



**CDM: Response form for request for clarification on
Approved Methodologies
(version 01.1)**

<i>Date of Meth Panel meeting:</i>	26–30 March 2012
<i>Title and number of request for clarification</i>	Clarification of methodology for a project to construct a high-pressure biomass boiler to partially replace an existing high-pressure gas boiler AM_CLA_0226

Summary of the query:

Please use the space below to summarize the request for clarification on the related approved methodologies.

The DOE refers to Version 11.2.0 of AM0006 “Consolidated methodology for electricity and heat generation from biomass residues”.

The proposed project activity involves the implementation of a biomass fired cogeneration plant, where the baseline scenario does not include biomass utilisation.

The DOE seeks several clarifications from the Meth Panel, regarding the procedure to calculate the baseline emissions:

1. The DOE seeks guidance on how $HC_{BL,FF,CG,y,i}$ can be derived;
2. The DOE questions whether equation 25 is correct, as to the DOE’s understanding the overall efficiency of cogeneration heat engine i should be integrated into the equation in order to derive the total heat supplied to heat engine i. The equation proposed by the DOE is:

$$HG_{BL,FF,CG,y,i} = \frac{(HPR_{BL,i} + 1 + GGL_{default})}{HPR_{BL,i}} \cdot HC_{BL,FF,CG,y,i} / \eta_{CG,OA,y,i}$$

Where $\eta_{CG,OA,y,i}$ is the overall efficiency of cogeneration heat engine i.

3. The DOE notes that in cases 3.2.1, 3.2.3 and 3.2.4, $HC_{balance,FF,y}$ is not calculated at all;
4. The DOE seeks guidance how to calculate $HC_{balance,FF,y}$ and $EL_{balance,FF,y}$ as it is not clear which of the cases is applicable for project without biomass utilisation in the baseline. The DOE suggests that case 3.2.2 is most suitable, as considering there is no biomass in the baseline, its criteria is met: $HG_{BL,BR,y} = \sum HG_{BL,BR,CG,y,i} = 0$ and $HC_{BL,y} > HC_{BL,BR,CG,y} = 0$;
5. The DOE questions whether the equation in case 4.1.2 is correct, as to the DOE’s understanding the equation should be $EL_{PJ,offset,y} = EL_{BL,FF,y} - EL_{balance,FF,y}$.

Recommendation by the Meth Panel:

Please use the space below to provide amendments /changes (in your expert view, if necessary).

Not applicable

Answer to authors of the request for clarification by the Meth Panel :

Please use the space below to provide an answer to the authors of the above query

The Meth Panel would like to clarify as follows:

1. The allocation of $HC_{BL,FF,CG,y,i}$, the amount of heat that would be cogenerated using fossil fuels, is explained in the beginning of Step 4.1 of determining the baseline emissions. Once a list of the relevant baseline cogeneration heat engines is made, $HC_{balance,FF,y}$ should be allocated to these in a conservative manner (from most efficient to least efficient heat engine), up to the level required for meeting the balance of process heat demand. If no biomass is utilised in the baseline, $HC_{balance,FF,y} = HC_{BL,y}$.

If the baseline scenario includes multiple steam headers with different enthalpies, please note that in Step 1.1 it is mentioned that “this methodology assumes for the sake of simplicity that the proposed CDM project activity consumes steam from the same quality as in baseline process transported through one steam header. Project activities in which the baseline includes multiple steam headers with different enthalpies may apply this procedure as if their process included only one steam header as this leads to a conservative outcome of the baseline emission estimation”. Alternatively, Step 1.1 also allows the project participant to consider “the existence of multiple steam headers as a technical constraint in the application of the algorithm”.
2. $HG_{BL,FF,CG,y,i}$ refers to the amount of heat that would need to be cogenerated in heat generator i (heat output of the heat generator), originating from fossil fuel combustion, and not to the amount of heat supplied to heat generator i . The amount of heat actually supplied to heat generator i (and consequently the amount of fossil fuel required) is calculated in equations 32-33, where the efficiency of the heat generator is considered. Therefore, equation 25 is correct.
3. In cases 3.2.1 (all biomass-based heat would be used in cogeneration-type heat engines and would suffice to serve all process heat demand), 3.2.3 (all process heat demand would be met with biomass-based heat in the baseline and still there would be some biomass-based heat to be used) and 3.2.4.1 (there is no more biomass-based heat available and the demand for process heat has been met) there is no process heat demand left, thus no fossil fuel is required for meeting the process heat demand. In these cases $HC_{balance,FF,y}$ is irrelevant, and Step 4 of the baseline evaluation is skipped. Cases 3.2.4.2 (all biomass-based heat was used and there still remains process heat demand to be met) and 3.2.4.3 (some biomass-based heat remains to be used after the demand for process heat was met) are not applicable for this project, as there is no biomass based heat, although they do calculate $HC_{balance,FF,y}$.
4. If no biomass is used in the baseline, then case 3.2.2 (all the heat that would be generated using biomass residues in the baseline would be used in cogeneration-type heat engines but still some process heat demand would remain to be met) is the relevant case for calculating $HC_{balance,FF,y}$ and $EL_{balance,FF,y}$ as shown by the logical arguments presented by the DOE. Therefore, case 3.2.2 is applicable when the baseline scenario does not include biomass utilisation. The Meth Panel recognises that the procedure for evaluating the baseline emissions in the methodology could be improved to provide guidance for similar situations.
5. The DOE’s concern regarding the equation in case 4.1.2 is justified, the correct calculation is $EL_{PJ,offset,y} = EL_{BL,FF,y} - EL_{balance,FF,y}$. The Meth Panel thanks the DOE for identifying this point, which is corrected in methodology version 12.0.1.

Signed by the Chair, Mr. Thomas Bernheim

Date: 05/03/2012

Signed by the Vice-Chair, Mr. Hugh Sealy

Date: 05/03/2012

Information to be completed by the secretariat

F-CDM-AM	AM_CLA_0226
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