



**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>	16–19 February 2010, SSC WG 24
<i>Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):</i>	Revision of AMS-I.D for renewable energy units delivering power to newly developed grids in the context of a PoA
<i>Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.</i>	AMS-I.D
<i>Name of the authors of the query:</i>	Francois Beaurain Institution: Southpole Carbon Asset Management Ltd. <a href="mailto:f.beaurain@southpolecarbon.com">f.beaurain@southpolecarbon.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:

PT. Hydro Program International (PT. HPI) is implementing a small-scale CDM Programme of Activities (CDM SSC PoA) supporting small grid-connected hydropower project in Indonesia. Through this SSC-PoA PT. HPI aims to support and accelerate the development of small hydropower projects in Indonesia.

Indonesia is an archipelago with more than 17,000 islands. Most of the electricity production is located in the interconnected Java-Bali electricity grid whereas the other islands are not interconnected and rely on small and medium capacity electricity generation plants including diesel-power plants. Indonesia's rate of electrification is among the lowest in the region at about 65 % (source World Bank, 2004), which means that some 90 million people in Indonesia have no reliable access to electricity. Through the PoA PT.HPI would like to support the development of small hydropower plants to increase access to electricity. Most of these plants will be connected to existing grids, but some will generate electricity for small villages or groups of households through new isolated minigrids.

For this SSC-PoA, PT. HPI believes that the approved small scale methodology AMS I.D is an appropriate methodology for this SSC-PoA. AMS-I.D is able to cover hydro projects connected to the main Indonesian grids; however the methodology has a restriction in the baseline definition for newly developed grids. On one hand, the methodology suggests that it is applicable to newly developed grids since paragraph 1 allows project activities supplying to electricity distribution system that "is or would have been supplied by at least one fossil fuel fired generating unit". On the other hand the methodology does not clearly specify how the energy baseline shall be defined for the newly constructed grids since paragraph 9 of AMS-I.D suggests that the baseline generators must already be in use. For such newly developed isolated minigrids, AMS-I.A would therefore be a more appropriate methodology as it provides different alternatives on how to define the baseline when the generating unit supply households and users that do not have a grid connection.

However, it would be impossible to combine AMS-I.A and AMS-I.D in the same SSC-PoA since such a combination of methodologies cannot "be applied to all SSC-CPAs and must be applied in a consistent manner", as required by the PoA rules (EB47, Annex 29, footnote 1). The modest potential for generating CERs under a second PoA based on AMS-I.A alone would make such an alternative economically

unviable.

Hence, PT.HPI requests for the revision of the methodology AMS.I.D to permit the use of energy baselines for newly constructed minigrids as defined under AMS-I.A. No changes are necessary to AMS.I.D other than the inclusion of a 26<sup>th</sup> paragraph that introduces concepts from the approved methodology AMS.I.A under the section “Project activity under a programme of activities”:

“26. In case the project activity involves the construction of renewable energy generation unit(s) delivering electricity to an isolated mini-grid where the capacity of these generating units does not exceed 15 MW, the energy baseline shall be determined according to the equations provided below. The application is limited to households and users that do not have a grid connection prior to the project activity, except when a group of households or users are supplied with electricity through an isolated mini-grid where the capacity of the generating units does not exceed 15 MW. The renewable energy generation units delivering electricity to such isolated mini-grids might be new or replace existing fossil-fuel-fired generation.

$$EG_{BL,y} = \sum_i EG_{i,y} / (1 - l) \quad (14)$$

Where:

$EG_{BL,y}$  Annual energy baseline in year  $y$ ; kWh

$\sum_i$  The sum over the group of  $i$  renewable energy technologies implemented as part of the project activity

$EG_{i,y}$  The estimated annual output of the renewable energy technologies of the group of  $i$  renewable energy technologies installed; kWh

$l$  Average technical distribution losses that would have been observed in diesel powered mini-grids installed by public programmes or distribution companies in isolated areas, expressed as a fraction

$$BE_{CO2,y} = EG_{BL,y} * EF_{CO2} \quad (15)$$

Where:

$BE_{CO2,y}$  Emissions in the baseline in year  $y$ ; t CO<sub>2</sub>

$EG_{BL,y}$  Annual energy baseline in year  $y$ ; kWh

$EF_{CO2}$  CO<sub>2</sub> emission factor; t CO<sub>2</sub>/kWh

For  $EF_{CO2}$  a default value of 0.8 kg CO<sub>2</sub>-e/kWh, which is derived from diesel generation units, may be used. A small-scale project proponent may, with adequate justification use a higher emissions factor from table I.D.1.”

This revision of the methodology will make AMS-I.D more widely applicable to PoAs that seek to promote rural electrification by making newly developed grids eligible. It will do so by reinforcing the link between two similar methodologies. For the avoidance of doubt, the proposed methodology revision will only apply to PoAs. All project activities that are registered as stand-alone CDM projects will continue to use AMS-I.A.

