



**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)*

<i>Date of SSC WG meeting:</i>	21–24 June 2011, SSC WG 32
<i>Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):</i>	Clarification on identification of baseline scenario and demonstration of additionality for chiller programme under AMS-II.C
<i>Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.</i>	AMS-II.C “Demand-side energy efficiency activities for specific technologies”
<i>Name of the authors of the query:</i>	Sudhi Ranjan Sinha Institution: Johnson Controls (India) Private Limited <a href="mailto:sudhi.sinha@jci.com">sudhi.sinha@jci.com</a>

**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

**Determination of Baseline**

The proposed CDM project activity titled “*Demand Side Management (DSM) for accelerating the diffusion of energy-efficient chiller technology*” involves the installation of energy efficient chillers. The project activity claims CERs due to energy savings on account of installation of chillers more efficient than those installed in the baseline scenario. The methodology applied, AMS II.C. (Version 13, EB 48), requires an estimation of the power consumption of the devices (chillers) in the baseline scenario to compute the baseline emissions.

In order to identify the energy consumption of the chillers in the baseline scenario, the project proponent has referred to the efficiency standards postulated by ASHRAE 90.1. The project proponent has referred to publication(s) to justify the selection of ASHRAE 90.1 efficiency norms as a conservative baseline scenario. These publications clearly indicate that the efficiency standards of chillers currently sold/operated in India are below those prescribed by ASHRAE 90.1. The publications include:

1. A study report (for India) provided by The World Bank titled Chiller Energy Efficiency Project (CEEP). The report indicates a much lower value of chiller efficiency than the value as per ASHRAE 90.1. standard. A copy of the same has been provided.
2. The “Energy Conservation Building Code (ECBC)”, which provides minimum requirements for the energy-efficient design and construction of buildings, has also been referred to. The ECBC has been developed by the International Institute for Energy Conservation (IIEC) under contract with the United States Agency for International Development (USAID) as a part of the Energy Conservation and Commercialization (ECO). It is proposed that the code will be made mandatory in India in order to promote energy efficiency in buildings in India. The code explicitly mentions that the structures shall be required to comply with ASHRAE 90.1 standard for HVAC systems. Considering that the Government of India is looking to set a target for efficiency improvement in building by implementing the ASHRAE 90.1 standard in the future strongly indicates that the efficiency levels of the chillers currently sold/ operated in India are below those prescribed by ASHRAE 90.1 and that the

Government would like to achieve ASHRAE 90.1 standard efficiency in the future. A copy of the same has been provided.

3. Additionally, relevant documentation from nodal agency corroborating the fact that the chillers being sold/ operated in the country operate at efficiency level lower than that prescribed by ASHRAE 90.1 can also be provided.

Considering these third party publications, it is evident that the efficiency of the chillers in the baseline scenario assumed by the project proponent (as per ASHRAE 90.1 standard) is higher than the efficiency of the chillers actually sold/ operated in the market and is therefore, conservative. Moreover, the project proponent has made a provision for revision of the baseline scenario of future CPAs, should the ASHRAE 90.1 standard be revised to account for technological advancements.

The alternative option available to the project proponent for identifying the baseline scenario is to conduct a market survey to assess the efficiency of the chillers sold in the market. However, the wide range of consumer segmentation, the gamut of designs available (accounting for technical variations as per the customer's requirement), individual requirements of consumers from the procured chiller make this exercise a very unreliable one. As the final decision by a consumer to buy a particular chiller is dependent on the specific requirement of the consumer, the efficiency levels of chillers bought by different customers within a consumer segment itself may also vary. This would make the results of such a market survey very unreliable and therefore, a market survey has not been conducted.

The project proponent would like to seek a clarification from the SSC-WG if the approach adopted for identification of the baseline scenario for the proposed CDM project is acceptable as per the requirements of AMS-II.C. (Version 13, EB 48).

