologies that provide thermal energy that displaces fossil fuel. Biomass-based co-generating systems that produce heat and electricity for use on-site are included in this category.

16. Where generation capacity is specified by the manufacturer, it shall be less than 15MW. For co-generation systems to qualify under this category, the sum of all forms of energy output shall not exceed 45 MW_{thermal}. E.g., for a biomass based co-generating system the rating for the primary boiler shall not exceed 45 MW_{thermal}.

Boundary

17. The physical, geographical site of the renewable energy technologies generating the thermal energy and the equipment that uses the thermal energy produced delineates the project boundary.

Baseline

18. For renewable energy technologies that displace technologies using fossil fuels, the simplified baseline is the fuel consumption of the technologies that would have been used in the absence of the project activity times an emission coefficient for the fossil fuel displaced. IPCC default values for emission coefficients may be used.

19. For renewable energy technologies that displace non-renewable sources of biomass, the simplified baseline is the non-renewable sources of biomass consumption of the technologies times an emission coefficient for the non-renewable sources of biomass displaced. IPCC default values for emission coefficients may be used.

20. For renewable energy technologies that displace electricity the simplified baseline is the electricity consumption times the relevant emission factor calculated as described in category I.D, paragraphs 28 and 29.

Leakage

21. If the renewable energy technology is equipment transferred from another activity, leakage calculation is required.

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I.C. Thermal energy for the user (Cont.)

Monitoring

22. Monitoring shall consist of:

(a) Metering the energy produced by a sample of the systems where the simplified baseline is based on the energy produced multiplied by an emission coefficient.

OR

(b) Metering the thermal and electrical energy generated for co-generation projects;

OR

(c) If the emissions reduction per system is less than 5 tonnes of CO₂ a year:

- (i) Recording annually the number of systems operating (evidence of continuing operation, such as on-going rental/lease payments could be a substitute); and
- (ii) Estimating the annual hours of operation of an average system, if necessary using survey methods. Annual hours of operation can be estimated from total output (e.g. tonnes of grain dried) and output per hour if an accurate value of output per hour is available.

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I.D. Renewable electricity generation for a grid

Technology/measure

23. This category comprises renewables, such as photovoltaics, hydro, tidal/wave, wind, geothermal, and biomass, that supply electricity to an electricity distribution system that is or would have been supplied by at least one fossil fuel or non-renewable biomass fired generating unit.
24. If the unit added has both renewable and non-renewable components (e.g. a wind/diesel unit), the eligibility limit of 15MW for a small-scale CDM project activity applies only to the renewable component. If the unit added co-fires [non-]renewable biomass and fossil fuel, the capacity of the entire unit shall not exceed the limit of 15MW.
25. Biomass combined heat and power (co-generation) systems that supply electricity to a grid are included in this category. To qualify under this category, the sum of all forms of energy output shall not exceed 45 MW_{thermal}. E.g., for a biomass based co-generating system the rating for the primary boiler shall not exceed 45 MW_{thermal}.

Boundary

26. The project boundary encompasses the physical, geographical site of the renewable generation source.

Baseline

27. In the case of landfill gas, waste gas, wastewater treatment and agro-industries projects, recovered methane emissions are eligible under category III.D. If the recovered methane is used for electricity generation the baseline shall be calculated in accordance with paragraph 28 or 29 below. If the recovered methane is used for heat generation it is eligible under category I.C.
28. For a system where all fossil fuel fired generating units use fuel oil or diesel fuel, the baseline is the annual kWh generated by the renewable unit times an emission coefficient for a modern diesel generating unit of the relevant capacity operating at optimal load as given in Table I.D.1.