Finally We would like to underline the fact that this revision would respect the environmental integrity of the CDM and will not create a deviation of AMS-I.A since all eligibility criteria of AMS-I.A are fulfilled (criteria 3 to 6 of AMS-I-D are the same as 2 to 5 of AMS-I-A and because our revision also includes a reference to eligibility criteria 1.a of AMS-I-A)

**Queries sent to the PPs via email:**

It is understood from your submission that the underlying SSC PoA involves small hydro projects to supply electricity to a) a grid (component A) and b) to off-grid users through newly constructed mini-grid (component B). The revision to PoA section of AMS-I.D is requested for component B to include the use of energy baselines referring to option 2 of AMS-I.A. In the context of Component B, the following needs to be further clarified:

1. It is not clear how the electricity in the baseline would have been supplied to the users/households in the absence of the component B (small hydro + mini grid) of the SSC-PoA. For example:
  - a. whether the baseline system, consists of only small diesel generators (without mini-grid) supplying electricity to individual households/users or it is a mix of fossil fuel and renewable energy sources and how it would be demonstrated that renewable energy was not utilized in the pre-project scenario;
  - b. whether the component B is replacing/reinforcing diesel powered mini-grid by small hydro powered mini grids.”

**Response from the PPs:**

We are facing a complex baseline situation in Indonesia. The country comprises several thousand islands that each have their own grid and associated baselines. In many remote islands and parts of larger islands communities have no access to a grid or are not connected to the “main grid” of that particular island. In the absence of grid connections, these communities use a broad range of energy sources. These include diesel generators, kerosene lamps, biomass power, etc.

As part of our proposed PoA we would like to find a way for these communities to benefit from CDM revenues. Currently this is not possible under AMS-I.D since the meth only provides guidance on how to calculate the baselines for existing grids. In view of the tremendous heterogeneity across the islands in Indonesia it is impossible for us to determine today which types of off-grid baselines we will encounter for specific CPAs. Therefore we need to find a “generic” process for determining the baselines under a broad range of baseline scenarios. It is for this reason that we have proposed a cross-reference to AMS-I.A applicability conditions and baseline definitions.

Two options for a solution include:

1. Include an off-grid baseline (along the lines of AMS-I.A) in the PoA section of AMS-I.D. To avoid confusion between which baseline to apply, we can specify in the revision that CPAs should use AMS-I.D and only if this becomes impossible can AMS-I.A baselines be used. This will prevent any distortions and conflicts between the two meths. This is the approach we had chosen for our meth revision request.
2. Include an off-grid baseline for all projects applying AMS-I.D. This will essentially turn AMS-I.D into the methodology that covers all grid-connected renewable power generation – regardless of whether the baseline included a grid or not.

Option 2 may be more sound and “clean” analytically, but it does involve a deeper revision of AMS-I.D that is not necessary for our purpose. It is for this reason that our submission for a meth revision did not propose this approach, but if enacted it will fully meet our needs. So we are indifferent to which of these two options will be chosen.

For practical purposes I do not see a significant difference between both options, because projects that establish new minigrids in locations where no prior minigrid existed tend to be extremely small. For example in Indonesia we are looking at the installation of a few 100 KW installed capacity. These projects will not be registered as stand-alone CDM projects, but can be included in an AMS-I.D PoA. As a result I believe that Option 1 above will be sufficient not only for our proposed PoA in Indonesia, but also other small-scale renewable energy programs that may be set up elsewhere. But if the SSC Working Group favors option 2 then we will be equally happy.

**Recommendation by the SSC WG:**

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

Please refer to paragraph 5 of the meeting report of the SSC WG 24  
([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.

The SSC WG noted the fact that the author recognized that AMS-I.D is only applicable to project activities that supply electricity to existing grid/distribution systems while AMS-I.A covers the situation where the project activity supplies electricity to users using new (Greenfield) mini grid.

The SSC WG agreed not to recommend the revision of AMS-I.D along the line requested by the proponent (option 1) because it is difficult to justify such a simplification to the guidelines pertaining to 'Project activity under a programme of activities' which are not essentially applicable to the fundamental thrust of normal SSC projects; furthermore, the SSC WG is of the opinion that revision of AMS-I.D along the lines suggested applicable to all SSC projects (option 2) will have far reaching implications regarding division of labor among type I methodologies.

It is the understanding of the SSC WG that the issues raised in the submission are related to the use of multiple methodologies in a PoA. The SSC WG is of the opinion the submission author may explore the possibility of requesting the CDM EB to consider the approval of using the combination of AMS-I.A and AMS-I.D in the proposed PoA so as to enable practical implementation of the described technology/measure in accordance with the procedures stipulated in annex 31 of EB 47.



Signature of SSC WG Chair .....

(Peer Stiansen)

Date: 19/02/2010



Signature of SSC WG Vice-Chair .....

(Hugh Sealy)

Date: 19/02/2010

**Information to be completed by the secretariat**

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