

Annex 8

PRELIMINARY GUIDANCE FOR OM/BM WEIGHTING IN ACM0002 AND OTHER APPROVED METHODOLOGIES THAT USE THE COMBINED MARGIN APPROACH

1. The baseline electricity emission factor in the approved consolidated baseline methodology ACM0002 “Consolidated methodology for grid-connected electricity generation from renewable sources” and other related methodologies) is calculated as the weighted average of the Operating Margin (OM) emission factor ($EF_{OM,y}$) and the Build Margin (BM) emission factor ($EF_{BM,y}$), i.e.

$EF_y = w_{OM} \cdot EF_{OM,y} + w_{BM} \cdot EF_{BM,y}$, where the weights w_{OM} and w_{BM} , are 50% by default. ACM0002 notes that alternative weights can be used, as long as appropriate evidence justifying the alternative weights is presented and is accepted by the Executive Board. Several PPs have proposed alternative weights, and as a result, and the Board has asked the Meth Panel for advice. In response, the Meth Panel commissioned a consultant report and engaged in internal discussions to provide guidance as to appropriate justifications.

- Rationale for 50/50 default.** The report prepared by Mr. Bruce Biewald¹ and subsequent discussions have reaffirmed the 50/50 weights as a reasonable default for the first crediting period. Typically, the near-term impact of a CDM electricity project will largely be on the operation of power plants (OM) until the time of the first deferrable capacity additions. The nature and timing of other capacity additions in the near term (e.g. those with construction underway) are, in general, unlikely to be affected by the increased electricity supply (and reserve margins) resulting from a CDM electricity project. After some time, however, the CDM project activity should begin to affect a delay, displacement, or other modification of new capacity additions, and from there onwards, build margin effects should predominate. The default 50/50 OM/BM weighting roughly corresponds to a situation where this shift from OM to BM effects occurs about midway during the first crediting period. This logic – of a sequential shift from OM to BM impacts over time –implies that the default for the second and third crediting periods should reflect a 100% BM weighting.
- Implications for 2nd and 3rd crediting periods, further work on the BM methodology.** The Meth Panel suggests that ACM0002 be modified to reflect a default 100% BM weighting after the first crediting period. The Panel also recognizes that the current BM methodology is subject to potential limitations (data availability, sample size, volatility, and the potential reliance on unrepresentative historical experience). Therefore, the Meth Panel will review of potential improvements to the BM methodology be undertaken and that the findings be implemented in tandem with the modification of 2nd and 3rd crediting period weights. Project participants are welcome to submit suggestions for revisions of the BM methodology used in the approved methodologies.
- Influence of specific factors on OM/BM weights.** The following guidance suggests the likely relevance of a number of project-specific and context-specific factors in developing alternative operating and build margin weights. It does not, however, provide specific algorithms to translate these factors into quantified weights, nor does it address all factors that might conceivably affect these weights. At this point, project proponents are suggested to propose specific quantification methods with justifications that are consistent with the guidance provided below. Given that it is unlikely that a project will impact either the OM or BM exclusively during the first crediting period, it is suggested that neither weight exceed 75% during the first crediting period.

¹ Please refer to <http://cdm.unfccc.int/Panels/meth/Meth17_repan12_BiewaldPaperOMBMMargins.pdf>.

Factor	Summary – Impact on weights	Further Explanation
Project size (absolute or relative to the grid size of the system or the size of other system capacity additions)	No change in weight on basis of absolute or relative size alone	Alternative weights on the basis of absolute or relative project size <i>alone</i> do not appear to be justified. See paper prepared by Mr. Bruce Biewald for further discussion and explanation. ²
Timing of project output	Can increase OM weight for highly off-peak projects; increase BM for highly on-peak projects.	Projects with output is mainly off-peak can have a greater OM weight (e.g. solar PV projects in evening peak regions, seasonal biomass generation during off-peak seasons), whereas projects with disproportionately high output during on-peak periods (e.g. air conditioning efficiency projects in some grids) can have greater BM weight.
Predictability of project output	Can increase OM for intermittent resources in some contexts.	Projects with output of an intermittent nature (e.g. wind or solar projects) may have limited capacity value, depending on the nature of the (wind/solar) resource and the grid in question, and to the extent that a project's capacity value is lower than that of a typical grid resource its BM weight can be reduced. Potential adjustments to the OM/BM margin should take into account available methods (in technical literature) for estimating capacity value. ⁱ
Suppressed demand	Can increase BM weight for the 1 st crediting period.	Under conditions of suppressed demand that are expected to persist through over half of the first crediting period across a significant number of hours per year, available power plants are likely to be operated fully regardless of the CDM project, and thus the OM weight can be reduced. ⁱⁱ
For system management (nature of local electricity markets, planning, and actors) and other considerations no guidance is available at present.		

ⁱ Capacity value refers to the impact of a capacity addition on the capacity requirements of a grid system, often expressed as fraction of contribution to meeting peak demands relative to a conventional, dispatchable capacity addition or to a theoretical perfectly reliable one. Capacity value is dependent on both the characteristics of the project and the characteristics (and other power plants) of the grid system in question. Capacity value is typically expressed in terms of relative MW, whereas, for estimating emissions, we are concerned solely with MWh; thus, capacity value cannot be used directly as a BM/OM weight. Analyses of capacity value for intermittent resources can be found in a number of reports and in journals such as *Energy Policy* and the *Electricity Journal*.

ⁱⁱ In other words, if, consistent with paragraph 46 of the CDM modalities and procedures, one assumes that electricity could otherwise be supplied to meet suppressed demand, this electricity would need to be provided by the construction and operation of new power plants, which is embodied in the build margin. In some cases, the reason for suppressed demand may be the inability to operate existing power plants, due, for example, to lack of spare parts or lack of availability or ability to pay for fuel. In such circumstances, the baseline scenario could represent the operation of these power plants, in which case the baseline emission factor should reflect their characteristics. This situation would likely require a new methodology.

² Please refer to <http://cdm.unfccc.int/Panels/meth/Meth17_repan12_BiewaldPaperOMBMMargins.pdf>.