

CDM-EB96-AA-A04

Concept note

Approaches for additionality demonstration (jointly by MP, SSC WG and secretariat)

Version 01.0



United Nations
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Climate Change

TABLE OF CONTENTS	Page
1. PROCEDURAL BACKGROUND.....	3
2. PURPOSE	3
3. KEY ISSUES AND PROPOSED SOLUTIONS	3
3.1. Common practice analysis	3
3.2. First of its kind approach	6
4. PROPOSED WORK AND TIMELINES	7
5. RECOMMENDATIONS TO THE BOARD	7

1. Procedural background

1. The Executive Board of the clean development mechanism (CDM) (hereinafter referred to as the Board), at its eighty-second meeting (EB 82), requested the secretariat to prepare a concept note to look into additionality in a more holistic way by describing the work done in the past, approaches that have already been incorporated in methodologies, lessons learned, what could be done further, including possible alternative approaches, and, where possible, giving examples for changes in specific methodologies.
2. At EB 85, the Board requested the secretariat to prepare a concept note assessing the possibility and potential implications of:
 - (a) Introducing a threshold beyond which CDM projects are considered in the common practice analysis. The work is also included in the approved workplan for panels and working groups for 2016¹;
 - (b) Removing 'first-of-its-kind' (FoiK) as an approach to demonstrate additionality.
3. At EB 90, the Board considered the revised concept note and, among other things, requested the secretariat, the Methodologies Panel (MP) and Small-Scale Working Group (SSC WG) to jointly continue the work taking into account the inputs it provided on common practice analysis and FoiK, in particular assessing whether a minimum number of control group of projects would be required for comparison, and whether the same threshold should apply independently of the number of technologies in the sector.

2. Purpose

4. This concept note was prepared by the secretariat in consultation with the MP and SSC WG to address the Board's mandates mentioned in paragraphs 2 and 3 above on common practice analysis and FoiK.

3. Key issues and proposed solutions

3.1. Common practice analysis

5. The key question to be addressed herein is whether registered CDM projects (including those still under validation) should be included in the common practice analysis. If excluded (as is the case today), one possible issue could be that registered CDM projects may be widely implemented in a region and help to significantly diffuse certain types of technologies. In such a case, the exclusion of CDM project activities from consideration may not address the very principle of common practice analysis.
6. Another thing to consider is that registered CDM project activities have been included in other methodological tools, for example:
 - (a) In the "Tool to calculate the emission factor for an electricity system" (ver. 05.0) (EB 87 report, annex 9), the set of power units registered as CDM project activities need to be included in the calculation of the 'operating margin'. In addition, out of

¹ See annex 2 to the EB 88 report, Page 11

three options to calculate the 'build margin' (BM) emission factor, one option requires the project developers to include CDM project activities if none of the power units in the defined sample group started to supply electricity to the grid more than 10 years ago;

- (b) In the tool for "Additionality of first-of-its-kind project activities" (ver. 03.0) (EB 84 report, annex 6), one of the criteria for a proposed project activity to qualify as Foik is that the project is the first in the applicable geographical area that applies a technology that is different from technologies that are implemented by **any** other project. It implies the inclusion of registered CDM projects.
7. Notwithstanding the understanding that there are good reasons for the inclusion of CDM project activities in the tools mentioned in paragraph 6 above, an approach was proposed at EB 90 to include registered CDM projects while identifying similar project activities within the applicable geographical boundary during common practice analysis; in other words, registered CDM projects (including those under validation) shall be included in the common practice analysis if the registered CDM projects contribute to at least [20]² [30]³ per cent of the overall output of the sector (referred to as Option 1).
8. Some input received during the Board's discussion concerns the appropriateness of applying a single threshold for all sectors (one-fits-all), and in the meantime, the approach applied in the Tool to calculate the emission factor for an electricity system grid tool for BM calculation was highlighted for further exploration. The approach used for BM was briefly described in paragraph 6 (a) above, which is that the inclusion of registered CDM projects therein depended on the vintage of the power units included in the sample group. Firstly, it should be noted that the inclusion of CDM projects in the BM is for a very specific context. The purpose of the BM approach is a proxy to identify prospective power sources based on the recent data. Therefore, it is not logical to include very old power units. As a result, registered CDM project activities are included as a second-best option to displace those power units if they still exist in the sample group. In this context, such an approach has nothing to do with the common practice analysis. Secondly, if such an approach is followed, a temporal factor (i.e. vintage) would need to be added along with the output penetration specified in Option 1 above (referred to as Option 2). It should also be noted that in this option, a sector-specific vintage may need to be determined, that is a 10-year vintage used in the grid tool may not be applicable to other sectors.
9. Concern regarding potential adverse effects of the inclusion of registered CDM projects was also expressed by Board members, for example the project participant /host country should not be penalized simply because of a higher uptake of CDM in the country. Bearing this in mind, a blended approach informed by discussion on standardized baselines used in the past may be considered as follows (referred to as Option 3):

Registered CDM projects (including those under validation) shall be included in the common practice analysis if the registered CDM projects contribute to at least [20] [30] per cent of the overall output of the sector. However, if the project participant wishes to exclude registered CDM projects, they should demonstrate that the cost

² Used in the grid tool while defining the sample group, i.e. including the set of power units until the electricity generation of the group comprises 20 per cent of the annual electricity generation of the project electricity system.

³ See annex 11 to the annotated agenda for EB 88.

of the fuel/feedstock/technology used in the project under development is clearly higher than the maximum cost of the fuels/feedstocks/technologies that contribute to at least 30 per cent of the output of the sector (see annex 11 to the annotated agenda for EB 88).

