



CDM Executive Board
UNFCCC Secretariat
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13th October 2009

Dear CDM Executive Board Members,

Re: Request for Review for the proposed CDM project activity “Lixo Zero Composting Project” (UN: 2628)

SGS has been informed that the request for registration of the proposed CDM project activity “Lixo Zero Composting Project (2628)” is under consideration for request for review because three requests for review have been received from members of the Board.

The requests for review are based on the reasons outlined below. SGS would like to provide an initial response to the issues raised in the requests for review:

Requests for Review Issue 1-2, Issue 1:

The DOE shall clarify how it has validated the project start date for the project activity as appropriate. In doing so, the DOE shall explain how it has accepted the project was operated as a pilot plant in 2004 and 2005, and the cessation of the plant operation in early 2007.

SGS’ Response to Issue 1:

The start date of the proposed project activity in the PDD submitted for registration is 06/07/2007, which is the date of the issuance of the Operation Environmental License (Authorization to start the plant). This represents the action of restart of implementation of the project, after the cessation of the plant construction, as Ambiental Lixo Zero was able to secure a contract with EcoSecurities (ERPA contract, Purchase Agreement, 14/09/2006). SGS considered however after the request for review that the license does not represent the earliest date at which either the implementation or construction or real action of the project activity begins. SGS is of the opinion that the license would not guarantee the implementation of the project. SGS considers the waste supply contract with Hortifruti S/A and Ambiental Lixo Zero Ltda, signed on 23/03/2007 the document that represents the earliest start date of the proposed project activity.

During the site visit (08/05/2008), SGS checked that the plant was not operating (i.e. its construction ceased and there was no evidence of waste being received or fertilizer being produced). Furthermore, during the validation assessment, the PP provided a statement with the explanation of the timeline of the project with quantities of fertilizer being produced (ref.29 of the validation report). In the document, the project developer states that in 2004 and 2005, fertilizer production was on average 15 t/day, however the plant is projected to produce approximately 300 t/day (this is the value used in the ER Calculation Spreadsheets submitted with the request for registration). During this period, the plant was still under construction and could not operate commercially; it also did not have its Environmental Operational License (ref.8 of the validation report) which was only issued in 2007. For these reasons, supported by the observations made onsite, it was accepted that the project was not installed and/or in operation when starting the validation process and also that it was operating just on pilot mode in 2004 and 2005.

The cessation of project implementation was demonstrated by means of credible evidence. The report dated 4th July 2008, received from the financial accountant (Hugo da Costa Barbosa – CRC 074470/0-2), with an analysis of the financial demonstratives of Ambiental Lixo Zero Ltda. for the years of 2005 and 2006, stated that according to the analysis done with indices from those two years, the insolvency of the Ambiental Lixo Zero Ltda was evident.



SGS would like to reiterate here what was said in the above paragraph that during the site visit performed on 08/05/2008, the assessors checked that the plant was not operating (i.e. construction ceased, there was no evidence of waste being received or fertilizer being produced).

Requests for Review Issue 1-2, Issue 2:

The DOE shall clarify how it has validated the barrier analysis in accordance with VVM paragraphs 113 to 116 guidance.

SGS' Response to Issue 2:

To clarify how the barrier analysis is in accordance with VVM paragraphs 113 to 116 SGS would like to provide the following information:

Paragraph 115 (a). "Determine whether the barriers are real. The DOE shall assess the available evidence and/or undertake interviews with relevant individuals (including members of industry associations, government officials or local experts if necessary) to determine whether the barriers listed in the PDD exist. The DOE shall ensure that existence of barriers is substantiated by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics. If existence of a barrier is substantiated only by the opinions of the project participants, the DOE shall not consider this barrier to be adequately substantiated. If the DOE considers, on the basis of its sectoral or local expertise, that a barrier is not real or is not supported by sufficient evidence, it shall raise a CAR to have reference to this barrier removed from the project documentation;"

There were three barriers described in the PDD: Technological Barrier, Economic Barrier (Investment Barrier) and Cultural Barrier (Other Barriers).

The Technological Barrier stated in the PDD was that "The proposed project uses technology new to the host country, resulting in difficulties associated with dominating the technology and proving that the technology is viable".

There are two technologies that are used for composting in the host country, these are referred to as 'normal' and 'accelerated.' The technology used in the project, biocatalysers, is more advance than both of these technologies (normal and accelerated).

