



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:	15–18 March 2011, SSC WG 30
Title/Subject (give a small title or specify the subject of your submission, maximum 200 characters):	Clarification on the calculation of <i>ex post</i> baseline emissions under AMS-III.I
Indicative methodology to which your submission relates (refer the items of Appendix B of the Simplified Modalities and Procedures), if applicable.	AMS-III.I “Avoidance of methane production in wastewater treatment through replacement of anaerobic systems by aerobic systems”
Name of the authors of the query:	Florian Eickhold Institution: Greendevlopment S.A. f.eickhold@greendevlopment.com.gt

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:

Introduction

Greendevlopment is providing consultancy services to a major sugar cane company based in Guatemala in order to assist with the registration of a small scale CH₄ mitigation project under the CDM. The project deals with improvement of the wastewater treatment system which belongs to the sugar processing factory.

Baseline

In absence of the project activity degradable organic matter in wastewater is treated in anaerobic systems and methane is emitted to the atmosphere. Several cleaning processes use large amounts of water along the sugar production process. The wastewater is directed via canals to an anaerobic open lagoon system. After treatment the wastewater is applied on the sugar cane fields.

Project

The current anaerobic baseline wastewater treatment system should be replaced with an aerobic system.

Question

Baseline emissions from the anaerobic wastewater treatment system are estimated according to page 3 from the methodology which details:

“To determine COD_{removed,i,m,y}: as the baseline treatment system(s) is different from the treatment system(s) in the project scenario, the monitored values of the COD inflow during crediting period will be used to calculate the baseline emissions *ex post*. The COD removed by the baseline system(s) shall be based on the removal efficiency of the baseline systems estimated as per paragraphs 5 or 6.”

The project activity will install an aerobic wastewater system. As well, the improvement of the system involves adding new technology to the cleaning process to drastically reduce water consumption. Thus the amount of wastewater treated aerobically in the crediting period will be significantly less than it would have been in absence of the project.

In order to calculate the baseline emissions ex post, we suggest to define (ex ante) a conservative factor based on historical data to demonstrate the relation between COD inflow and amount of processed sugar cane in the baseline scenario. During the crediting period we shall monitor the amount of processed sugar cane. In our opinion we can define the COD inflow during the crediting period by multiplying the above mentioned factor with the monitored amount of processed sugar cane as a bases for the required ex post baseline emission calculation.

Do you agree with our line of argumentation? Please indicate your opinion and further guidance.

Responses from PP to additional queries submitted 16 Feb 2011:

1. Please elaborate more the difficulties caused by the changed washing water consumption in applying the methodology. It is our understanding that the total organic matter in the wastewater depends on both the flow (Q) and the COD concentration of the wastewater. Although there would be some changes in the level of washing water consumption, the total organic matter can still be determined by multiplying the monitored wastewater flow with its COD concentration.

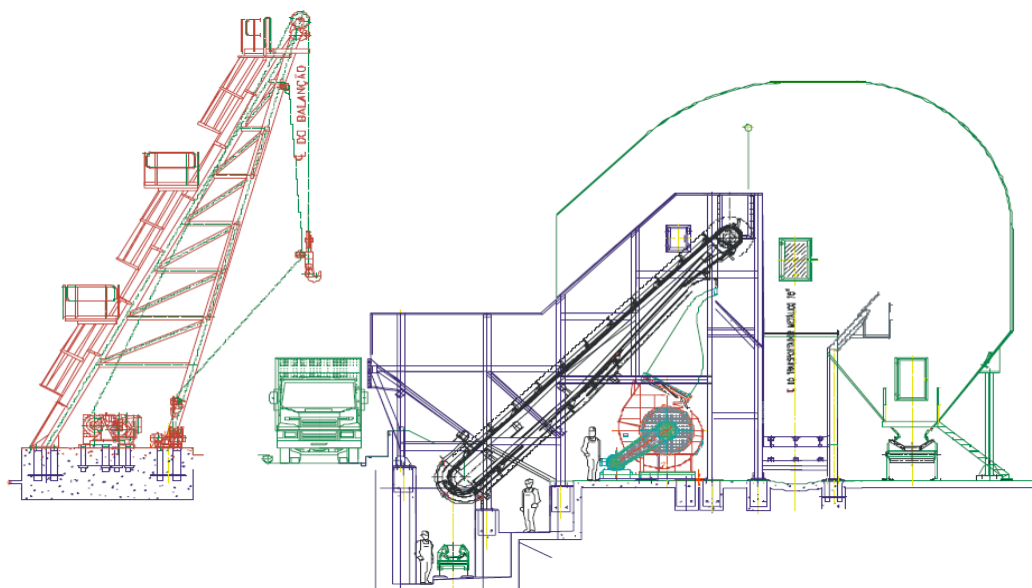
ANSWER 1:

