

 <p align="center">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)</p>	
Date of SSC WG meeting:	SSC WG13, 07- 09 November 2007
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Prevention of N ₂ O production in untreated sewage water by the use of anaerobic digestion as treatment
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS III.H
Name of the authors of the query:	Monish Das Institution: Amoda Environmental Solution
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.	
<p>A revision to AMS III.H to include a reduction of N₂O emissions as a result of the treatment of sewage water is requested.</p> <p>Sewage water contains, in addition to degradable carbon, a proportion of nitrogen in mineral and organic form. The nitrogen potentially generates the greenhouse gas N₂O when the untreated wastewater is released into waterways. Anaerobic treatment of sewage water prevents the formation of N₂O. Nitrogen is retained in the sludge in a mix of mineral and organic form. In an anaerobic process, nitrogen compounds undergo modification, which changes the ratio of N in mineral to organic forms. The IPCC 2006 guidelines contain a means of estimating the amount of N₂O produced due to the discharge of domestic wastewater in water ways/rivers. It is proposed to apply these guidelines to estimate the reduced N₂O emissions by treating sewage.</p>	
Recommendation by the SSC WG : Please use the space below to provide amendments/change (in your expert view, if necessary).	
Please refer to Paragraph 8 of the meeting report of the SSC WG 13 (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	
<p>The small scale-working group of the CDM Executive Board would like to thank the author for the submission.</p> <p>The SSC WG agreed that before this submission can be further considered, there would be a need to get a feedback from the author on the issues listed below.</p> <ol style="list-style-type: none"> 1) Project participants are invited to provide more information on how the emission reductions are going to be calculated, e.g. a draft project design document with sections A to C complete. 2) A more clear description of the project activity and its boundary is required. The procedure provided 	

for N₂O baseline emission calculations have been extracted from the 2006 IPCC guidelines. The proposed formula is based on the parameter P (human population). It is not clear whether the project activity is intended for treatment of the sewage water of a specific city, a region or other geographical area.

3) It should be noted that N₂O emissions calculations include a high level of uncertainties, as specified in IPCC guidelines: “The default IPCC emission factor for N₂O emissions from domestic wastewater nitrogen effluent is 0.005 (0.0005 - 0.25) kg N₂O-N/kg N. This emission factor is based on limited field data and on specific assumptions regarding the occurrence of nitrification and denitrification in rivers and in estuaries”.

The first assumption is that all nitrogen associated with consumption and domestic use, as well as some nitrogen from co-collected industrial wastewater, would have been discharged and eventually have entered a waterway. The second assumption is that N₂O production in rivers and estuaries is directly related to nitrification and denitrification and, thus, to the nitrogen that is discharged into the river. Factors like natural variability, N-fixation, etc. are not taken into account.

In addition a significant level of uncertainties is included in the other data required for the calculations like: annual per capita protein consumption, population, fraction of nitrogen in protein, factor to adjust for non-consumed protein and factor to allow for co-discharge of industrial nitrogen into sewers.

Project participants are invited to clarify how all the above mentioned uncertainties are taken into account.

4) The proposed formulas for the calculations of N₂O baseline and project activity emissions contains some new parameters like the amount of sludge applied to land, the nitrogen content in the sludge, population and annual per capita protein consumption. For some new parameters a default is proposed like fraction of nitrogen in protein, factor for non-consumed protein added to the wastewater, factor for industrial and commercial co-discharged protein into the sewer, emission factor of nitrogen from sludge applied to the land. Monitoring specifications are required for the parameters where no default values are available for.

It is clear from the above that there exist many areas requiring further elaboration before this revision can be recommended. The issues above are only examples and may not cover all the uncertainties in such a proposal.

Kindly provide your response as soon as possible (preferably by 2 January 2008).



Signature of SSC WG Chair

(Ulrika Raab)

Date: 13/11/2007



Signature of SSC WG Vice-Chair

(Richard Muyungi)

Date: 13/11/2007

Information to be completed by the secretariat	
SSC-Submission number	SSC_134
Date when the form was received at UNFCCC secretariat	13 November 2007
Date of transmission to the EB	13 November 2007
Date of posting in the UNFCCC CDM web site	13 November 2007