To establish whether the technology is new, SGS assessed a document published by IBAM (or Brazilian Institute for Municipal Administration, from the Portuguese Instituto Brasileiro de Administração Municipal – ref.45 of the validation report), which explained that the process of accelerated composting takes on average around 45 days. SGS also assessed the reference cited in the PDD from the Institute of Technological Research (from the Portuguese Instituto de Pesquisas Tecnológicas) which is a reference centre for technological research in Brazil. The reference cited was IPT (2000) Municipal Waste: Integrated management manual (from Portuguese, *Lixo Municipal: manual de gerenciamento integrado*). SGS found no mention of biocatalysers in the section of this reference that describes the technology used in accelerated composting systems. SGS also searched extensively on the internet for the organic composts sold in the market and their technologies and found that most composts commercialised are from animal manure. The proposed project activity utilizes biocatalysers which accelerate the process to 48-72 hours as explained in the webpage of Bioexton (the company that manufacturers the biocatalyser – ref.46 and sells the product as an innovative solution for the destination and reutilisation of organic residues). Further references found on the internet included an article from the magazine Exame (2007). The article entitled Bioexton, receives contribution of seed money (from the Portuguese Bioexton recebe aporte de capital semente), stated that Bioexton had been awarded seed money from the Brazilian Novarum Fund. The article stated that what attracted the Novarum Fund was the formula developed by Bioexton which converts residues into fertilisers in three days. It went on to say that there were other similar formulas in the market but none which operated this conversion so quickly – the article states that the average for this type of conversion is 100 days. The formula was patented in the US in 2000 and in Brazil in 2002 (ref. 15 and 16 of the validation report). SGS therefore concluded that such technology (accelerated composting systems which utilises biocatalysers and urban organic waste) is new in Brazil.



Apart from the evidence that the Environmental Operational License was delayed (the license was requested in 2004 – ref.20 of the validation report - and obtained in 2007 – ref.8 of the validation report), the evidences assessed with regards to technological barriers (from the Additionality Tool, “Skilled and/or properly trained labour to operate and maintain the technology is not available in the relevant country/region, which leads to an unacceptable high risk of equipment disrepair and malfunctioning or other underperformance”) were related to the fact that the new technology hinders implementation or renders underperformance. This evidence came again from the section of the reference IPT 2000 (ref.24 of the validation report) which described the situation of the composting plants in Brazil. The text stated that there were 37 municipalities in Brazil with installations of composting plants with the normal (not accelerated) method. From this 17 were inoperative and 5 were still under construction making a total of 59% of the plants inoperative. This same study found 20 composting plants utilising the accelerated method, 7 were inoperative and 10 were under construction. This indicates that 85% of the plants with accelerated methods in Brazil are not operating. The text cites many reasons for this inoperative pattern including lack of institutional, managerial and operational capacity to carry out activities (which in SGS’ view is lack of skilled and properly trained labour to operate and maintain the technology (as stated in the Additionality Tool), incapacity to obtain products with the characteristics necessary for agriculture as a result of bad plant operation, lack of institutional integration of such plants with public local services, and difficulties to place the products in the market). The data used in the common practice analysis in the PDD shows that the numbers of composting plants in the country are still limited. Furthermore, the publication by IPT 2000 cited is currently cited in the articles about integrated management of waste in the webpage of the Brazilian Ministry of the Environment (Ministério de Meio Ambiente).

SGS researched extensively but did not find published data on the technology used in the Project Lixo Zero. The technology is even less diffused than the normal and accelerated composting systems. SGS concluded that underperformance issues associated with master the technology (i.e. delays in establishing waste suppliers as mentioned in the PDD), and proving that the technology is viable would be exacerbated.

The PDD also mentioned Economic Barrier (Investment Barrier) and explained that this barrier evaluates the viability, attractiveness and economic risks associated with each scenario, considering the overall economics of the Project and/or economical conditions in the country. It also states that the PPs had problems obtaining finance from BNDES (National Bank for Economic and Social Development, from the Portuguese Banco Nacional de Desenvolvimento Economico e Social) given the delays in obtaining the Environmental Operational License. SGS checked and confirmed the information that environmental licenses are a pre-requisite to the financing from BNDES (ref. 32 of the validation report, para. 16). This pre-requisite can be a common requirement from BNDES, but specifically in the proposed project activity the delays in obtaining the Environmental Operational License were specific to the project financing issues resulting in the plant having to cease construction.

