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Concept note

Further work on standardized baseline regulatory framework, including development of top-down thresholds on baseline and additionality for underrepresented countries

Version 01.0



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1. Procedural background

1. The Executive Board of the clean development mechanism (CDM) (hereinafter referred to as the Board), at its sixty-fifth meeting, adopted a work programme on implementation of standardized baselines (SB), including the development of guidelines for determining thresholds for baseline and additionality for standardized baseline (hereinafter referred to as the threshold guideline) as well as guidelines for the development of sector-wide emission factor in consultation of practitioners, including industrial associations. Since then, a number of documents including guidelines and procedures have been approved by the Board. Several bottom-up submissions on standardized baselines have been received from designated national authorities (DNAs) and some of them have been approved. As per the work programme approved by the Board at its sixty-fifth meeting, the regulatory framework is under development and some of its elements are under revision based on lessons learned and road-testing during the first year of its implementation. Although substantial work on the regulatory framework was undertaken in 2012 and 2013, a large part of it is still under discussion by the Board. In 2014 significant work will be undertaken to further develop and revise the standardized baseline regulatory framework.
2. The Board had also envisaged, when approving the work programme on standardized baselines at its sixty-fifth meeting, that a higher level of standardization may be considered for the sectors for which measure-specific SBs are developed using the SB guidelines. This higher level of standardization is aimed at developing a sectoral emission factor by combining measure-specific SBs. However, the procedure on how the sectoral emission factor could be developed is not elaborated sufficiently in the approved SB guidelines (i.e. section IV in the approved SB guideline¹). Therefore there is a necessity to develop a “Guideline for establishment of sectoral emission factor” (Sectoral EF guideline) that can operationalize the development of a sectoral emission factor, by combining measure-specific SBs of a specific sector of a country into a sectoral emission factor for that sector of the country. The benefits of having a sectoral emission factor are outlined in this document.
3. The secretariat developed the draft threshold guideline for the consideration of the Board at its sixty-ninth and seventy-third meetings. The emphasis during the Board’s discussions was on road-testing of the underlying approach before further consideration. The Board requested the secretariat to submit revised guidelines taking into account the Board’s comments and results of road-testing for a future meeting of the Board when the ongoing work on the revision of the “Guidelines for establishment of sector-specific standardized baselines” (SB guidelines) is finalized. The Board also questioned whether different approaches can be developed for different characteristics of sectors.
4. The Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP) at its ninth session in Warsaw, Poland, requested the Board to prioritize the development of top-down thresholds for baseline and additionality for the underrepresented countries in the CDM. The Board at its seventy-seventh meeting approved the workplan of the Board for 2014 (EB 77 report, annex 1) and agreed to the “Further work on standardized baselines including country-specific thresholds on baseline and additionality”. After a survey conducted between 25 February and 5 March

¹ <https://cdm.unfccc.int/Reference/Guidclarif/meth/meth_guid42.pdf>.

2014 for non-Annex I DNAs, it was noted that there was a lot of interest among the 13 DNAs that responded to the survey in the top-down development of standardized baselines. The concept note submitted on development of top-down standardized baselines for consideration of seventy-eighth meeting of the Board contains the details of this survey (EB78 annotations, annex 7). Most of these DNAs' countries are underrepresented in the CDM. The threshold guideline, once approved by the Board, will be used to develop top-down thresholds for some of them, as per the request of the CMP at its ninth session.

5. This concept note was presented to the 63rd meeting of the Methodologies Panel for consultation purposes and the inputs from the panel have been incorporated into it.

2. Purpose

6. The purpose of this concept note is to provide rationale and elaborate the contents of further work planned on the standardized baseline regulatory framework including: (i) threshold guideline; (ii) development of sectoral EF guideline; and (iii) development of country-specific thresholds on baseline and additionality. The document outlines the possible approaches to be followed for the development of these documents.

3. Key issues and proposed solutions

3.1. Key issues

7. As required in the SB guidelines, thresholds for baseline and additionality (Xa, Xb, Ya, and Yb) used in the SB guidelines are essential for establishing the sector-specific standardized baseline. As an interim solution, the Board, at its sixty-fifth meeting, approved the default values of these thresholds for priority sectors² to be 80 per cent (in terms of output of the sector), and for non-priority sectors the default value is 90 per cent (in terms of output of the sector). Although the Board had requested the secretariat to develop options for the setting and approval of the relevant threshold,³ further guidance is yet to be approved by the Board due to the complexities of the issues involved.
8. During the implementation of the SB guidelines, the interim thresholds approved by the Board have been questioned by many stakeholders. Their particular concern is that the thresholds do not represent country-specific and sector-specific circumstances and they do not provide enough incentives to implement CDM projects using SBs.⁴ This again demonstrates the necessity of a guideline to develop these thresholds that takes into account country-specific and sector-specific circumstances.
9. The greenhouse gas (GHG) emission reduction activities (measures) covered in the SB guidelines include fuel switch, feedstock switch, technology switch and/or methane abatement, for which measure-specific standardized baselines can be developed. If it is not possible to develop measure-specific SBs due to data unavailability, technical reasons or other reasons, a revision is proposed to the SB guidelines (for a future

² Priority sectors for the purpose of the SB guidelines, as defined by decision 3/CMP.6 and by the Board (EB 51 report, annex 1), are energy for households, energy generation in isolated systems, agriculture.

