

**CDM-MP70-A18**

## Concept note

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# Gap analysis to the application of existing combined tool and its potential expansion

Version 01.0



**United Nations**  
Framework Convention on  
Climate Change

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## 1. Procedural background

1. At its eighty-second meeting (EB 82), the Executive Board 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 further done, including possible alternative approaches.
2. In consultation with the Methodologies Panel (MP67) and the small scale working group (SSC WG 48), a concept was presented to the Board at its eighty-fifth meeting (EB85). The Board, among others, requested the MP and where applicable, the SSC WG to:
  - (a) Refer in methodologies to the combined tool wherever it is applicable;
  - (b) Apply a gap analysis to the existing combined tool with the view to (i) identifying the cases it does not cover, challenges to make the tool applicable to these cases as well as how they could be addressed and (ii) broadening its application to cover as wide a scope as possible.
3. In response to the mandate above, this concept note is prepared by the Meth Panel by reviewing the current application of both the “Tool for the demonstration and assessment of additionality” (additionality tool) and the “Combined tool to identify the baseline scenario and demonstrate additionality” (combined tool) in all the large scale methodologies.

## 2. Purpose

4. The objective of the concept note is to identify the potential gaps to the application of existing combined tool, and also to propose the solutions to expand its application.

## 3. Key issues and proposed solutions

### 3.1. Overview of the two tools and their status of applications

5. Applications of both the additionality tool and the combined tool were reviewed in the preparation of this concept note. The additionality tool was firstly approved in October 2004, and November 2006 for the combined tool. To date, 112 large-scale methodologies have been approved by the Board. The break-down of applications of additionality tool and combined tool is shown in the Table 1 below.

**Table 1 Application of combined tool and additionality tool in large scale methodologies**

Tool referred	Combined Tool	Additionality Tool	Both	None
No. of methodologies	51	45	7	9

6. Both tools include the same key steps (barrier analysis, investment analysis and common practice analysis). Although the objective for the same step in the respective Tool could

vary<sup>1</sup>, the guidance for conducting these key steps in both Tools is consistent<sup>2</sup>, if not identical (see Appendix 1 for details).

7. Appendix 1 also shows that for identification of alternatives (Step 1), additionality tool requires the list of alternatives which may not even be available to the project proponent; whereas the combined tool appears to focus on alternatives that are only available to project proponent.
8. Which is also noteworthy is that a set of important alternatives representing "do nothing" (S2, S3 and S4) were added to the combined tool on April 2011. For the purpose of discussion hereafter, they are reproduced below:
  - (a) S2: Where applicable, no investment is undertaken by the project participants but third party (ies) undertake(s) investments or actions which provide the same output to users of the project activity;
  - (b) S3: Where applicable, the continuation of the current situation, not requiring any investment or expenses to maintain the current situation;
  - (c) S4: Where applicable, the continuation of the current situation, requiring an investment or expenses.

### 3.2. Analysis

9. In this section, the Meth Panel provided the findings by reviewing the individual group of methodologies in accordance to the Table 1 above. It also discussed the possible limitations to the application of the existing combined tool and proposed possible solutions to expand its applicability for the Board's consideration. The following key messages can be drawn from the analysis, while detailed information can be found in the discussion below.
  - (a) Combined tool and additionality tool have currently been applied in a very inconsistent way. For example, different tool have been applied in very similar type of methodologies;
  - (b) Three potential limitations below have been discussed by the Meth Panel in this concept note. The Meth Panel is of the view that additionality tool cannot solve these limitations of the current combined tool. In methodologies where the additionality tool is chosen because of the limitations of combined tool, these issues (mainly the last two issues) persist with the additionality tool as well.
    - (i) Provision of methodology specific requirement for additionality demonstration;
    - (ii) The availability of the identified alternatives to the project proponent;
    - (iii) Consideration on the mutual exclusiveness of identified alternatives.

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<sup>1</sup> For example, the investment analysis in the additionality tool is to show that at least one alternative is more financially attractive than the proposed project activity; whereas in the combined tool, it is to identify which is the most economically attractive alternative.

<sup>2</sup> A consistency alignment was also carried out once in the year of 2010 (MP45)

- (c) The Meth Panel agreed that applicability of the combined tool can be expanded with the introduction of the benchmark approach. The concept of the proposed new approach has been presented in Figure 1 of this note (section 3.2.5). If agreed by the Board, the Panel would like to also provide additional guidance to strengthen the step for identifying alternative baseline scenarios, while preparing the revised version of the combined tool.