The Cultural Barriers (Other Barrier), stated in the PDD and assessed by SGS, has to do with the perception of farmers about organic fertilisers originating from urban organic solid waste. The PPs explained that recycled products are less accepted than mineral fertilizers because they are associated with rubbish. SGS cross-referenced this statement with the document published by the IPT and CEMPRE in 2000 (from the Portuguese “Compromisso Empresarial para Reciclagem” – Entrepreneurial Commitment to Recycling – ref. 24) which also states that the solution to this preference is to guarantee the quality of the product and of an adequate marketing. The PPs provided evidence of their campaign to change the impression on the issue. The evidence provided was a publication in one of the issues of the “Revista Organica” which explains the process of organic composting (ref. 22). The article describes the process well and includes a paragraph which explains that the waste bypasses landfills.

Further evidence was provided to support this discussion (ref. 31 of the validation report, dated 2006), a text by EMBRAPA the Brazilian Agricultural Research Corporation (from the Portuguese Empresa Brasileira de Pesquisa Agropecuária, which is a centre of reference for agriculture in Brazil). This evidence (which makes an analysis of the pros and cons of the composting of urban waste) states that the main problems associated with composting of urban waste, amongst others, are the poor quality of the residues used to make the compost and the poorly managed composting processes. This statement together with the statement in ref. 24 (IPT reference which says that the adoption of the organic compost by the agricultural industry is dependent on the gain of confidence of a product which originates from waste) supports the idea that the cultural perception to compost originated from waste is negative.



Further to the discussion of mineral fertilizers versus organic fertilizers above, SGS examined the evidence that in terms of organic fertilizers only, the fertilizers based on animal manure are cheaper than the fertilizers made with the technology used by the client. The statement was evidenced in a small sample of prices via internet searches (see <https://www.mfrural.com.br/produtos.aspx?categoria3=255&nmop=Fertilizantes-Agricolas-Fertilizantes-Organicos-Outros> - last accessed on 31/07/2008, ref. 23).

From the above SGS considers the barriers to be real and supported by sufficient evidence.

VVM Paragraph 115 (b) Determine whether the barriers prevent the implementation of the project activity but not the implementation of at least one of the possible alternatives. Since not all barriers present an insurmountable hurdle to a project activity being implemented, the DOE shall apply its local and sectoral expertise to judge whether a barrier or set of barriers would prevent the implementation of the proposed CDM project activity and would not equally prevent implementation of *at least one of the possible alternatives*, in particular the identified baseline scenario.

From SGS' expert and local point of view and from evidences collected during site visit, the set of barriers presented above would prevent the implementation of the proposed project activity and would not prevent the organic waste going to landfills (the second alternative to the project activity) since this is the business as usual scenario.

116. The validation report shall:

- (a) Provide an assessment of each barrier listed in the PDD, which describes how the DOE has undertaken validation of the barrier;

Although an analysis was carried out in the validation report the DOE agrees that this could have been done in a clearer manner and complemented with the discussion above in this answer to the request for review.

- (b) Provide an overall determination of the credibility of the barrier analysis performed.

From the above and on the basis of its local expertise, the DOE considers the barriers to be real and supported by sufficient evidence and in accordance with VVM paragraphs 113 to 116 guidance.

113. If barrier analysis has been used to demonstrate the additionality of the proposed CDM project activity, the PDD shall demonstrate that the proposed CDM project activity faces barriers that:

- (a) Prevent the implementation of this type of proposed CDM project activity;
- (b) Do not prevent the implementation of at least one of the alternatives.

The PDD demonstrates that the set of barriers presented above would prevent the implementation of the proposed project activity and would not prevent the organic waste going to landfills (the second alternative to the project activity) since this is the business as usual scenario.

114. Issues that have a clear direct impact on the financial returns of the project activity cannot be considered barriers and shall be assessed by investment analysis. This does not refer to either

- (a) Risk related barriers, for example risk of technical failure that could have negative effects on financial performance, or
- (b) Barriers related to the unavailability of sources of finance for the project activity.

As explained above, SGS found that the barriers presented related to risks of technical failure which in turn led to initial unavailability of financial sources.



With the explanation provided above, we hope that all the concerns of the EB have been addressed. Fabian Gonçalves (+55 11 3883 8887) will be the contact person for the review process and is available to address questions from the Board during the consideration of the review in case the Executive Board wishes.

Yours sincerely,

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