³ <<http://cdm.unfccc.int/UserManagement/FileStorage/YD4QSN3VM5096CKZWHPGTLX7BIFO8E>>.

⁴ 8th CDM Round Table, 17 June 2013, Bonn, Germany.

meeting of the Board) that an SB should be developed for integrated measures, by collecting the data for facility performance instead of developing a measure-specific SB by collecting the data on GHG performance of fuel or feedstock or technology separately. Such integrated standardized baselines, by defining the sectoral emission factor (in terms of tCO₂/t output), enhance the effectiveness and scale of mitigation activities. It will also offer a range of possibilities in a sector for a facility by superseding the performance of a benchmark facility. More importantly, it can assist the country in policymaking for the sector to drive long-term goals on improvement of GHG performance.

10. Notwithstanding paragraph 9 above, if a DNA develops measure-specific SBs (such as fuel-switch, technology-switch and feedstock-switch SBs) for one of its sectors in an early phase of standardization and later wishes to take advantage of a sectoral emission factor for the same sector, due consideration should be given to the impact on environmental integrity if a sectoral emission factor is allowed to coexist with measure-specific SBs (e.g. risk of overlapping, picking-and-choosing and double counting). There are no guidelines available on how to combine measure-specific SBs to develop a sectoral emission factor, except that it is briefly covered by the SB guidelines (i.e. in section IV). Therefore, a sectoral EF guideline is needed in order to operationalize the development of sectoral emission factors.
11. Finally, as the two independent issues of threshold guideline and sectoral EF guideline are discussed above, it is envisaged that the two guidelines are inherently linked in meeting the purpose of comprehensiveness and flexibility of the SB regulatory framework. The threshold guideline may be helpful for developing thresholds that are applicable to either measure-specific SBs or a sectoral emission factor of the sector belonging to underrepresented countries.

3.2. Proposed solutions

12. As discussed above, without flexible and comprehensive approaches established by developing a threshold guideline and sectoral EF guideline to uphold environmental integrity as well as account for the incentives for project participants, it is difficult to exploit the potential for standardized baselines in different sectors. Therefore, a step-wise workplan is proposed as follows:
 - (a) Development of “Guidelines for determination of baseline and additionality thresholds for standardized baselines” (threshold guideline);
 - (b) Development of “Guidelines for development of sector-wide emission factor” (sectoral EF guideline);
 - (c) Top-down development of baseline and additionality thresholds for three sectors from different countries.
13. Once the guideline in (a) above is approved, work stream (c) can be initiated.

3.2.1. Development of threshold guidelines

14. It is critical that baseline and additionality thresholds reflect the real situation of the sector in the particular host country, in order to meet the purpose for which standardized baselines were envisaged by the CMP at its sixth session. In the absence of this critical element, the resulting standardized baseline may either compromise environmental integrity or lose attractiveness from the project developer’s point of view.

15. Based on the experience gained so far in the methodological work, it has been noted that performance, penetration and financial attractiveness are the three independent criteria that have been applied in CDM methodologies for the purpose of determining baseline and/or demonstrating additionality. However, there has also been much discussion of the pitfalls when any one of these criteria is applied individually in certain circumstances. For example, in a country for a fuel-switch measure, a switch to natural gas is not additional if the justification is based on the low penetration of natural gas in the country and if natural gas has recently become available at a much lower cost than other fuels used in the sector. In fact, in this case natural gas is most qualified as a baseline fuel for being highly attractive. Similarly, a country-specific situation with a dominant share of hydro power today in the power sector, but with all future potential for implementation of additional hydro power plants completely exhausted, gives an indication that hydro-based power plants should not be used to define the baseline of the sector, as it will not be implemented in the absence of a CDM project. In another example, a benchmark developed only based on the top 20 per cent of plants can be highly stringent if these facilities are not well penetrated in the sector and therefore do not represent a logical baseline.
16. This explains why a combination of all these criteria or some of them (penetration, performance and cost) are important depending upon the situation, and thus should be borne in mind when developing the baseline and additionality thresholds for the sector. This is the principle that shall be followed throughout the development of threshold guidelines as envisaged in this concept note.
17. Two different approaches are being considered in the threshold guideline: (1) performance-penetration approach; and (2) performance-cost approach for informal sector.⁵
18. The performance-penetration approach, combining performance and penetration of technologies/fuels/feedstock in a sector, was prepared and discussed at the seventy-third meeting of the Board taking into account inputs from the call for public inputs, the Cement Sustainability Initiative (CSI) of the World Business Council for Sustainable Development (WBCSD), the Methodologies Panel (MP 56 and MP 59) and the Small-Scale Working Group (SSC WG 37, SSC WG 39 and SSC WG 40).
19. Furthermore, road-testing of the approach has been carried out for power sector and cement sector, and more road-testing will be carried out once the work stream outlined in this concept note is agreed by the Board. All the testing outcomes will be presented to the Board when the next draft threshold guideline is submitted to the Board for its consideration.
20. Due to the nature of the informal sector as well as the difficulty of collecting data, especially data on penetration, it may be challenging to apply the performance-penetration approach referred to in paragraph 17 to the informal sector. Therefore a simplified approach combining performance and cost may be considered for the informal