### **3.2.1. Methodologies not referring either of the tools**

10. As indicated in Table 1, there are in total 9 large-scale methodologies in which none of the Tools was referred to. Further investigation revealed that:
  - (a) Two of them (i.e., AM0007 and AM0017) were approved even before the approval of both tools;
  - (b) Six of them have applied different approaches than that in the Tools, i.e., regulation based approach for AM0001 and ACM0019, automatic additionality for AM0116; benchmark for AM0070 and AM0030, and penetration for AM0086;
  - (c) As the last methodology in this category, it was found that both additionality tool and combined tool were referred originally in version 1 of ACM0018, but both got removed in its subsequent versions (ver. 2&3). The underlying reason is not clear, since version 2 was created only to provide references to other two newly available methodological tools<sup>3</sup>. Furthermore, although both Tools had appeared in the reference section in version 1, the procedures for baseline identification and additionality demonstration thereof seem to have fully followed the combined tool only, leading to the question on whether the additionality tool had been of any use in the methodology. Lastly, since ACM0018 is applicable for Greenfield, capacity expansion, retrofitting, as well as grid-connected power supply, it may be inferred from its version 1 that the combined tool could be applicable to all these project types.

### **3.2.2. Methodologies referring to both tools**

11. Both the combined tool and additionality tool were referred in 7 methodologies, for which the detailed information and possible issues raised are presented below:
  - (a) AM0084: Additionality tool was only mentioned in the section of "Normative references", no further information was found in the subsequent sections for its application for additionality demonstration;
  - (b) AM0009: Combined tool is used for baseline identification, and additionality tool is then referred to conduct Benchmark Analysis if venting is one of the remaining alternatives after barrier analysis. Now that S3 has been included into the combined tool, additionality tool may be removed from the methodology;
  - (c) AM0063: Combined tool is referred for baseline identification and additionality tool for additionality. It was found that a benchmark is required for scenarios in which CO<sub>2</sub> would have been produced off-site. This kind of scenario may be perceived

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<sup>3</sup> Tool for the "Assessment of the validity of the original/current baseline and update of the baseline at the renewal of a crediting period" and "Tool for project and leakage emissions from road transportation of freight"

as a limitation for the application of the combined tool, and thus the additionality tool was required.

- (d) AM0069: Combined tool is used for baseline identification and additionality tool for additionality. It is not very clear why additionality tool is needed. One speculation could be that some alternatives to the production of town gas may not be available to the project proponent. However, one may challenge this point by giving counter-examples of AM0053<sup>4</sup>, which is a similar methodology with AM0069, but only referring to the combined tool.
- (e) AM0077: Since baseline fuel for the specific end-users is determined through survey, it is reasonable to consider that gas recovery from oil well is under the fully control of the project proponent. With this said, it is not clear why the additionality tool is still applied. On the other hand, only combined tool is used in ACM0026<sup>5</sup> on the basis that the end-users are specific and clearly identified.
- (f) ACM0002: It is a bit mysterious why additionality tool is also needed, even after alternatives of S2-S4 have been incorporated into the combined tool. In ACM0002, it stated “the condition in the combined tool that all potential alternative scenarios to the proposed project activity must be available options to project participants, does not apply to this methodology, as this methodology only refers to some steps of this tool.” It seems that additionality tool in ACM0002 was referred to only apply the benchmark analysis (para 28(b)), is it not already covered in the combined tool? Or, is it because of the nature of grid-connection or the Greenfield scenarios? If so, one may also argue why only combined tool is applied for AM0103<sup>6</sup> or AM0107<sup>7</sup> or AM0048<sup>8</sup>.
- (g) ACM0011: Again, a counter-example to challenge the necessity of making reference to additionality tool in this fuel switch methodology could be AM0050<sup>9</sup>. In general, if fuel switch does not lead to a change in the production capacity, shouldn't it be a project type for which its alternatives can be considered as within the control of the project proponent? If so, the combined tool alone may be sufficient.

### 3.2.3. Methodologies referring to either of the tools

12. The focus of this section is to present the observations and potential issues after reviewing 97 methodologies in this category, with an aim to inform the discussion.

