

CDM-EB79-AA-A12

Concept note

Consideration of facilities with registered CDM project activities for the development of standardized baselines

Version 01.0



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1. Procedural background

1. The Executive Board of the clean development mechanism (hereinafter referred to as the Board), at its seventy-fifth meeting (EB 75), provided feedback on the draft revised guidelines for the development of sector-specific standardized baselines (SBs) (EB 75 annotations, annex 7), which contained options on the inclusion of facilities with registered clean development mechanism (CDM) projects in the development of SBs. With regard to the issue of the inclusion of facilities with registered CDM projects in developing sector-specific SBs, the Board (EB 75 report, paragraph 38a) agreed that further analysis is required for different types of sectors, including the determination of the right threshold of percentage output covered by facilities with registered CDM projects that should trigger the inclusion of such facilities when developing sector-specific SBs. The Board requested the secretariat to conduct such an analysis for a future revision.
2. The secretariat prepared the first draft of this concept note and consulted with the Methodologies Panel at its 62nd meeting and with the small-scale working group at its 43rd meeting.
3. This concept note is the part of work of revision of guidelines for sector-specific standardized baselines and has been discussed with the Methodologies Panel at its 63rd meeting in line with the request made by the Board at its 78th meeting (EB 78 report, paragraph 10). The recommendation proposed in this concept note is the joint recommendation of the Methodologies Panel and the secretariat.

2. Purpose

4. The purpose of this document is to present and analyse the impact of different possible options for consideration of facilities that have registered CDM project activities¹ for the development of sector-specific SBs and recommend one option based on the analysis, for the consideration of the Board. The guidance based on recommended option will be included in the revision of the “Guidelines for the establishment of sector specific standardized baseline” (EB 65, annex 23), that is planned to be submitted for consideration of the Board at its 81st meeting.

3. Key issues and proposed solutions

5. An SB is developed using the actual or design performance and the actual output from the facilities of a sector of the host country, according to an appropriate level of aggregation. Some of these facilities may have registered CDM projects (referred to as “CDM facilities”), which would have improved the performance of these facilities as a result of the CDM incentives. While it is impractical to determine the performance and outputs of these facilities in the absence of the CDM, simply including or excluding such facilities is likely to impact the stringency of the SB developed for that sector. Guidance on this issue would reduce uncertainty for the SB developers and project developers

¹ The CDM facilities in context of this concept note are the facilities which have registered CDM project activities implementing same measures as in the proposed SB.

about how the facilities with registered CDM facilities should be treated in development of SBs.

4. Analysis of different options with justification

4.1. Treatment of CDM facilities in methodologies and tools using benchmark approaches

6. Many approved methodologies and tools have adopted various benchmark approaches² for additionality demonstration, baseline identification, and/or determination of baseline emission factors. The approach to establish sector-specific SBs also falls into this general category of approaches, as it determines the baseline emissions against the performance of the facilities that produce the same output.

² The benchmark approaches are approaches where the additionality, the baseline scenarios and/or baseline emissions are determined based on the performance of similar facilities/units.

7. The requirement and treatment of CDM facilities in large –scale methodologies are presented in the table below:

Table 1. Approved methodologies using benchmark approaches

Methodology/tool number	Name of the methodology/tool	Requirement for the existing CDM projects	No. of registered CDM projects	Treatment of CDM facilities (included/excluded/no guidance)
AM0017	Steam system efficiency improvements by replacing steam traps and returning condensate	Identification of five similar facilities in the same sector for baseline and additionality	0	To be included
AM0026	Methodology for zero-emissions grid-connected electricity generation from renewable sources in Chile or in countries with merit order based dispatch grid	For the calculation of operating margin (dispatch data analysis)	11	To be included
AM0044	Energy efficiency improvement projects - boiler rehabilitation or replacement in industrial and district heating sectors	An alternative approach to determine the baseline boiler's efficiency	1	To be included
AM0046	Distribution of efficient light bulbs to households	Baseline sample group to determine baseline scenario and emission factor	3	To be included
AM0063	Recovery of CO ₂ from tail gas in industrial facilities to substitute the use of fossil fuels for production of CO ₂	Requirement of five similar plants for the baseline emission factor	2	To be included
AM0067	Methodology for installation of energy efficient transformers in a power distribution grid	Top 20% of the manufactures having low loss transformers. It will be difficult to find the transformer in CDM projects, and therefore it can be considered that the CDM projects are to be included	0	To be included
AM0070	Manufacturing of energy efficient domestic refrigerators	Market benchmark of energy consumption; however in this case too it will be difficult to make distinctions for the refrigerators from other CDM projects	2	To be included