**Appendix B¹ of the simplified modalities and procedures for small-scale CDM project activities****INDICATIVE SIMPLIFIED BASELINE AND MONITORING METHODOLOGIES FOR
SELECTED SMALL-SCALE CDM PROJECT ACTIVITY CATEGORIES****A. General guidance**

1. This appendix contains indicative simplified baseline and monitoring methodologies for selected small-scale CDM project activity categories, including recommendations for determining the project boundary, leakage, baseline and monitoring.
2. In accordance with paragraphs 15 and 16 of the simplified modalities and procedures for small-scale CDM project activities (annex II to decision 21/CP.8 contained in document FCCC/CP/2002/7/Add.3), project participants involved in small-scale CDM project activities may propose changes to the simplified baseline and monitoring methodologies specified in this appendix or propose additional project categories for consideration by the Executive Board. Project participants willing to submit a new small-scale project activity category or revisions to a methodology shall make a request in writing to the Board providing information about the technology/activity and proposals on how a simplified baseline and monitoring methodology would be applied to this category. The Board may draw on expertise, as appropriate, in considering new project activity categories and/or revisions of and amendments to simplified methodologies. The Executive Board shall expeditiously, if possible at its next meeting, review the proposed methodology. Once approved, the Executive Board shall amend appendix B.
3. In accordance with paragraph 28 of the simplified modalities and procedures for small-scale CDM project activities, a simplified baseline and monitoring methodology listed in this appendix may be used for a small-scale CDM project activity if project participants are able to demonstrate to a designated operational entity that the project activity would otherwise not be implemented due to the existence of one or more barrier(s) listed in attachment A of this appendix.
4. The appendix reflects the following guidance regarding equipment performance, project boundary, biomass projects, leakage and use of Intergovernmental Panel on Climate Change (IPCC) default values for emission coefficients.
5. Equipment performance: To determine equipment performance, project participants shall use:
 - (a) The appropriate value specified in appendix B;
 - (b) If the value specified in sub-paragraph (a) is not available, the national standard for the performance of the equipment type (project participants shall identify the standard used);
 - (c) If the value specified in sub-paragraph (b) is not available, an international standard for the performance of the equipment type, such as International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) standards (project participants shall identify the standard used);

¹ This appendix has been developed in accordance with the simplified modalities and procedures for small-scale CDM project activities (contained in annex II to decision 21/CP.8, see document FCCC/CP/2002/7/Add.3) and it constitutes appendix B to that document. For the full text of the annex II to decision 21/CP.8 please see reference/documents section on UNFCCC CDM web site <http://unfccc.int/cdm>).

Appendix B of the simplified modalities and procedures for small-scale CDM project activities

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

(d) If a value specified in sub-paragraph (c) is not available, the manufacturer's specifications provided that they are tested and certified by national or international certifiers.

6. Project participants have the option of using performance data from test results conducted by an independent entity for equipment installed under the project activity.

7. Project boundary: The project boundary shall be limited to the physical project activity. Project activities that displace energy supplied by external sources shall earn certified emission reductions (CERs) for the emission reductions associated with the reduced supply of energy by those external sources.

8. Biomass projects: In the case of project activities using biomass, leakage shall be considered.

9. In the cases where leakage is to be considered, it shall be considered only within the boundaries of non-Annex I Parties.

10. In the case of project participants using IPCC default values for emission coefficients, these shall be the most up-to-date values available in the "IPCC Good Practice and Guidance and Uncertainty Management in National Greenhouse Gas Inventories" and the "Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories". A link providing more updated information on IPCC default values for emission coefficients is available on the page for small-scale CDM project activities on the UNFCCC CDM web site: <http://unfccc.int/cdm/ssc.htm>.

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Revision History of this document

This appendix has been developed in accordance with the simplified modalities and procedures for small-scale CDM project activities (contained in annex II to decision 21/CP.8, see document FCCC/CP/2002/7/Add.3) and it constitutes appendix B to that document. For the full text of the annex II to decision 21/CP.8 please see <http://unfccc.int/cdm.htm>. The first version was adopted by the Executive Board (EB) at its seventh meeting. This revision history was introduced with the second version of this document.

Version Number	Date	Description and reason of revision
02	2 December 2003	<i>- Incorporate amendments agreed by EB at its twelfth meeting - Layout changes in order to facilitate web publication and distribution: Each category of project types is presented in way that it may stand on its own with references to general guidance etc..</i>
03	30 June 2004	<i>- Incorporate amendments agreed by EB at its fourteenth meeting. Please see annex 2 of the report of EB14.</i>