



CDM: Recommendation Form for Small Scale Methodologies (version 01)
(To be used for presenting questions/proposals/amendments to the simplified methodologies for small-scale CDM project activity categories)

Date of SSC WG meeting:	26–29 April 2010, SSC WG 25
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Efficiency determination of a cogeneration system
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS-I.C “Thermal energy production with or without electricity”
Name of the authors of the query:	Vikas Thakur Institution: Indus Technical And Financial Consultants Ltd. vikasrjn@rediffmail.com

Summary of the query:

Please use the space below to summarize the query related to SSC methodologies/categories SSC Modalities and Procedures provide recommendation/analysis of the SSC WG.

Original text from Stakeholder:

Kindly refer to the following text appearing in SSC methodology AMS I.C Ver. 16 Regarding the determination of efficiency of the baseline unit.

18. Efficiency of the baseline units shall be determined by adopting one of the following criteria (in a preferential order):

- (a) *Highest measured operational efficiency over the full range of operating conditions of a unit with similar specifications, using baseline fuel. The efficiency tests shall be conducted following the guidance provided in relevant national / international standards;*
- (b) *Highest of the efficiency values provided by two or more manufacturers for units with similar specifications, using the baseline fuel;*
- (c) *Default efficiency of 100%.*

Since it not possible to measure the operations efficiency over the full range of operating condition of cogeneration system with similar specification operating on coal which is the baseline fuel therefore the project participant wish to apply option 18 (b) for determination of highest efficiency value of cogeneration system based on the design specifications at which the proposed cogeneration system is being installed to operate. It is further submitted that it is also not possible to obtain highest measured operational efficiency over the full range of operating conditions of the units (boilers and TGs) with similar specifications, using baseline fuel (coal) from the suppliers of the new equipment being supplied. The suppliers provide the best performing parameters at which the system is designed to operate and give the highest efficiency. It is always the target of the buyer to get the system designed to operate at the best possible efficiency for the output at which it is required to operate. Similarly it is also the target of the manufacturer to design the system to operate at the best possible efficiency for the output at which it is

required to operate.

The methodology is being applied to a cogeneration plant in which the boiler being installed would have been fired with coal in the baseline. There is no single manufacturer available in the country who can supply the entire cogeneration system by himself, therefore the prevailing practice in the country (India) for installation of the cogeneration system is that boiler is procured from a different manufacturer and the turbine with generator set is procured from another manufacturer. The respective manufacturers have given their respective equipments performance parameters, based on which the efficiency of boiler and efficiency of TG set can be computed and subsequently based on the individual best performance efficiency of boiler and TG set the combined efficiency of cogeneration set with best combination can be calculated. The calculation is certified by chartered engineer and the best efficiency is determined by obtaining the specification from two manufacturers of boiler and TG sets and the combination of the best out of these are considered for arriving at the combined efficiency of cogeneration system.

It is request you to clarify if the above procedure prevailing for calculation of efficiency of cogeneration system satisfies the requirement as per Para 18 (b) of methodology.

Recommendation by the SSC WG:

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

Please refer to paragraph 33 of the meeting report of the SSC WG 25 (http://cdm.unfccc.int/Panels/ssc_wg).

Answer to authors of query by the SSC WG:

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

The small-scale working group of the CDM Executive Board would like to thank the author for the submission.

The SSC WG agreed that, in principle, the method proposed by the author of the submission to use the optimal efficiencies of the components (boilers and turbine generators) of the cogeneration systems sourced from different manufacturers as explained in the query is an acceptable approach. That is, the efficiency of the cogeneration system can be derived by combining the efficiency of the boiler provided by the manufacturer with the efficiency of the turbine generator at different pressure of steam extraction obtained from the turbine generator manufacturer. The SSC WG agreed to invite the submission author to submit a request for the revision of AMS-I.C including a detailed step-wise procedure for calculating the baseline efficiency of a new cogeneration system from the component efficiencies. While doing so, the following shall also be taken into account:

- Efficiency values from at least two manufacturers for units with similar specification using the baseline fuel shall be used;
- The combination of boiler and turbine generator for which manufacturer's efficiency data will be used shall match the specifications of the baseline system.

Signed by the Chair, Mr. Peer Stiansen

Date: 29/04/2010

Signed by the Vice-Chair, Mr. Hugh Sealy

Date: 29/04/2010

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