#### **Demonstration of Additionality**

The project proponent has demonstrated additionality for the proposed CDM project activity using barrier analysis. However, the project proponent would like to refer to the explanation provided by the Meth Panel in its 30<sup>th</sup> meeting (12<sup>th</sup> – 16<sup>th</sup> November, 2007) regarding demonstration of additionality for projects falling under the scope of methodology AM 0070 (NM 0325). The explanation states that *“The procedure on the demonstration of additionality should be refined. Investments in the improvement of refrigerator models or the development of new models may have different motivations and may not only occur once at the start of the project activity but continuously throughout all crediting periods. However, the magnitude and type of these future investments may not be known at the start of the project activity. Similarly, the production of more efficient appliances may generate additional revenues (from sale at higher prices) which may be difficult to estimate ex-ante, given that it is not known which type of new models will be introduced during the crediting period. Therefore, other approaches to ensure additional emission reductions may be required for this type of project activity, in particular if the emission reductions claimed are not related to one particular change in the manufacture of refrigerator but relate to the whole fleet of refrigerators over 21 years. A way forward to ensure real and additional emission reductions could be to demonstrate that the project clearly goes beyond what is the common practice in the market, for example, by introducing an ambitious market benchmark for the energy efficiency of appliances.”*

The proposed chiller programme is also a Demand Side Management program similar to the projects covered under the scope of AM0070. As in the case of the referred to methodology, the investments in the improvement of existing chiller models or the development of new models may not occur at the start of a crediting period but will continue through a crediting period. Further, the magnitude and type of such investments may not be known at the start of a crediting period. Therefore, to demonstrate additionality for the proposed programme, the project proponent shall demonstrate that the efficiency of the chillers being sold/ operated in the market is below than that prescribed by an appropriate baseline (ASHRAE 90.1 for the first CPA) and that the efficiency of the chillers sold under the programme is above the baseline. Based on the guidance provided in AM0070 (Version 03.1), the project can be deemed additional under this situation.

The project proponent would like to seek a clarification from the SSC-WG if the additionality criteria as per AM0070 (Version 03.1) can be applied for demonstrating additionality of the proposed CDM project

activity.

**Recommendation by the SSC WG:**

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

Please refer to paragraph 20 of the meeting report of the SSC WG 32

<[http://cdm.unfccc.int/Panels/ssc\\_wg](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.

Based on the above information, the SSC WG agreed to provide the response as follows:

**Issue on baseline and additionality determination**

***Case 1: Installation chillers at new sites (Greenfield project)***

It is noted that the baseline scenario is established based on ASHRAE 90.1 guideline. It is stated in the submission that the baseline efficiency using the ASHRAE guideline is conservative as compared to the efficiency values of the chillers currently sold in the market. This assertion of conservativeness is based on two publications, namely a report from the World Bank and the ECBC code. The SSC WG is of the opinion that the proposed approach (e.g. using a mandatory code such as (ECBC) as a baseline approach) in principle is acceptable, however, the representativeness and conservativeness of applied values chosen from the ASHRAE guideline needs to be validated by a DOE for example the basic assumption that all chillers in the relevant market are predominantly with lower efficiency compared to the applied values chosen from the ASHRAE guidelines needs to be validated. Also, the use of ASHRAE guideline and its appropriateness and conservativeness shall be assessed for each subsequent CPA.

It is noted that the PP has indicated that all chillers in the host country are manufactured at or below the requirements of ECBC codes. In this context the SSC WG noted the information available at <<http://bluestarindia.com/products/central-accs/include/screw-chillers-water-r134a-inc.asp>><sup>1</sup> attributed to another chiller manufacturer in India with significant market share in the country, seems to indicate that this may not be the case. Therefore, as a condition to accepting the use of the ASHRAE guideline, a validating DOE will need to confirm, the adequacy of literature values/codes as a valid baseline for a CDM project.

***Case 2: Replacement of an existing chiller with a more efficient chiller***

It was noted during the call that the baseline scenario for this case will also be established using ASHRAE 90.1 guideline. The SSC WG is however of the opinion that the baseline scenario shall be the continued use of the existing chiller without any retrofitting. The author of the query may explore existing procedures relevant to small-scale CDM projects for example “Information on additionality (attachment A to Appendix B of 4/CMP.1 Annex II) and “Non-binding best practice examples to demonstrate additionality for SSC project activities” (EB 35, annex 34) for the purpose of demonstrating additionality.

Furthermore, regarding the query on whether relevant procedures prescribed in AM0070 could be used to demonstrate additionality, the group is of the opinion that the procedure requires annual market survey and it is confirmed during the conference call that this is not what the project proponent wanted.

In addition to the remarks on case 1 and case 2 as above, SSC WG indicated that the consideration of this request by the SSC WG does not confirm the selection of baseline or additionality of the underlying project.

<sup>1</sup> Information retrieved on 24 June 2011.

Signed by the Chair, Ms. Fatou Gaye

Date: 24/06/2011

Signed by the Vice-Chair, Mr. Peer Stiansen

Date: 24/06/2011

**Information to be completed by the secretariat**

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