Methodology/tool number	Name of the methodology/tool	Requirement for the existing CDM projects	No. of registered CDM projects	Treatment of CDM facilities (included/excluded/no guidance)
AM0071	Manufacturing and servicing of domestic and/or small commercial refrigeration appliances using a low GWP refrigerant	Market share of the project technology before the project. No specific guidance, however the methodology suggests all the equipment in the market.	0	To be included
AM0084	Installation of cogeneration system supplying electricity and chilled water to new and existing consumers	Reference plant for baseline	2	Not included
AM0086	Distribution of zero energy water purification systems for safe drinking water	Survey to determine the baseline technology of the water purifiers	1	To be included
AM0091	Energy efficiency technologies and fuel switching in new buildings	Top 20% of similar buildings	0	Not included
AM0094	Distribution of biomass based stove and/or heater for household or institutional use	Baseline sample group to determine baseline efficiency and fuel	0	To be included
AM0095	Waste-gas-based combined cycle power plant in a greenfield iron and steel plant	Top 20% for baseline efficiency	0	To be included
AM0102	Greenfield cogeneration facility supplying electricity and steam to a greenfield industrial consumer and exporting excess electricity to a grid and/or project customer(s)	Reference facility to determine the baseline emission factors	2	Not included
AM0104	Interconnection of electricity grids in countries with economic merit order dispatch	Baseline isolated grid emission factor	1	To be included
AM0105	Energy efficiency in data centres through dynamic power management	Survey for determining the market share of the baseline technology	0	Not included
AM0107	New natural-gas-based cogeneration plant	Included in OM of heat generation network and exclude in some cases for identifying reference new heat generation plant	10	To be included

Methodology/tool number	Name of the methodology/tool	Requirement for the existing CDM projects	No. of registered CDM projects	Treatment of CDM facilities (included/excluded/no guidance)
AM0108	Interconnection between electricity systems for energy exchange	OM & BM calculation for electricity emission factor	0	Not included
AM0109	Introduction of hot supply of Direct Reduced Iron in Electric Arc Furnaces	Survey for baseline technology	1	Not included
AM0111	Abatement of fluorinated greenhouse gases in semiconductor manufacturing	Survey for determining the market share of the baseline technology	0	To be included
ACM0005	Increasing the blend in cement production	For determining the share of clinker in the blended cement types produced in the host country	76	Not included
ACM0012	Consolidated baseline methodology for GHG emission reductions from waste energy recovery projects	For determining the baseline WECM use in a greenfield plant	421	Not included
ACM0013	Construction and operation of new grid connected fossil fuel fired power plants using a less GHG intensive technology	For identifying the baseline technology, CDM facilities are not included while for determining the baseline efficiency CDM facilities are included	55	To be Included
ACM0018	Electricity generation from biomass residues in power-only plants	As one option to determine the baseline efficiency, use the average efficiency of the top 20% facilities	85	To be included

8. As shown in the table above, in most situations the CDM facilities are included in the baseline emission factor estimation and baseline scenario identification. Although the treatment of CDM facilities is not strictly consistent among methodologies, proper justifications may be available for the different circumstances.
9. It is also noted that while it is considered in general more conservative to include CDM facilities in the benchmark approaches, it is more conservative to exclude CDM facilities in the market survey of the baseline technology (for example in methodologies AM0105 and AM0111) because the market share is used to discount emission reductions.
10. Three methodological tools have specified the treatment of CDM facilities. The “Tool for the demonstration and assessment of additionality” and the “Combined tool to identify the baseline scenario and demonstrate additionality” have excluded CDM projects for the common practice analysis³ and for defining the geographical area to identify the relevant alternative scenario⁴ respectively. In the “Tool to calculate the emission factor for an electricity system”, CDM facilities are included in the operating margin calculation, while CDM facilities are excluded in the build margin calculation unless there are not enough new plants for build margin sample plants.

4.2. Possible options for the treatment of CDM projects in an SB

11. The secretariat and Methodologies Panel considered the following options, on the issue of inclusion or exclusion of facilities with CDM projects which have implemented the measure for which an SB is being developed⁵:
 - (a) **Option 1:** CDM facilities shall not be included in the development of an SB;
 - (b) **Option 2:** A CDM facility may be excluded in the development of an SB only if the output of all CDM facilities implementing similar measure (as applicable under the SB) in the sector is less than 20% of the total output of the sector;
 - (c) **Option 3:** The CDM facilities shall be included only if this results in a more conservative baseline emission factor;
 - (d) **Option 4:** CDM facilities shall always be included in the development of SB;

³ Based on common practice analysis step 3 “within the projects identified in Step 2, identify those that are neither registered CDM project activities, nor project activities submitted for registration, nor project activities undergoing validation.”

