



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:	21–24 September 2009, SSC WG 22
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Inclusion of commercial facilities with district heating and cooling systems in the methodology
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS-II.D. version 11
Name of the authors of the query:	Joslin Andrews Institution: Promethium Carbon (Pty) Ltd joslin@promethium.co.za

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 PP:

Two changes were made to the methodology:

1. The methodology is applicable to energy efficiency in industrial or mining and mineral production facilities. The project for which this request is submitted proposes to do energy efficiency at a site classified as commercial. However, the site is a telecommunications and data centre and as such contains telephone exchanges and computer servers; which makes it closer to an industrial facility rather than a building or group of buildings. Currently, the commercial site consists of buildings; which receive cooling and heating from a central plant (district heating and cooling). The heating and cooling is currently generated from electricity supplied from the South African national electricity grid. The electricity used on site is sourced from the national grid.

The proposed project involves the installation of two 1MW natural gas-fired tri-generation plants. The gas-fired generators will produce electricity; displacing electricity from the South African National Grid. The waste heat from the engines will be used for heating and cooling.

The project activity is applicable under the methodology, but the site classification does not fit within the specified industrial, mining or mineral production site. Hence, we propose that commercial facilities with a district heating and cooling system be included in the applicability.

We considered using the approved small-scale methodology II.E. “Energy efficiency and fuel switching measures for buildings” as it is applicable to commercial facilities. However, the energy use by the centre is large as it is a telecommunications and data centre with telephone exchangers and servers; which makes the facility more similar to an industrial facility than a commercial building. In addition, the monitoring methodology is not applicable in the project activity. In AMS II.E. the monitoring in the case of a new facility shall consist of:

“(a) Metering the energy use of the building(s); (b) Calculating the energy savings of the new building(s).”

In the project case, the monitoring will not consist of metering the energy use of the buildings, but rather in metering the energy produced from the two new tri-generation plants. If the energy use of the buildings were to be metered, it would be difficult to differentiate between energy savings from the project activity and energy savings due to other factors like working hours, switching off lights etc. The only way to determine the energy savings as a result of this project is to directly meter the energy produced by the two new tri-generation plants. This is in line with AMS II.D. which states that the monitoring in the case of a new facility shall consist of:

“(a) Metering the energy use of the equipment installed;(b) Calculating the energy savings due to the equipment installed.”

The monitoring will be metering the energy use of the equipment (tri-generation plants) installed and then calculating the energy savings due to the two new tri-generation plants. Hence, AMS II.E. is not applicable. The project is a better fit with AMS II.D., but this methodology will need to be modified to include commercial facilities. Hence, we propose that the applicability criteria of the methodology be modified to include commercial facilities.

2. The methodology states that in the case of replacement, modification or retrofit measures, the baseline consists of the energy baseline of the existing facility or sub-system that is replaced, modified or retrofitted. In the case of a new facility the energy baseline consists of the facility that would otherwise be built.

The tri-generation project will supply electricity, heating and cooling to the existing telecommunications and data centre and to a new building on the centre that is currently being built. Hence, the telecommunications and data centre is expanding and it is neither an existing nor a new facility. The electricity, heating and cooling requirements of the centre will increase as a result of the new building. Hence, it is not possible to use the historic average level energy consumption as required in the case of replacement, modification or retrofit.

In addition, the baseline electricity consumption of the existing buildings fluctuates due to factors like working hours, number of personnel etc. There are also continual efforts to change behaviour; which will impact on the energy consumption in the buildings. We do not want the project to be able to claim emission reductions for savings unrelated to the project. Hence, it will be difficult to set a baseline on this fluctuating electricity demand and to see the savings of the project activity on the baseline. It will be difficult to differentiate between the energy savings due to the project activity and the energy savings from other factors. The two new tri-generation plants cannot be isolated from the telecommunications and data centre as the energy produced will be utilised in existing parts of the centre.

It is very clear what facility would have been built in the absence of the project activity to supply the electricity, heating and cooling. Hence, we propose that the methodology be modified to state that in the case of new facilities and expansions of existing facilities the baseline be calculated as per new facilities.

We have had a look at AMS-II.H and our project does not comply with all the applicability criteria in particular:

The methodology comprises energy efficiency measures implemented through integration of a number of utility provisions (for power, steam/heat and cooling) of an industrial facility into one single utility. The single utility shall consist of either a Combined Heat or Power (CHP - cogeneration) or a Combined Cooling, Heat and Power (CCHP -tri-generation) installation. Our project is does not lead to a single utility. The buildings on the campus are supplied by existing electric chillers and heaters. These electric chillers and heaters will not be decommissioned, but will be run less/reduced load. The utilities on site

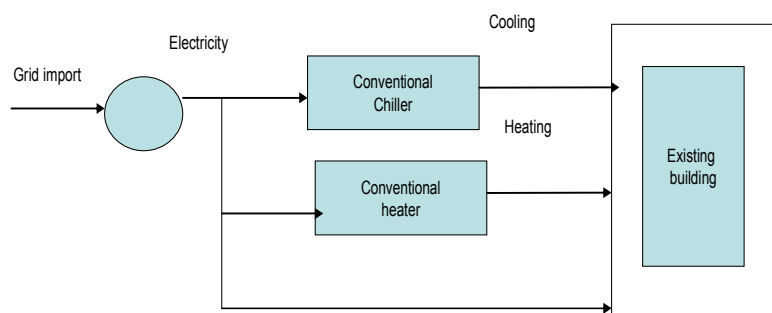
will not be integrated into a single utility. The two new tri-generation plants will supply energy to the existing buildings and to the new building, but it will not result in the existing utilities being decommissioned.