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<sup>4</sup> Biogenic methane injection to a natural gas distribution grid.

<sup>5</sup> Fossil fuel based cogeneration for identified recipient facility(ies).

<sup>6</sup> Renewable energy power generation in isolated grids --- Version 2.0.0.

<sup>7</sup> New natural gas based cogeneration plant --- Version 3.0.

<sup>8</sup> New cogeneration project activities supplying electricity and heat to multiple customers - Version 4.0.

<sup>9</sup> Feed switch in integrated Ammonia-urea manufacturing industry --- Version 3.0.0.

**3.2.3.1. Double uses of the additionality tool**

13. It may so happen to some methodologies that its latest version was approved even before the creation of combined tool (e.g., AM0019). In such a case, it is obvious that combined tool had never been considered. This type of methodologies are only few. For other methodologies solely referring to the additionality tool, Step 2 and Step 3 in additionality tool (e.g., AM0044) or very similar procedurals but without explicit reference to the tool itself (e.g., AM0021) are normally provided in the baseline identification section, i.e., Step 2 and 3 are used to examine each of the baseline alternatives for identifying the baseline scenario (being the one with highest financial attractiveness or with the least emissions). In such a context, additionality tool essentially works also as a Tool for baseline identification, without clear differences as compared with the combined tool.

**3.2.3.2. Inconsistent application for the same type of technologies/measures**

14. As already indicated in paragraph 11 above, different tools have been applied for the similar type of technology/measure. More examples could be:
- (a) Energy efficiency: ACM0023 and AM0044 have applied additionality tool, whereas a number of other methodologies of the same type (AM0056, AM0060, AM0061, AM0062, AM0067, AM0068, AM0105 and AM0106) have applied combined tool. Also, although additionality tool has been applied in both methodologies, ACM0023 covers capacity addition, whereas AM0044 doesn't. On the other hand, it has been clarified in the combined tool (see its footnote 1) that it is applicable to energy efficiency type of project.
  - (b) Feedstock change: AM0050 applies combined tool specifying that capacity increase is not allowed; in contrast ACM0015 applies additionality tool with the same requirement in capacity.
  - (c) Transportation: ACM0016 applies additionality tool, whereas AM0090 and AM0110 have applied combined tool. It seems difficult to argue that the criterion is based on the project type of Greenfield or not, since all these methodologies require new investment in new infrastructures.
  - (d) Waste treatment: ACM0014 for wastewater treatment applies additionality tool, whereas ACM0010 for animal manure treatment applies combined tool.
  - (e) Grid connected power supply: ACM0002 refers to both combined tool and additionality tool, whereas AM0103 refers only to combined tool.

**3.2.3.3. Decouple of identified baseline and the baseline emissions calculation**

15. In principle, the baseline emissions calculation should correspond to the emission level of the identified baseline scenario. However, the following potential decouple of the two have been noticed, irrespective of which Tool has been applied:
- (a) AM0042<sup>10</sup>: the baseline is identified as the least emission alternative after applying Steps in additionality tool. However, baseline emissions calculation is based on the grid emission factor.

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<sup>10</sup> Grid-connected electricity generation using biomass from newly developed dedicated plantations --- Version 2.1.

- (b) AM0103: the most plausible baseline scenario could be “Additional investment by the project participant in power generation using fossil fuels” after applying combined tool. However, benchmark based on the fossil fuel mix in the isolated grid is prescribed for the baseline emissions calculation;
- (c) AM0057<sup>11</sup>: baselines for biomass waste and paper production are identified separately, and baseline for each component deems to be the least emission alternative after applying Steps in additionality tool. However, only emission reductions for the biomass waste component is claimable.
- (d) ACM0025: baseline is identified as the most economically attractive alternative, however, baseline emission is determined based on the minimum emission factor among the grid build margin (BM), combined margin (CM) and the most attractive alternative identified.

### **3.2.4. Limitations to the application of combined tool**

16. Wherever applicable, the combined tool may be preferred since it could identify the baseline and simultaneously demonstrate the additionality. The Meth Panel tried to analyse below three aspects perceived as possible limitations to the combined tool while reviewing the existing methodologies:
- (a) Provision of methodology specific requirement for additionality demonstration;
  - (b) The availability of the identified alternatives to the project proponent;
  - (c) Consideration on the mutual exclusiveness of identified alternatives.

