



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.F. Energy efficiency and fuel switching measures for agricultural facilities and activities**Technology/Measure**

1. This category comprises any energy efficiency and/or fuel switching measure implemented in agricultural activities or facilities or processes. This category covers project activities that encourage energy efficiency or involves fuel switching. Examples of energy-efficient practices include efficiency measures for specific agricultural processes (e.g. efficient irrigation such as drip irrigation), and measures leading to a reduced requirement of farm power per unit area of land, reflected in less and smaller tractors, longer lifetime of tractors and less farm equipment. Further energy efficient measures would be reducing fuel use in agriculture, such as reduced machinery use through, e.g. the elimination of tillage operations, reduction of irrigation, use of lighter machinery, etc.
2. The measures may be a replacement on existing equipment or equipment being installed in a new facility. The aggregate energy savings of a single project may not exceed the equivalent of 60 GWh per year.

Boundary

3. The physical, geographical location of the farming operations or measure (each agricultural practice) being implemented. Project activities might apply to single facilities (farms), or activities using similar processes on different farms may be bundled together, as long as the combined total energy savings do not exceed the equivalent of 60 GWh per year.

Emission reductions

4. The energy baseline consists of the energy use of:
 - (a) The existing activity that is reduced in the case of retrofit measures; or
 - (b) The facility that would otherwise be installed in the case of a new facility.
5. If the energy displaced is a fossil fuel, the energy baseline is the existing fuel consumption or the amount of fuel that would be used by the practice that would have been implemented otherwise, i.e. total fuel consumption in the project area per year for field operations and average fuel consumption per unit area (ha), crop yield and year.
6. Project participants are to demonstrate the baseline and project scenarios of fuel consumption against reference agricultural activities, including cultivated acreage and crop yield from the project land.
7. Each energy form in the baseline/project is multiplied by an emission coefficient (in kg CO₂e/kWh) in order to derive the baseline and project emissions. For the electricity displaced, the



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emission coefficient is calculated in accordance with provisions under category I.D. For fossil fuels, the IPCC default values for emission coefficients may be used.

Leakage

8. If the equipment currently being utilised is transferred from outside the boundary to the project activity, leakage is to be considered.

Monitoring

9. In the case of retrofit measures (includes fuel switch measures), monitoring shall consist of:

- (a) Documenting the specifications of the equipment replaced;
- (b) Metering the energy use of the agricultural facility, processes or the equipment affected by the project activity (individually or on sample basis with a confidence/precision level of 90/10, applying the “Standard for sampling and surveys for CDM project activities and programme of activities”¹);
- (c) Calculating the energy savings using the metered energy obtained from subparagraph (b).

10. In the case of a new facility, monitoring shall consist of:

- (a) Metering the energy use of the equipment installed (individually or on sample basis with a confidence/precision level of 90/10, applying the “Standard for sampling and surveys for CDM project activities and programme of activities”);
- (b) Calculating the energy savings due to the equipment installed.

11. Monitoring will also involve the scale (e.g. number of ha cultivated, crop yield) of agricultural activities, in order to ensure that reduced energy consumption is not due to downscaling of activities. Energy use must be for equivalent services.

Project activity under a programme of activities

12. The following conditions apply for use of this methodology in a project activity under a programme of activities:

Leakage emissions resulting from fuel extraction, processing, liquefaction, transportation, re-gasification and distribution of fossil fuels outside of the project boundary shall be considered, as per the guidance provided in the leakage section of ACM0009 “Consolidated baseline and monitoring methodology for fuel switching from coal or petroleum fuel to natural gas”. In case leakage emissions in the baseline situation are higher than leakage emissions in the project situation, leakage emissions will be set to zero.

¹ <http://cdm.unfccc.int/Reference/Standards/index_poa.html>.



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History of the document*

Version	Date	Nature of revision
10.0	EB 66, Annex 62 02 March 2012	To remove the relevant requirement associated with the financial indicator from the methodology, allowing measurement using a sampling approach and removing the scrapping requirement in the PoA section of the methodology.
09	EB 33, Annex 29 27 July 2007	Revision of the approved small-scale methodology AMS-II.C to allow for its application under a programme of activities (PoA).
08	EB 28, Annex 31 15 December 2006	To broaden its applicability to include retrofit project activities, and to exclude technical line losses from the calculation of the emission factor.
Decision Class: Regulatory Document Type: Standard Business Function: Methodology		

* This document, together with the 'General Guidance' and all other approved SSC methodologies, was part of a single document entitled: Appendix B of the Simplified Modalities and Procedures for Small-Scale CDM project activities until version 07.

History of the document: Appendix B of the Simplified Modalities and Procedures for Small-Scale CDM project activities

Appendix B of the Simplified Modalities and Procedures for Small-Scale CDM project activities contained both the General Guidance and Approved Methodologies until version 07. After version 07 the document was divided into separate documents: 'General Guidance' and separate approved small-scale methodologies (AMS).		
Version	Date	Nature of revision
07	EB 22, Para. 59 25 November 2005	References to "non-renewable biomass" in Appendix B deleted.
06	EB 21, Annex 22 20 September 2005	Guidance on consideration of non-renewable biomass in Type I methodologies, thermal equivalence of Type II GWhe limits included.
05	EB 18, Annex 6 25 February 2005	Guidance on 'capacity addition' and 'cofiring' in Type I methodologies and monitoring of methane in AMS-III.D included.
04	EB 16, Annex 2 22 October 2004	AMS-II.F was adopted; leakage due to equipment transfer was included in all Type I and Type II methodologies.
03	EB 14, Annex 2 30 June 2004	New methodology AMS-III.E was adopted.
02	EB 12, Annex 2 28 November 2003	Definition of build margin included in AMS-I.D, minor revisions to AMS-I.A, AMS-III.D, AMS-II.E.
01	EB 7, Annex 6 21 January 2003	Initial adoption. The Board at its seventh meeting noted the adoption by the Conference of the Parties (COP), by its decision 21/CP.8, of simplified modalities and procedures for small-scale CDM project activities (SSC M&P).
Decision Class: Regulatory Document Type: Standard Business Function: Methodology		