



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.D. *Energy efficiency and fuel switching measures for industrial facilities*

#### Technology/measure

1. This category comprises any energy efficiency and fuel switching measure implemented at a single industrial or mining and mineral production facility. This category covers project activities aimed primarily at energy efficiency; a project activity that involves primarily fuel switching falls into category III.B.<sup>1</sup> Examples include energy efficiency measures (such as efficient motors), fuel switching measures (such as switching from steam or compressed air to electricity) and efficiency measures for specific industrial or mining and mineral production processes (such as steel furnaces, paper drying, tobacco curing, etc.). The measures may replace, modify or retrofit existing facilities or be installed in a new facility. The aggregate energy savings of a single project may not exceed the equivalent of 60 GWh<sub>e</sub> per year. A total saving of 60 GWh<sub>e</sub> per year is equivalent to a maximal saving of 180 GWh<sub>th</sub> per year in fuel input.

#### Boundary

2. The project boundary is the physical, geographical site of the industrial or mining and mineral production facility, processes or equipment that are affected by the project activity.

#### Baseline

3. In the case of replacement, modification or retrofit measures, the baseline consists of the energy baseline of the existing facility or sub-system that is replaced, modified or retrofitted. In the case of a new facility the energy baseline consists of the facility that would otherwise be built.

4. In the absence of the CDM project activity, the existing facility would continue to consume energy (EC<sub>baseline</sub>, in GWh/year) at historical average levels (E<sub>historical</sub>, in GWh/year), until the time at which the industrial or mining and mineral production facility would be likely to be replaced, modified or retrofitted in the absence of the CDM project activity (DATE<sub>BaselineRetrofit</sub>). From that point of time onwards, the baseline scenario is assumed to correspond to the project activity, and baseline energy consumption (EC<sub>baseline</sub>) is assumed to equal project energy consumption (E<sub>Cy</sub>, in GWh/year), and no emission reductions are assumed to occur.

EC<sub>baseline</sub> = E<sub>historical</sub> until DATE<sub>BaselineRetrofit</sub>

<sup>1</sup> Thus, fuel switching measures that are part of a package of energy efficiency measures at a single location may be part of a project activity included in this project category.



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*II.D. Energy efficiency and fuel switching measures for industrial facilities (cont)*

**EC<sub>baseline</sub> = EC<sub>y on/after DATEBaselineRetrofit</sub>**

In order to estimate the point in time when the existing equipment would need to be replaced in the absence of the project activity (DATEBaselineRetrofit), project participants may take the following approaches into account:

(a) The typical average technical lifetime of the equipment type may be determined and documented, taking into account common practices in the sector and country, e.g. based on industry surveys, statistics, technical literature, etc.

(b) The common practices of the responsible industry regarding replacement schedules may be evaluated and documented, e.g. based on historical replacement records for similar equipment.

The point in time when the existing equipment would need to be replaced in the absence of the project activity should be chosen in a conservative manner, i.e. if a range is identified, the earliest date should be chosen.

5. Each energy form in the emission baseline is multiplied by an emission coefficient (in kg CO<sub>2</sub>e/kWh). For the electricity displaced, the 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

6. If the energy efficiency technology is equipment transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered.

### Monitoring

7. In the case of replacement, modification and retrofit measures the monitoring shall consist of:

- (a) Documenting the specifications of the equipment replaced;
- (b) Metering the energy use of the industrial or mining and mineral production facility, processes or the equipment affected by the project activity;
- (c) Calculating the energy savings using the metered energy obtained from subparagraph (b).

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

- (a) Metering the energy use of the equipment installed;
- (b) Calculating the energy savings due to the equipment installed.