#### **3.2.4.1. Methodology specific requirement for additionality demonstration**

17. It was found that combined tool tended to be always avoided wherever methodology specific requirement for additionality demonstration exists. Instead, additionality tool was preferred in such cases (see two examples below). However, the validity of such a possible limitation needs to be re-visited. For example, AM0074 pre-defines the power grid as the baseline, which is already covered in the combined tool with the inclusion of S2-S4. Also, since barrier analysis and investment analysis are two options provided in the tool, restriction against the use of investment analysis should not contradict with the application of combined tool.
- (a) AM0038 specifies barrier analysis is not allowed;
  - (b) AM0074 specifies that "where the lower heating value of the permeate gas is above 30,000kJ/Nm<sup>3</sup>, additionality shall be demonstrated through the use of investment analysis. It should be noted that, only financial benchmarks shall be used for investment analysis, and not the project (investment) comparison analysis."

#### **3.2.4.2. Availability of the identified baseline alternatives to the project proponent**

18. Currently, the application of combined tool is limited to cases where all the possible alternative scenarios are realistically available options to the project participants (i.e.,

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<sup>11</sup> Avoided emissions from biomass wastes through use as feed stock in pulp and paper, cardboard, fibreboard or bio-oil production --- Version 3.0.1



reasonable options that can actually be implemented by them). The rationale for introducing this limitation in the scope of the applicability of the tool was mainly to simplify the procedures for identifying the baseline and demonstrating additionality. Taking the classic example in which the project proponent supply services to a market, it is possible that the project proponent decides not to undertake the investment in the project activity, and thus third party(ies) would undertake(s) investments or actions which provide comparable outputs or services to users of the proposed project activity. In such a case, it is clear that the baseline cannot be determined with a high degree of certainty and a proxy (e.g., the combined margin in the case of grid-connected power supply project activity) for the baseline should be used. However, as highlighted earlier, such a limitation has not been consistently applied in existing methodologies. For example, AM0061 in which combined tool is used, explicitly mentioned "Note further that the baseline scenario candidates identified may not be available to project participants, but could be other stakeholders within the grid boundary (e.g., other companies investing in power capacity expansions)".

19. Benchmark approach can be one potential way to help address the underlying uncertainty associated with cases involving credible baseline scenarios alternatives that may be out of control of the project proponents. Actually, it was noted that alternative baseline scenarios S2 was originally introduced to respond to one clarification request on ACM0006<sup>12</sup>, which stated that one of the alternative baseline scenarios was not under the control of the project participants. The Meth Panel noted that the existence of the alternative scenarios of S2-S4 (particularly S2) already make it possible to undertake financial benchmark analysis for additionality demonstration, and the missing piece is only to provide additional guidance on the use of emission benchmark for the purpose of baseline identification.

#### **3.2.4.3. Consideration of mutual exclusiveness of identified baseline alternatives**

20. Current combined tool specifies that in order for it to be applicable, all the alternative baseline scenarios have to be "mutually exclusive". Two options are mutually exclusive if only one option can be implemented by the project participants and, then, the remaining alternatives cannot be implemented at the same time. Alternatives are not mutually exclusive if the project participants can implement at least two of the options simultaneously. This underlying issue used to be illustrated in an example of a power utility going to develop a portfolio of power plants with different technologies (see Appendix 3 for details). However, the Meth Panel is of the view that there is a merit to revisit this issue due to following reasons:
  - (a) It does not seem to be a fair comparison between the proposed CDM project activity against the whole portfolio.
  - (i) For the purpose of identifying credible alternative baseline scenarios, one of the principles in the combined tool and additionality tool is that, the potential alternative scenarios shall provide the same output as the proposed CDM project activity. In its practical application, capacity is normally one of the

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<sup>12</sup> AM\_CLA\_0120 Application of the "Combined tool to identify the baseline scenario and demonstrate additionality" for a project activity where one of the alternatives is not an available option to the project participants.

