



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

**TYPE III - OTHER PROJECT ACTIVITIES**

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>.

***III.J. Avoidance of fossil fuel combustion for carbon dioxide production to be used as raw material for industrial processes***

**Technology/measure**

1. This project category comprises the avoidance of fossil fuel combustion for carbon dioxide production to be used as raw material in industrial processes, provided that the used CO<sub>2</sub> is emitted to the atmosphere at some point in time. The project activity shall replace the carbon dioxide produced by fossil fuel combustion with carbon dioxide captured from a renewable biomass source. Measures are limited to those that result in emission reductions of less than or equal to 60 kt CO<sub>2</sub> equivalent annually.
2. This methodology is applicable to situations where the generation of CO<sub>2</sub> from fossil or mineral sources in the baseline is only for the purpose of CO<sub>2</sub> production to be used for the production of inorganic compounds. There is no energy by-product of CO<sub>2</sub> production from fossil source and its consumption in the baseline.
3. All carbon in the CO<sub>2</sub> produced under the project activity shall come from the renewable biomass source.
4. The residual CO<sub>2</sub> from the processing of biomass was already produced but was not used before the project activity, so that no diversion of CO<sub>2</sub> from other applications is due to the project activity.
5. CO<sub>2</sub> from fossil or mineral sources that is used for the production of inorganic compounds prior to the project activity will not be emitted to the atmosphere when the project activity is in place.

**Boundary**

6. The project boundary is the physical, geographical sites of the carbon dioxide capture process and the industrial facilities at which it is converted to the final product to be used in industrial processes.

**Baseline**

7. The emission baseline is the current fossil fuel based carbon dioxide production of the facility expressed as amount of CO<sub>2</sub> per unit of output (e.g. kg CO<sub>2</sub>/Kg final product). IPCC default values for emission coefficients may be used in order to establish a previous indicator of kg or m<sup>3</sup> of fuel required per kg of final product.
8. The baseline can be calculated using the formulae below:

$$BE_y = P * I * F$$



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Where:

BEy: Emission baseline (CO<sub>2</sub>e emissions in absence of the project activity)

P: Annual production (mass units of final product, e.g. ton final product per year)

I: Historical index that shows the relation between mass or volume units of fossil fuel used for carbon dioxide production and mass units of final product (e.g. m<sup>3</sup> fossil fuel per ton final product per year).

F: IPCC CO<sub>2</sub>e emission factor for the fossil fuel (e.g. tCO<sub>2</sub>e per m<sup>3</sup> fossil fuel).

Project proponents must provide 5 years of data, which will be used to determine the value of 'I' in most recent historical base years.

#### **Project Activity Direct Emissions**

9. All the CO<sub>2</sub> used as raw material in the industrial process, is set free during the use of the product (for example CO<sub>2</sub> used in beverages). This means that the CO<sub>2</sub> is stored in the product before being released to the atmosphere. When the CO<sub>2</sub> source in the production of the product is biomass, then project emissions will be zero, consequently leading to greenhouse gas emission reductions.

#### **Leakage**

10. The main potential source of leakage for this project activity lies in an increase in emissions due to diversion of CO<sub>2</sub> from other users to the project as a result of the project activity. This source of leakage is zero if the conditions under which the methodology is applicable are satisfied:

The residual CO<sub>2</sub> from the processing of renewable biomass was already produced but was not used before the project activity, so that no diversion of CO<sub>2</sub> from other applications is due to the project activity.

11. No leakage derives from transportation of biomass, since the biomass must be available at the location of the project activity.

12. The equipment used for the combustion of fossil fuels in the baseline to generate CO<sub>2</sub> must not be transferred to other activities.

#### **Monitoring**

13. The emission reduction achieved by the project activity will be the difference between the baseline emissions and the leakage.

14. The amount of the final product produced shall be monitored on a monthly basis and the annual production thus determined. Monitoring shall establish that there is no leakage due to the use and transportation of the renewable biomass.



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**Project activity under a programme of activities**

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

15. In case the project activity involves the replacement of equipment, and the leakage effect of the use of the replaced equipment in another activity is neglected, because the replaced equipment is scrapped, an independent monitoring of scrapping of replaced equipment needs to be implemented. The monitoring should include a check if the number of project activity equipment distributed by the project and the number of scrapped equipment correspond with each other. For this purpose scrapped equipment should be stored until such correspondence has been checked. The scrapping of replaced equipment should be documented and independently verified.