The project involves measures to reduce water consumption in the cleaning process by switching some processes from washing with water to dry cleaning. Practically speaking, in the baseline scenario the sugar cane delivered from the fields undergoes a washing process in which the sugar cane is cleaned with water from organic matter before entering the processing plant. In the project this cleaning will be done by a new machine called “cleaning table” which separates organic matter from the sugar cane without the application of water. In this way the residue in form of dry organic matter will not be transported by water but carried as dry fertilizer to the fields. Other cleaning processes in the sugar mill will continue as in the baseline but the wastewater flow, and the total amount of organic matter entering the new implemented aerobic wastewater treatment system during the crediting period will be significantly less than in the baseline. Thus a calculation of the baseline emissions based on a direct monitoring of the CODin (ex post) would not enable the integrated project to account for its overall emission reductions.

2. To enable a better understanding of your issues, please provide more details on the improved project system, as mentioned in “As well, the improvement of the system involves adding new technology to the cleaning process to drastically reduce water consusketch/picture may be used.

ANSWER 2:

The following sketch shows the “cleaning table” which cleans the cane with air instead of water. For further detail, see the description of the applied technology in answer 1. The cleaning table is only a minor part of the project activity improving the overall wastewater system.



3. Please provide justification/explanation on how your proposed approach will lead to a conservative calculation of the emission reductions.

ANSWER 3:

In order to enable the project to account for the total of its emission reductions we suggest, according to page 3 of the methodology, to monitor ex post the CODin as a basis for the ex post baseline emissions estimation. However, we complete this CODin value by adding COD from the cane washing process (COD cane washing, ex post) that would have entered the anaerobic treatment system in absence of the project activity and as such has to be part of the baseline emissions estimation.

We suggest to define “COD cane washing, ex post” as follows:

In order to know how much organic matter would have entered the baseline treatment system coming from the cane washing process, we define ex ante and based on historical average data the relationship between processed sugar cane and CODin from this process. This factor (CODin/t sugar cane) we shall multiply by the amount of cane processed during the crediting period.

With regards to average historical data we shall apply conservative factors predicted by the 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 39 of the meeting report of the SSC WG 30
<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 recognized that the proposed project activities involve changes of processes which will impact the source and characteristics of the wastewater generation. In such a context, the SSC WG is of the opinion that the proposed approach may not representatively reflect the baseline situation and thus may not lead to a conservative emission reductions determination, because:

- The replacement of water cleaning process by a dry cleaning process may have direct impact on other parts of the sugar cane processing plant, i.e. the energy consumption in milling, crushing, processing of sugar cane may change. In addition, it may also have an impact on the yield and quality of the product and co-products (e.g. bagasse). In other words, the proposed technology/measure implies in an expansion of the project boundary, to cover not only the wastewater treatment plant, but also the industrial process;
- To ensure a credible baseline for the COD removed in the proposed approach, it is not clear whether the introduction of dry cleaning process is only because of the switch from anaerobic treatment system to aerobic treatment system;
- Any increased emissions because of the implementation of the project activities shall be taken into account, e.g. possible increased energy consumption by the dry cleaning section shall be considered, including the eventually needed thermal energy for hot air generation, exhaust gas cleaning, and mechanical devices.

If the project proponent wishes to claim the credit from “COD cane washing, ex post” (as denoted by the PP), a request for revision of the methodology, or the draft of a new methodology with the scope of wastewater generation avoidance in sugar cane facilities through dry cleaning (accompanied with a draft PDD), by taking into account all above issues, has to be submitted to the SSC WG for consideration.

Signed by the Chair, Ms. Fatou Gaye

Date: 18/03/2011

Signed by the Vice-Chair, Mr. Peer Stiansen

Date: 18/03/2011

Information to be completed by the secretariat

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