10. A comment from the Board was also received regarding the definition of 'control group'. The example during the Board's discussion provided two scenarios: one is small country A with very few cement technologies, in contrast to a large country B with diversified technologies already implemented. The issues raised there was that it is much easier to pass the common practice in Country A than Country B while comparing it to the threshold of 20 per cent as required in the common practice tool. The fact that the current analysis does not consider how many technologies the control group has was considered as a fundamental weakness associated with the current common practice analysis.
11. The 'control group' referred in the Board's comment was understood as the same used in AM0044 (para. 40) or the 'sample group' referred in the Tool to calculate the emission factor for an electricity system (grid tool), which is the collection of technologies/facilities meeting certain criteria. In the case of common practices, the criteria for defining the constitution of the control group are provided in paragraph 14 of the common practice tool (such as installed capacity, feedstock, technology/measure, etc.). In addition, it also depends heavily on how the applicable geographical area is defined. The current common practice tool addresses the size of the control group to a certain extent by requiring that the number of similar projects must be larger than 3 ($N_{all} - N_{diff} > 3$), which means the total number of projects in the control group has to be at least 3 ($N_{all} > 3$). Also, some methodologies (e.g. ACM0013) specify that the number of similar plants must be at least 10. Since the common practice tool has already specified the minimum size of the control group, it may be more appropriate to specify a different number (if needed) in the respective methodologies. The underlying issue may also be addressed with the provision of a standardized approach or positive list.
12. In summary, the three options that have been discussed above for including registered CDM projects in the common practice analysis are as follows:
 - (a) Option 1: Introducing a threshold based on output (see para. 7 above);
 - (b) Option 2: Introducing an output-based threshold together with the vintage (see para. 8 above);
 - (c) Option 3: Introducing a production-based threshold together with financial attractiveness (see para. 9 above).
13. The MP was of the view that the very purpose of conducting common practice analysis is to check what would have happened in the absence of CDM. Such a purpose is defeated if CDM projects are included in the analysis. Also, all the three options above will incur additional burdens to the PP in performing the common practice analysis, for example data collection on output and operating history/cost, etc. However, the common practice analysis is simply a credibility check serving as a complementary step to the investment analysis or barrier analysis. Bearing this in mind, the MP is still inclined to maintain the current requirement, that is excluding the registered CDM projects from consideration in the common practice analysis.

3.2. First-of-its-kind approach

14. A gap in the existing methodological tool “Additionality of first-of-its-kind project activities” was presented to the Board at its ninetieth meeting. In particular, the tool does not describe a possible situation in which a technology delivers the same output and uses the same energy source, feed stock and size of installation but may still be categorized as a different technology based on its distinct process or function. For example, the following technologies may be installed in an anaerobic wastewater treatment plant in the same industry/sector (e.g. sugar industry) and deliver the same output and use same feedstock and size of installations (see annex 14 in the annotated agenda for EB 90):
 - (a) Anaerobic contact reactor;
 - (b) Up-flow anaerobic sludge blanket;
 - (c) Fixed bed reactor;
 - (d) Expanded bed reactor.
15. The Board agreed to the proposal provided in the joint concept note (annex 14 to the annotated agenda for EB 90) for an additional paragraph to be included after paragraph 11 of the methodological tool “Additionality of first-of-its-kind project activities” (ver. 03.0) to cover projects installing a different technology in the same sector/industry and using same feedstock, in other words, a technology categorized or defined as different from another technology within the same process line as per published technical papers, journals, industry associations, designated national authorities and the like.
16. During the Board’s discussion, comment was provided on the potential issue of when Additionality of first of its kind project activities (FoiK) analysis is performed without considering the setting of the control group. The issue was illustrated in an example: the first cement plant with an outdated technology in a very small country still qualifies as Additionality of first of its kind project activities (FoiK) tool, whereas in some large countries, the likelihood of a very advanced cement production technology to fail in a Additionality of first of its kind project activities (FoiK) tool test could be high. On the other hand, considering a percentage of the penetration rate, instead of the fact that it was the very first, has already been utilized to develop the positive list for small-scale methodologies (e.g. for renewable energy technologies). As such, introducing a percentage threshold based on penetration rate may be explored.
17. It is, however, to be noted that:
 - (a) A FoiK analysis provides a decisive conclusion with respect to additionality demonstration, which is unlike, for example, the investment analysis, which still requires a common practice analysis for the credibility check. Thus, the FoiK analysis must be robust enough so that no supplementary step is needed;
 - (b) Although penetration rate (in the form of a percentage) has been applied in developing positive lists in certain sectors (e.g. renewable energy, electric vehicles), it has so far been applied only to those sectors with sufficient data to derive the percentage threshold. In other words, the threshold could be very sector-specific.

18. Based on the above, the MP, SSC WG and secretariat are of the view that an approach introducing a penetration rate-based threshold may be further explored if agreed by the Board. For example, a common but very low threshold may be included in the Additionality of first of its kind project activities (FoiK) tool and be applicable to all sectors to minimize free riders. In addition, there may also be a need to stipulate the total number/production of the similar projects in the host country along with the threshold.

4. Proposed work and timelines

19. If approved, the agreed approach will be reflected in the relevant CDM regulatory documents, tools and methodological standards for the Board's approval at a future meeting.

5. Recommendations to the Board

20. The Board may want to consider and provide input to the proposals contained in this concept note.

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