criteria for the project proponent to check in proving the fulfilment of this principle. It is also reflected in the footnote 4 of combined tool, which provides examples for illustrating this principle<sup>13</sup>. However, the underlying example in the Appendix 3 implicitly compares a single wind project against a portfolio (gas, coal 1 and coal 2), which does not seem to be a fair comparison. Because the total/aggregated output (capacity) of a portfolio is much larger than that of the single wind power plant. The central question here is also about what is the project activity: is it the single wind project or a portfolio with possible different combinations meeting the planned installed capacity by the power utility? In the example in Appendix 3, if a portfolio of power plants is considered as the proposed project activity, the service/output should be the overall installed capacity that the Utilities planned to deliver. In other words, the comparison of financial indicators (e.g., IRR) shall be carried out on a portfolio-by-portfolio basis. For example, IRR of alternative portfolio (gas, coal 1 and coal 2) needs to be compared with the proposed project portfolio (wind, coal 1 and coal 2). Similarly, emission reductions should be the difference between the emissions of baseline portfolio and the proposed project portfolio.

- (ii) On the other hand, benchmark approach may still be needed in case the power Utility is the only player in the market of the country (i.e., monopoly for power supply).

- (b) It also does not seem to be considered by power Utility in practice.

The underlying example in Appendix 3 was given in a context of a power utility. However, a random check of PDDs does not reveal any project with power utility as the PP had discussed alternatives that are mutually non-exclusive before applying the combined tool.

- 21. The Meth Panel also noted that the issues (b) and (c) discussed above are not addressed by simply switching to the current additionality tool. Instead, they are common issues irrespectively of additionality tool or combined tool in their current application.

- (a) As mentioned above, additionality tool is in a way also being used for baseline identification. In such cases, if at all the above limitation could get addressed, it should be attributable to the meth-specific guidance on the Step of identification of baseline alternatives provided in the respective methodologies, rather than the additionality tool itself. The project proponent mostly just considered the alternatives listed in the meth-specific guidance. If issues (b) and (c) discussed above have been already addressed thereof, why not combined tool can be applied as well, in view of the fact that no significant differences exist in the key steps in both Tools?
- (b) Another advantage for the additionality tool over combined tool may be the requirement on the data collection (both financial and operation data) for additionality demonstration, since it does not need to obtain data for all alternatives. However, such an advantage diminished greatly when it is now also

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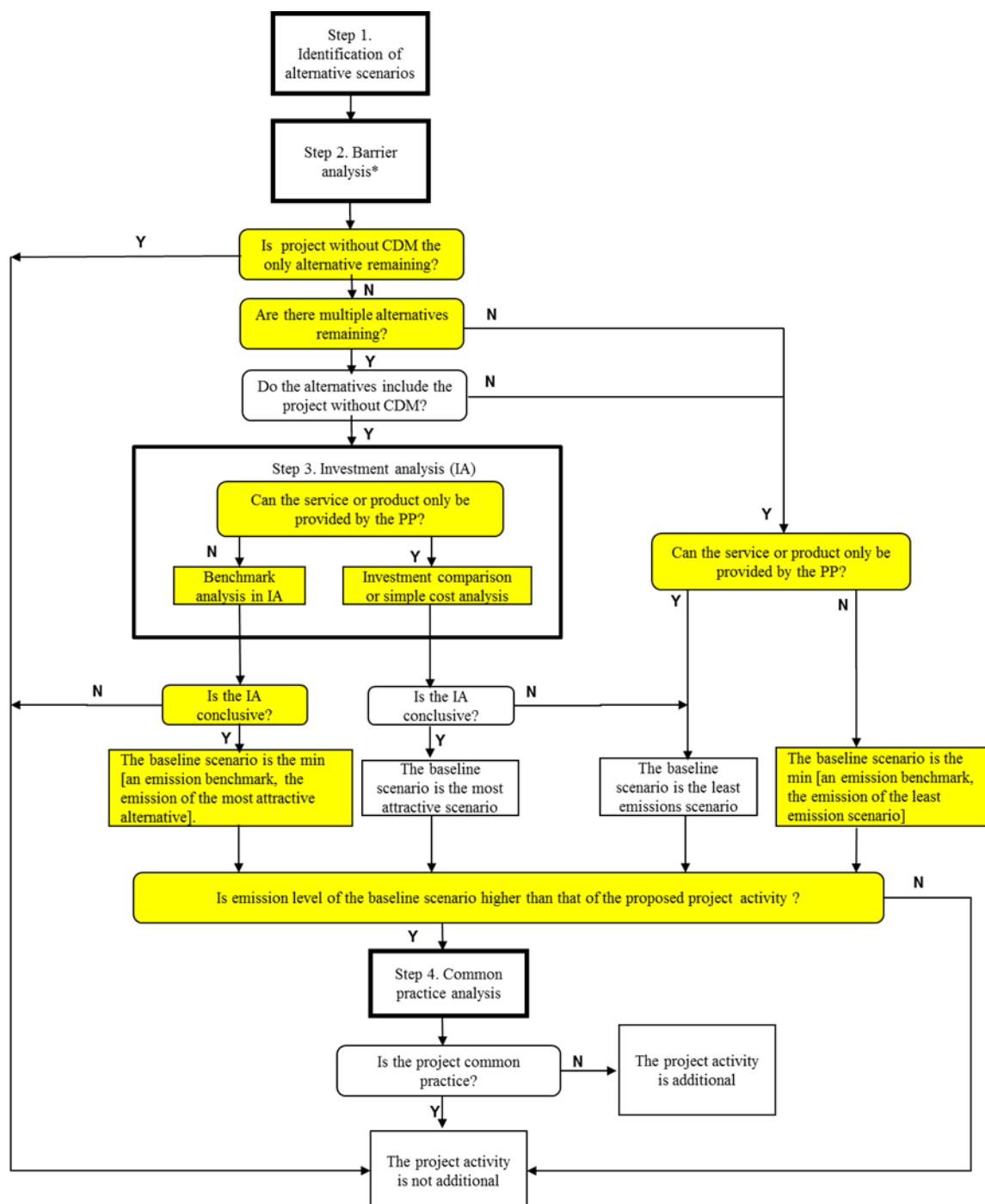
<sup>13</sup> In the case of a project improving the energy efficiency of motors in a facility, the service provided is mechanical energy. Different scenarios to produce the same quantity of mechanical energy should be considered;

