

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

TYPE I - RENEWABLE ENERGY PROJECTS

Project participants shall apply the general guidelines to SSC CDM methodologies, information on additionality (attachment A to Appendix B) and general guidance on leakage in biomass project activities (attachment C to Appendix B) provided at

<<http://cdm.unfccc.int/methodologies/SSCmethodologies/approved.html>> *mutatis mutandis*.

I.G. Plant oil production and use for energy generation in stationary applications

Technology/measure

1. This methodology comprises activities involving the cultivation of oilseeds and the production of plant oil¹ to generate thermal/mechanical/electrical energy including cogeneration to displace fossil fuel and/or fossil fuel based technologies. Plant oil in contrast to bio-diesel is not trans-esterified but only pressed and filtered from oilseeds.
2. The methodology is applicable under the following conditions:
 - (i) Pure plant oil and blends with fossil fuel above 10% by volume of plant oil shall be used in equipment² that is specially built or modified;
 - (ii) Plant oil must comply with national quality regulations or in absence of the latter with the quality standards stipulated in table III.T.1. of the methodology AMS-III.T;
 - (iii) The retailers, final users and the producer of the plant oil or its blend are bound by a contractual agreement allowing emission reductions to be claimed only by the project proponent;
 - (iv) In accordance with the approved “General guidance on leakage in biomass project activities” for small scale projects, the project participants should demonstrate that the area where the biomass is grown is not a forest (as per DNA forest definition) and has not been deforested, according to the forest definition by the national DNA, during the last 10 years prior to the implementation of the project activity. In the absence of forest definition from the DNA, definitions provided by relevant international organizations (e.g. FAO) shall be used. The crop cultivation plantations shall not be established on peatlands;
 - (v) The export of plant oil produced under this category is not allowed;
 - (vi) Plant oil is not co-fired with solid fuels.

¹ Plant oil, or vegetable oil, is oil of plant origin composing of triglycerides. Although many different parts of the plants may yield oil, most often oil is extracted from the seeds or fruits of the plant. Examples of plant oil are sunflower oil, rapeseed oil and jatropha oil.

² For internal combustion engines conversion measures include adaptations of fuel supply, combustion and injection mechanisms.

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I.G. Plant oil production and use for energy generation in stationary applications (cont)

3. The plant oil produced by the project activity may be used as a blend with pure petrodiesel or with petrodiesel that has already been blended with biofuel³. In the latter case baseline emissions only from the petrodiesel fraction shall be calculated, the biofuel content of the primary blend shall be considered as carbon neutral, however, in the calculation of the project emissions, the fuel used for blending (primary blend) shall be considered as pure petrodiesel i.e. 100% petrodiesel fraction. This conservative approach is used because it may not be feasible to determine the upstream emissions associated with the production of the biodiesel used for the primary blending.
4. Project eligibility limits (capacity limits) are in accordance with the guidelines in:
- (a) AMS-I.C for thermal energy and cogeneration applications;
 - (b) AMS-I.B for mechanical energy applications;
 - (c) AMS-I.D or AMS-I.F or AMS-I.A as the case may be for electricity applications.

Project Boundary

5. The project boundary is the geographical area of the cultivation, production and processing of oil-seeds, disposal of waste products and the areas where plant oil is processed/blended. The boundary also extends to the users where plant oil is consumed in the project equipment to produce thermal/electrical/mechanical energy and the end users of the produced energy.

Baseline Emissions

6. The energy baseline and the corresponding baseline emissions for plant oil based renewable energy sources and/or technologies shall be chosen as follows:
- (a) As per the procedures of AMS-I.A if the project activity is for standalone off-the-grid power systems supplying electricity to households/users included in the boundary;
 - (b) As per the procedures of AMS-I.F if the project activity displaces electricity from an electricity distribution system that is or would have been supplied by at least one fossil fuel fired generating unit;
 - (c) As per the procedures of AMS-I.D if the project activity supplies electricity to a regional or national grid;

³ It is expected that plant oil is blended with pure petrodiesel, however where the project proponent has no access to pure petrodiesel (e.g. due to local regulations requiring sale of blended petrodiesel in the region/country) blended fuel may be used.

**Indicative simplified baseline and monitoring methodologies
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I.G. Plant oil production and use for energy generation in stationary applications (cont)

- (d) As per the procedures of AMS-I.C of the project activity produces thermal energy and/or cogenerates heat and electricity;
- (e) As per the procedures of AMS-I.B if project activity is generating mechanical energy.

7. For project activities that involve retrofit of an existing facility and/or capacity addition at an existing facility, the baseline emissions shall be calculated following the applicable principles described in AMS-I.D.

Project Emissions

8. Project emissions include:
- (a) CO₂ emissions from on-site consumption of fossil fuels due to the project activity, calculated using the latest version of “Tool to calculate project or leakage CO₂ emissions from fossil fuel combustion”;
 - (b) CO₂ emissions from electricity consumption by the project activity using the latest version of “Tool to calculate baseline, project and/or leakage emissions from electricity consumption”;
 - (c) Methane emission from solid waste or waste water calculated as per provisions in AMS-III.G (landfill); AMS-III.F (composting) and AMS-III.H. (waste water treatment) in the cases where the waste are disposed in anaerobic conditions;
 - (d) Emissions related to the cultivation of oil seeds and processing/production of plant oil calculated as per the procedures defined in the latest version of AMS-III.T;
 - (e) Project emissions from transportation of oil seeds to the oil production plant have to be accounted for following the procedures in SSC-III.AK if the transportation distance is more than 200 km, otherwise they can be neglected.

Leakage

9. Leakage emissions due to a shift of pre-project activities shall be accounted for as per the approved “General guidance on leakage in biomass project activities” for small-scale project activities.

10. In case oilseeds are cultivated in the baseline situation in the area of land where oil seeds are cultivated in the project situation, the guidance on competing uses for biomass in “the general guidance on leakage in biomass project activities” for small scale projects shall be taken into account. Leakage shall be estimated accordingly and deducted from the emission reductions.

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I.G. Plant oil production and use for energy generation in stationary applications (cont)

Emission reductions

11. Emission reductions are calculated as follows:

$$ER_y = BE_y - PE_y - LE_y \quad (1)$$

Where:

ER_y	Emission reductions in year y (tCO ₂ e)
BE_y	Baseline emissions in year y (tCO ₂ e)
PE_y	Project emissions in year y (tCO ₂ e)
LE_y	Leakage emissions in year y (tCO ₂ e)

Monitoring

12. Monitoring parameters shall be as prescribed by the applicable type I methodology chosen per paragraph 6 and 7. Project emissions are monitored as per paragraph 8. The applicable requirements specified in the “General Guidelines to SSC Methodologies” (e.g. calibration requirements, sampling requirements) are also an integral part of the monitoring guidelines.

13. The occurrence of shift of pre-project activities and the competing uses of biomass shall be monitored and verified.

14. The contracts between the producer of plant oil and the final users and retailers specifying that only the project proponent can claim CERs.

15. If the paragraph 2 (i) is applicable then the equipment modification or the installation of the new equipment shall be monitored.

Project activity under a programme of activities

16. As currently constructed this methodology does not apply to a programme of activities. In order for this methodology to be used under a programme of activities further analyses are required, for instance further analysis concerning issues related to the shift of the pre-project activities in the lands where the oil crops are grown and the competing use of biomass is required. Project Proponents are encouraged to submit procedures to address these issues as revisions to make this methodology applicable to a programme of activities for approval by the Board.

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I.G. Plant oil production and use for energy generation in stationary applications (cont)

History of the document

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