⁵ For the purpose of this concept note, “informal sector” refers to a part of an economy that meets any of the following criteria: (i) exempted from being taxed by provincial or federal government being a business organized on the small scale or less; (ii) not monitored for financial performance and revenues by provincial or federal government; (iii) not included in any gross national product; (iv) has potential for small and distributed types of appliances for improvement in GHG performance. Examples are: energy for households; energy generation in isolated systems and agriculture.

sector. Such an approach needs to be further explored. However, a possible example of such an approach could be as follows. When technologies in the informal sector are arranged in ascending order of their levelized cost, those technologies that are costlier than a predetermined threshold (in terms of percentage on the scale of cost) and also cleaner (in terms of their GHG performance) than the technology falling on the predetermined threshold can form the positive list. Also, the cleanest technology among those below the cost threshold can be used as the baseline technology. However, it is recognized that such an approach is not in line with the concepts established in the SB guidelines (penetration, performance and cost), and therefore will require additional elements in the SB guideline for the informal sector based on the criteria of performance and cost only.

3.2.2. Development of sectoral EF guidelines

21. There are two approaches available to develop sector-wide emission factors. The first is implicitly explained in the existing approved SB guideline and is further elaborated as a part of the proposed revision of the SB guideline for the consideration of the Board at a future meeting. This approach is applicable where all key measures are operationally integrated or they cannot be separated for the development of a measure-specific SB for reasons such as lack of data availability. The second approach is applicable where DNAs wish to develop measure-specific SBs and then to combine them to achieve simplicity, scalability and flexibility.
22. The first approach is mandatory if the DNA cannot develop a measure-specific SB due to lack of data availability, technical reasons or any other reasons. DNAs should develop a sector-wide emission factor in accordance with the steps in the SB guidelines and the proposed revision.
23. However, under the sectoral EF guidelines, emphasis will be placed on the second approach, which is optional if DNAs wish to follow this. DNAs may develop a sector-wide emission factor by combining approved SBs for independent measures. The approach in the sectoral EF guideline will further elaborate the following issues:
 - (a) How to demonstrate the independence of key measures;
 - (b) How to formulate the algorithm for sector-wide emission factors;
 - (c) How to avoid/check over-estimation;
 - (d) How to demonstrate additionality collectively for a combination of technology/fuel/feedstock of a CDM project activity and individually for each of them.

3.2.3. Top-down development of baseline and additionality thresholds for three sectors of two or three countries

24. Of the 13 DNAs that expressed an interest in the development of top-down SBs, 11 are from underrepresented countries. Three sectors could be selected from the survey results of underrepresented countries for the development of top-down thresholds for baseline and additionality. The selection of sectors should take into account the representativeness of the countries, as well as the applicability of the approaches being discussed above.

4. Impacts

25. The draft threshold guidelines will provide a simplified approach for defining and assessing the country-specific and sector-specific thresholds for baseline and additionality used for standardized baselines. This work is expected to further facilitate and encourage the top-down and bottom-up development of standardized baselines, as well as its assessment by the Board and its support structure.
26. The sectoral EF guideline is expected to bring further scalability, comprehensiveness and flexibility for DNAs in the development of standardized baselines.
27. The thresholds developed top-down will expedite the process of development of standardized baselines for those countries.

5. Subsequent work and timelines

28. Upon agreement of the Board to take up further work on the standardized baseline regulatory framework, as covered in this concept note, it is expected that this work (on the development of two guidelines and top-down thresholds for three sectors) will be completed by the second quarter of 2015.

6. Recommendations to the Board

29. The secretariat recommends that the Board provide guidance and a mandate on the proposed further work on standardized baselines as outlined in this note, to start work under the CDM management plan (MAP) project 110.

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Document information

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