used for baseline identification. Because financial attractiveness for all alternatives are also needed for Step 2 and Step 3, and the operation data for all remaining alternatives are also required in order to choose the one with least emission level.

### **3.2.5. Proposed solutions**

22. Based on the discussed above, the Meth Panel is of the view that the applicability of the combined tool can be expanded with the help of introduction of the benchmark approach. The new approach is illustrated in the flowchart below.

**Figure 1. Flowchart of proposed solution to the expand the applicability of combined tool**



23. Asterisk (\*) to Step 2 in the above diagram indicates that Step 2 is not a mandatory step and that the PP may go to Step 3 investment analysis directly.

24. In Step 2 above, the Meth Panel is considering to introduce a threshold of percentage of output from registered CDM projects deploying the same technology relative to the total

production of the sector. PP would need to provide justification on why the perceived barriers still exist even if significant production (reflected in this threshold) is already being delivered by the same technology.

25. With respect to the step “whether the product/service can only be provided by PP” and in the situation when the project is developed as part of a portfolio of technologies delivering power to the grid, the Meth Panel agreed that the possible combinations of technologies within different portfolios shall be identified and compared while applying the investment analysis and identifying the baseline (see discussion in paragraph 16 above). However, for the purpose of simplification, the Meth Panel is considering to stipulate that the answer to question “whether the product/service can only be provided by PP” shall always be “No” when the project is developed as part of a portfolio of technologies delivering power to the grid. This also applies to cases in which the PP is the only player to supply power to the grid in the country (i.e., monopoly) and would be addressed in the text of the Combined Tool.
26. With the above approach, it is critical to identify the full list of alternatives which will be checked against the question “whether the product/service can only be provided by PP”. In this regard, if the above concept is agreed by the Board, the Meth Panel would also like to provide additional guidance to strengthen Step 1 for identification of alternative baseline scenarios. Among others, the following are being considered by the Meth Panel.
  - (a) While providing the overview of the types of technologies or practices, among others, list the technologies deployed in the recent past (e.g., 3 years) in the applicable geographical area, and include technologies employed in other registered CDM project activities;
  - (b) Services provided by a 3rd party (e.g., through a market) shall always be included for further analysis, particularly for projects involving capacity addition (including Greenfield). Justification on why such an alternative is not relevant to the PP needs to be provided in order for it to be removed from the list.

## **4. Impacts**

27. The proposal provided in this concept note will expand applicability of the combine tool, leading to the improved environmental integrity, as well as the consistency of methodological approaches for baseline identification and additionality demonstration.