The methodology is applicable to activities that result in additional steam/heat and/or cooling generation capacity of no more than 5% of the pre-project situation. This project will increase the existing capacity of the campus as it will supply power to the new building. Hence, the project is an expansion above the baseline energy consumption.

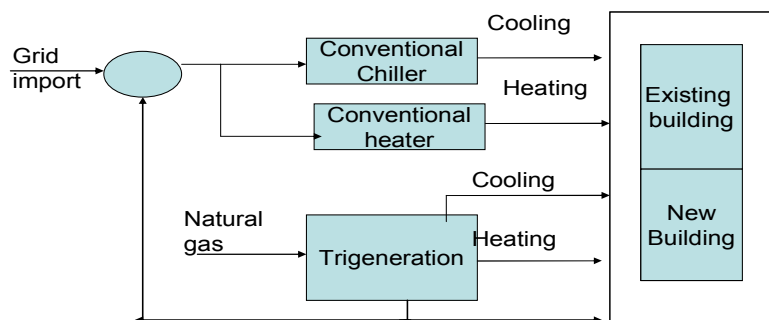
Our project does not involve the centralisation of the existing utilities, but is rather the installation of energy efficient tri-generation plants; which supply the existing campus and a new building on the campus with energy. The existing utilities will not be decommissioned. The methodology with the proposed changes is attached as is the PDD of the project.

Diagrammatic representation from Baseline and project Scenario (by sec)

Baseline:



Project



Recommendation by the SSC WG:

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

Please refer to paragraph 11 of the meeting report of the SSC WG 22
(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 not to recommend a revision of AMS-II.D because of the reasons below:

- AMS-II.D is intended for technology/measures applicable to energy efficiency projects in industrial, mining or mineral production facility and not for commercial building;
- It does not cover procedures to calculate baseline/project/leakage emission due to the use of refrigerants in chillers;
- It does not provide:
 - A procedure to determine baseline scenario for new and existing facility that supplies heating/cooling and electrical energy;
 - Guidance on selection of baseline parameters such as COP and efficiency in the case of thermal energy;
 - A procedure to estimate project emissions due to fossil fuel use;
 - A procedure for monitoring of thermal energy (steam/heat and cooling output).

The SSCWG further agreed to suggest to the submission author to explore the possibility of submitting a revision of AMS-II.H for the underlying project activity. However, the following issues need to be taken into account if a revision of AMS-II.H is proposed:

- The described project does not involve the centralization of the existing utilities, but is rather the installation of new natural gas-fired tri-generation plants, which supply energy to the existing building as well as to a new building. The existing system to supply heating/cooling/electrical energy will continue to be used with reduced load and will not be decommissioned. It is noted that the project activity is the expansion of capacity above the baseline (more than 5%) and this situation is not covered in AMS-II.H, as one of its applicability conditions states that “Measures are limited to activities that result in additional steam/heat and/or cooling generation capacity of no more than 5% of the pre-project situation. Consequently, the methodology is not applicable to activities seeking to retrofit existing facility to increase output.”
- 10% cap on capacity may be considered instead of now specified 5% capacity cap to be consistent with other approved SSC methodologies;
- It may be considered to specify that a separate baseline is established using step 1-3 “Combined tool to identify the baseline scenario and demonstrate additionality” for Greenfield projects or for project activity where capacity is expanded beyond 10% of the baseline capacity. For example, it can be proposed in the revision of AMS-II.H for example “Project activities involving capacity additions compared to the baseline scenario are only eligible if they comply with the related and relevant guidance (e.g., paragraph 14 and 16) in the General Guidance for SSC methodologies which require a demonstration that the baseline scenario for the added capacity is the same as the baseline scenario defined by this methodology”. This means it shall be demonstrated that in the pre-project situation this incremental demand for cooling/heating/electricity would otherwise have been supplied through existing units (i.e., electric chillers/heaters using grid electricity. For project activity where capacity is not expanded or expanded below 10%, historical information may be used as described in AMS-II.H.
- The emission reduction can be claimed only up to the life time of the existing equipment.



Signature of SSC WG Chair

(Hugh Sealy)

Date: 24/09/2009



Signature of SSC WG Vice-Chair

(Peer Stiansen)

Date: 24/09/2009

Information to be completed by the secretariat

SSC-Submission number	SSC_331
Date when the form was received at UNFCCC secretariat	24 September 2009
Date of transmission to the EB	24 September 2009
Date of posting in the UNFCCC CDM web site	24 September 2009