

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

**TYPE II - ENERGY EFFICIENCY IMPROVEMENT PROJECTS**

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

***II. B. Supply side energy efficiency improvements – generation***

**Technology/measure**

39. This category comprises technologies or measures to improve the efficiency of fossil fuel generating units that supply an electricity or thermal system by reducing energy or fuel consumption by up to the equivalent of 15 GWh per year.<sup>6</sup> Examples include efficiency improvements at power stations and district heating plants and co-generation.<sup>7</sup> The technologies or measures may be applied to existing stations or be part of a new facility.

**Boundary**

40. The project boundary is the physical, geographical site of the fossil fuel fired power station unit affected by the efficiency measures.

**Baseline**

41. The energy baseline is the technical losses of energy within the project boundary. In the case of retrofit measures, the energy baseline is calculated as the monitored performance of the existing generating unit. In the case of new facilities, the energy baseline is calculated using a standard for the equipment that would otherwise have been installed selected in accordance with paragraphs 5 and 6 of the general guidance (section A) above.

42. The emissions baseline is the energy baseline multiplied by an emission coefficient for the fuel used by the generating unit. IPCC default values for emission coefficients may be used.

**Leakage**

43. If the energy efficiency technology is equipment transferred from another activity, leakage calculation is required.

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<sup>6</sup> Efficiency improvements to non-fossil fuel generating units, such as turbine replacement for hydro projects, shall be treated in the same way as renewable energy projects. The efficiency improvement is calculated or measured, this improvement, expressed as a percentage, is applied to the measured output of the unit and multiplied by the emission factor calculated in accordance with category I.D projects.

<sup>7</sup> Biomass co-generation projects shall be considered as category I.C or I.D activities.

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*II. B. Supply side energy efficiency improvements – generation*

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**Monitoring**

44. Energy savings shall be measured after implementation of the efficiency measures, by calculating the energy content of the fuel used by the generating unit and the energy content of the electricity or steam produced by the unit. Thus both fuel use and output need to be metered.

45. A standard emission coefficient for the fuel used by the generating unit is also needed. IPCC default values for emission coefficients may be used. In the case of coal, the emission coefficient shall be based on test results for samples of the coal purchased if such tests are part of the normal practice for coal purchases.

## **Appendix B<sup>13</sup> 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**

#### **B. General guidance**

91. 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.

92. 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.

93. 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.

94. 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.

95. 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);
- (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.

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

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<sup>13</sup> 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> ).

97. 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.

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

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

100. 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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**Attachment A to Appendix B**

1. Project participants shall provide an explanation to show that the project activity would not have occurred anyway due to at least one of the following barriers:

- (a) Investment barrier: a financially more viable alternative to the project activity would have led to higher emissions;
- (b) Technological barrier: a less technologically advanced alternative to the project activity involves lower risks due to the performance uncertainty or low market share of the new technology adopted for the project activity and so would have led to higher emissions;
- (c) Barrier due to prevailing practice: prevailing practice or existing regulatory or policy requirements would have led to implementation of a technology with higher emissions;
- (d) Other barriers: without the project activity, for another specific reason identified by the project participant, such as institutional barriers or limited information, managerial resources, organizational capacity, financial resources, or capacity to absorb new technologies, emissions would have been higher.

## 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

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#### Attachment B to Appendix B

#### ACRONYMS, ABBREVIATIONS AND UNITS OF MEASURE

<i>Acronyms and abbreviations</i>	
EB	Executive Board
EE	Energy efficiency
CER	Certified emission reduction
CO <sub>2</sub>	Carbon dioxide
BAU	Business as usual
ESCO	Energy service company
GHG	Greenhouse gas
IEC	International Electrotechnical Commission
IPCC	Intergovernmental Panel on Climate Change
ISO	International Organization for Standardization
PV	Photovoltaic
T&D	Transmission and distribution
<i>Units of measure</i>	
h	Hour
d	Day
y	Year
k	Kilo (10 <sup>3</sup> )
M	Mega (10 <sup>6</sup> )
G	Giga (10 <sup>9</sup> )
T	Tera (10 <sup>12</sup> )
g	Gramme
W	Watt
m	Metre
J	Joule