## **5. Subsequent work and timelines**

28. Based on the guidance from the Board, the Meth Panel will work on preparing the revised version of the combined tool in expanding its applicability condition at the next respective meetings and will recommend the draft standard for the consideration of the Board in 2016.

## **6. Recommendations to the Board**

29. The Meth Panel recommend that the Board consider the concept note and provide guidance as necessary. In particular:
  - (a) The Board may wish to consider and approve the proposal above to expand the applicability of the combined tool; and to provide mandate to the Meth Panel to

prepare the revised version of the tool taking into account any input received from the Board.

## Appendix 1. Comparison of guidance in the existing combined tool and additionality tool

Table 1. Comparison of guidance in the existing combined tool and additionality tool

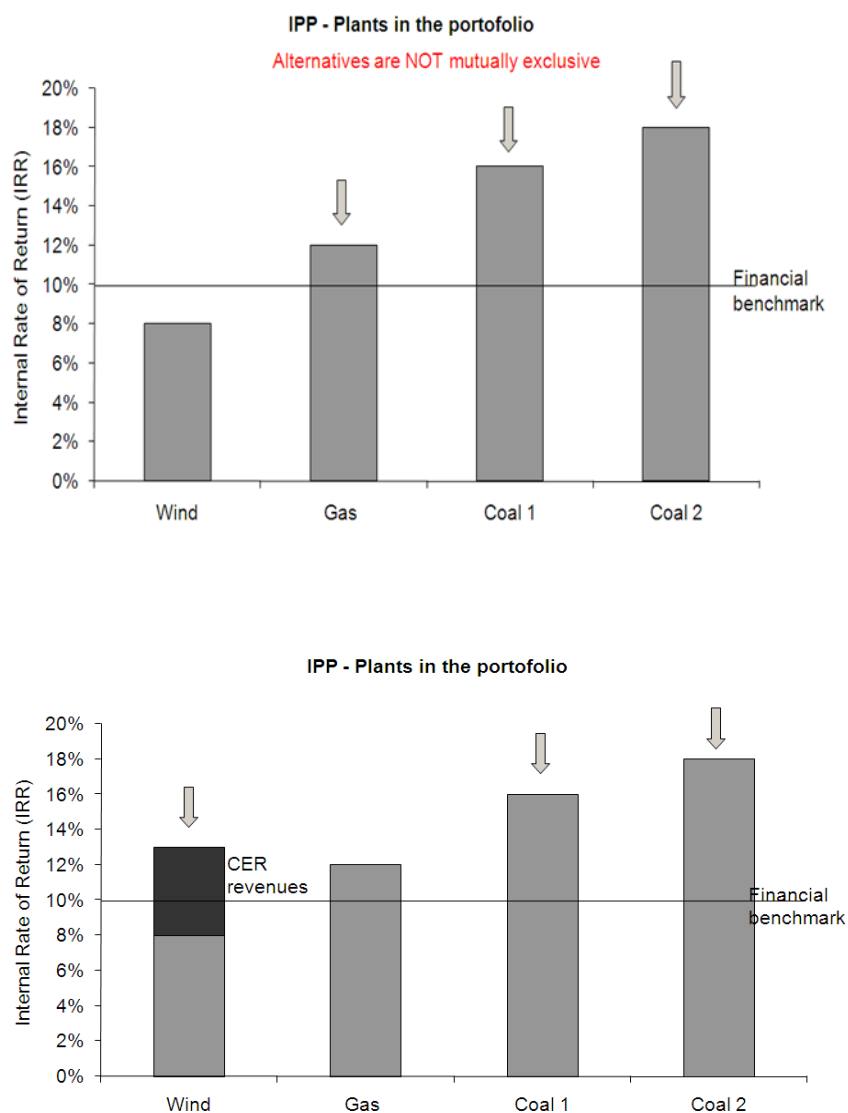
Key aspects	Additionality Tool	Combined Tool
Latest version	Version 07; 23/11/2012	Version 06; 24/07/2015
FoIK	The guidance for performing analysis is consistent in both Tools	
Identifying alternatives	<ul style="list-style-type: none"> <li>Identify realistic and credible alternative(s) available to PP or similar project developers that provide outputs or services <b>comparable</b> with the proposed CDM project activity</li> </ul> <p><b>Footnote:</b> E.g., a coal-fired power station or hydropower may not be an alternative for an independent power producer investing in wind energy or for a sugar factory owner investing in a co-generation, but may be an alternative for a public utility. Alternatives are, therefore, related to technology and circumstances as well as to the investor.</p> <ul style="list-style-type: none"> <li>One of the alternatives is: continuation of current situation</li> </ul>	<ul style="list-style-type: none"> <li>Identify all alternative scenarios that (a) are available to the project participants, (b) are mutually exclusive, and (c) provide the <b>same</b> output as the proposed CDM project activity.</li> <li>Provisions of alternatives of S2-S4.</li> <li>Proposed Project to be implemented at a later stage in time (S6).</li> <li>Provides more explanation about the “applicable geographical area”.</li> <li>Clarified that other CDM projects are not included.</li> </ul>
	<p>Remark:</p> <ul style="list-style-type: none"> <li>Alternatives may not be available to the project proponent in additionality tool;</li> <li>In terms of identifying output/service, “Comparable” in additionality tool equals to “same” in combined tool based on the examples provided in both Tools.</li> <li>S2-S4 are reflected in the additionality tool in terms of “continuation of current situation”</li> <li>The remaining steps are same.</li> </ul>	
Barrier analysis	Possibly, identification of only one alternative which can pass all the barriers would be sufficient	<p>All alternatives that could pass all barriers need to be identified.</p> <p>Combined tool provides more elaboration on 1) Applying the same set of barriers for all alternatives (para 23); and</p>