⁴ Paragraph 17 of the combined tool: “For the purpose of identifying relevant alternative scenarios, provide an overview of other technologies or practices that provide the same output as the proposed CDM project activity and that have been implemented previously or are currently underway in the applicable geographical area. The applicable geographical area should include preferably ten facilities (or projects) that provide the same output as the proposed CDM project activity. If less than ten facilities (or projects) that provide the same output as the proposed CDM project activity are found in the applicable geographical area, the applicable geographical area may be expanded to an area that covers if possible, ten such facilities (or projects). Other registered CDM project activities are not to be included in this analysis.”

⁵ The CDM facilities which have different measures than the measure for which the SB is proposed will be included in all the options.

- (e) **Option 5:** For the development of the SB all CDM facilities shall be included in the cohort of facilities by default. If the designated national authority (DNA) wishes to exclude a CDM facility, it should be demonstrated that the cost of fuel/feedstock/technology used in the CDM project (related to the measure for which the SB is being developed) is higher than the cost of the fuels/feedstocks/technologies (related to the measure for which the SB is developed) which contribute to 30% output of the sector;
- (f) **Option 6:** CDM facilities shall not be included in the development of an SB if the following conditions are met:
 - (i) The technology/fuel/feedstock implemented by the CDM project has been implemented by at least one facility without registering it as a CDM project; and
 - (ii) The CDM project has been registered under the CDM as a project that is the first of its kind or facing barriers.

5. Impacts

- 12. **Option 1** is simple to implement and is consistent with the majority of the approved methodologies and tools using benchmark approaches, recognizing that the CDM projects are implemented due to support from additional CDM revenue and would not have been implemented in the absence of the CDM. However, this option may miss the efficient technologies/fuels/feedstocks that required the CDM support earlier in time and are currently well penetrated and attractive.
- 13. **Option 2** considers that if any technology/fuel/feedstock adopted by the CDM projects becomes common practice, then these CDM projects should be included for the development of SBs, similar to any other technology/fuel/feedstock. Facilities with registered CDM projects using the methodology with overlapping applicability with the SB under development are excluded, assuming that the projects that the proposed SB promotes cannot take place in the sector in the absence of the CDM. Therefore such facilities should not be part of the baseline. The 20% threshold is consistent with the "Guidelines on common practice", where it is used to demonstrate common practice based on the presence of a similar technology as adopted by the CDM project in the geographical area.
- 14. **Option 3** is the most conservative option, although it does not have a clear conceptual or policy basis. It is also the most cumbersome to implement, as it requires the SB developer in effect to develop the SB twice and select the more conservative of the two.
- 15. **Option 4** is the opposite of Option 1 and is also simple to implement. It considers that a CDM project may be a very minor part of the entire facility whose performance may not be significantly affected by the CDM project
- 16. **Option 5** is a flexible variation of option 4 and is consistent with the approach followed in methodologies and tools. This option is easy to implement and requires additional efforts when the DNA wishes to exclude CDM plants in the SB development. If the CDM facilities that implement same measure constitute a small percentage of total sectoral output, it will not influence the baseline significantly. Further, if the output of these CDM facilities is significant, it implies that the measure implemented in these CDM projects

does not face barriers anymore and should be considered in the baseline. However, irrespective of penetration of facilities with CDM projects, the exclusion of facilities with CDM projects is justified only if the cost of measures taken up by the CDM projects is higher than cost of alternative measures used in the sector. This is because it can be concluded that CDM is essential for implementation of such costly measures and therefore the facilities with registered CDM projects should not be the part of baseline.

17. **Option 6** is a slight variation of Option 1. Although it is a little more complex to implement, it is less likely to exclude attractive and efficient technologies/fuels/feedstocks in comparison with Option 1. This option recognizes that the CDM has helped in overcoming the barriers of the technology/fuel/feedstock penetration in the country and those barriers may no longer exist. Evidence may be required from the DNA to demonstrate that it is the CDM that facilitated the penetration of technologies/fuels/feedstocks in the sector in the host country.

6. Subsequent work and timelines

18. The option agreed on by the Board will be incorporated in the revised guidelines on the establishment of sector-specific SBs. The draft revised guidelines are planned to be submitted to the Board for its consideration at EB 81.

7. Recommendations to the Board

19. The Methodologies Panel and the secretariat agreed to recommend Option 5 to the Board. This option achieves a good balance in terms of environmental integrity and simplicity.

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Document information

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