		2) Two more types of acceptable evidences (para 24(f) and 24(g)).
<b>Investment analysis</b>	<p>To demonstrate the project is not: (a) the most economically; or (b) economically feasible</p> <p>→Possibly, financial indicator determination of only one alternative other than the proposed project activity would be sufficient.</p>	<p>To identify the most economically attractive alternative scenarios</p> <p>→Financial indicators of all the remaining alternatives after barrier analysis are needed.</p> <p>In terms of specific guidance, it also</p> <ul style="list-style-type: none"> <li>Refers to the updated tool for Investment Analysis for details;</li> <li>Clarifies the indicator for the alternatives without any investment, i.e., S2 or S3.</li> </ul>
<b>Common practice analysis</b>	Objective and guidance provide in both Tools are consistent/identical.	
<b>Others</b>	<ul style="list-style-type: none"> <li>Check of “start date” is specifically mentioned in para 7.</li> <li>Detailed definition of “measure”.</li> </ul>	<ul style="list-style-type: none"> <li>No specific mention about start date;</li> <li>Definition of “measure” provided by referring to FoiK Tool.</li> </ul>



## **Appendix 2. Example of mutually exclusive alternative baseline scenarios**

30. Figure 2 illustrates the case where the coal power plant is the most attractive option, while a natural gas power plant is the least attractive option among available alternatives to the utility (when comparing the coal, the natural gas and the wind without the CERs revenue). However, in this particular case it cannot be concluded that the coal power plant is the baseline, because electricity generated by the wind farm (with the revenue of CERs) will not displace electricity generated from the coal power plant, but rather that of the least attractive gas power plant.
31. If the wind farm including the revenue from the CERs is more attractive than natural gas power plants, it is more likely that the wind power plant with the CDM revenues will displace the natural gas power plant in the portfolio of the utility and not the most financially attractive coal power plant. Although this is a simplified approach, it demonstrates the concept. With a limited capital budget, in a specific region, it is more likely that the natural gas power plant will not be implemented but that the coal power plant would still be implemented as it is still the most financial attractive option within the portfolio. Therefore, the baseline for the CDM wind farm is the natural gas power plant and not the economically most attractive option. For these more complex cases, it may be difficult to determine the baseline without using a multifaceted approach and therefore the most conservative alternative, i.e., the least emissions, among the alternatives that are economically attractive without the CDM should be considered as the baseline.

**Figure 2. Example of non-mutually exclusive alternative baseline options**

32. Figure 2 demonstrates the assessment of additionality for the non-mutually exclusive baseline options. The IPP has sufficient capital available to implement more than one option simultaneously, i.e., it is viable to implement Coal 2 and Coal 1 for example. The project is additional if the proposed CDM project without the income generated from the CERs does not meet the PPs acceptable investment benchmark for projects that are not related to the CDM project activity.

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### Document information

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