



Mr. Lex de Jonge
Chair, CDM Executive Board
UNFCCC Secretariat
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24th February 2009

Dear Mr. Lex de Jonge

Re: Request for review for request for registration of “Santa Cruz S.A – Açúcar e Álcool – Cogeneration Project (UNFCCC Ref. no. 2211)."

SGS has been informed that the request for registration of the CDM project activity “Santa Cruz S.A. – Açúcar e Álcool – Cogeneration Project” (UNFCCC Ref. no. 2211) is under consideration 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 by the request for review:

Request for Review 1-3, Issue 1:

The DOE should clarify the rationale behind the decision to deviate from the methodology requesting the use of the “Combined tool to identify the baseline scenario and demonstrate additionality”.

SGS’ Response to Issue 1:

The PDD determined the baseline scenario and demonstrated additionality using the “Tool for the demonstration and assessment of additionality” (version 5). During the validation, the DOE identified that it was not the approach required by ACM0006. The methodology requires the use of “Combined tool to identify the baseline scenario and demonstrate additionality”. NIR 3 (related to baseline scenario determination) and NIR 4 (related to the approach for discussion of additionality) were raised and detailed in the validation report submitted to registration.

To clarify these issues, the client explained that the alternatives to the project activity are:

- A new plant operating with low energy efficiency and not exporting electricity to the grid;
- The project activity implemented without been registered as a CDM project; and
- The country providing the same amount of energy using the current generation system, which is electricity supplied by large hydro and thermal power stations.

It was justified that methodologies using the combined tool are only applicable if all potential alternative scenarios to the proposed project activity are available options to project participants. For grid-connected power projects, such as Santa Cruz, an alternative would be the electricity production by other facilities. This alternative is not under the control of project participants.

According to the “Combined tool to identify the baseline scenario and demonstrate additionality” footnotes “2”, participants can use the “Tool for the demonstration and assessment of additionality”. The text of the “Combined Tool” says that: *“In cases where one or more alternatives are not available options to project participants, a different procedure than provided here would be required to demonstrate additionality and identify the baseline scenario. Such cases might include grid-connected power projects (where an alternative might be electricity produced by other facilities not under the control of project participants) or other projects that increase the delivery of a given product to a local, regional or global market. In such cases, baseline scenarios might be rather complex (such as the combined margin scenario in ACM0002), and the methods for comparing alternatives may differ from those provided here (e.g. benchmark analysis or other methods*

that utilize information about the markets in which such projects might compete). The Meth Panel is considering whether expanding this tool to cover all cases would be appropriate. In the meantime, methodologies that typically involve alternatives are not under the control of project participants can continue to use, if desired, the additionality tool (provides benchmark and other tools), and provide their own methods to develop and/or assess baseline scenario”.

Considering that this alternative approach is allowed by the “Combined tool”, the DOE did not consider the use of the additionality tool as a deviation from the methodology and accepted the PP response for closure of NIR 3 and NIR 4, as described in the validation report submitted for request for registration.

Request for Review 1-3, Issue 2:

The DOE is requested to further clarify how it has confirmed the suitability of the benchmark.

SGS’ Response to Issue 2:

In paragraph 14, concerning “Investment comparison analysis and benchmark analysis”, of the “Guidance of investment analysis” (EB 39, Annex 35, version available when the PDD was concluded in July 2008) states that: *“If the alternative to the project activity is the supply of electricity from a grid, this is not to be considered an investment and a benchmark approach is considered appropriate”. It adds: “The benchmark approach is therefore suited to circumstances where the baseline does not require investment or is outside the direct control of the project developer”.*

The alternative to the Santa Cruz project activity is the supply of electricity from a grid. Hence, a benchmark approach was applicable.

The benchmark selected for the analysis was the WACC - weighted average cost of capital, which is in accordance with the “Guidance of investment analysis”, paragraph 12 (*“Internal company benchmarks/expected returns (including those used as the expected return on equity in the calculation of a weighted average cost of capital - WACC), should only be applied in cases where there is only one possible project developer and should be demonstrated to have been used for similar projects with similar risks, developed by the same company or, if the company is brand new, would have been used for similar projects in the same sector in the country/region”*).

Santa Cruz is the first project implemented by the company for generation and exportation of electricity. So, there is no other project activity under similar conditions developed by the same company using the same benchmark. To validate the benchmark used, the validation team verified values and assumptions considered in its calculation.

The detailed calculation of WACC (calculated as 11.13%) was verified during the validation process. Assumptions, values and equations were checked and documented copies were provided to DOE and mentioned in the reference list of the validation report (Annex 1 and Annex 2). The validation team verified the assumptions and calculation of each component of the equation, as calculation of Beta, cost of equity and cost of debt.

The equation used for WACC calculation was described in the PDD as below:

$$WACC = [Kd * (1 - t) * Pd] + [Ke * (1 - Pd)]$$

$$WACC = [10.17\% * (1 - 34\%) * 54.83\%] + [16.51\%p.a. * (1 - 54.83\%)] = 11.13\%p.a.$$

$$Kd \text{ (cost of debt)} = 10.17\%$$

The cost of debt was calculated considering the Cost of Brazilian Bond (10 years), which was 6,17% (source of information Tesouro Nacional Brasileiro:

http://www.tesouro.fazenda.gov.br/divida_publica/downloads/Relatorio_Divida_2006.pdf , plus 4%, which is the spread over Brazilian Bonds.

t (marginal corporate income taxes) = 34%

It results of a social contribution of 9% + income tax of 25% (15% + 10% of additional rate to companies, which real profit excess R\$ 240.000,00 per year). This is defined in the Brazilian legislation, as confirmed in official websites:

<http://www.receita.fazenda.gov.br/PessoaJuridica/DIPJ/2005/PergResp2005/pr617a633.htm>

and

<http://www.receita.fazenda.gov.br/Legislacao/Leis/Ant2001/lei924995.htm>

Pd (debt as a percentage of total capitalization) = 54.83%

This value was obtained considering the total borrowing on 30/04/07 (value of R\$ 204,177,000.00) and the total equity (R\$ 372,399,000.00) in the same date. Dividing the total borrowing per the equity, it was found the debt as a percentage of total capitalization = 54.83%.

Evidences of the values mentioned above were checked during the validation and were detailed in the Santa Cruz Balance Sheet (document in Portuguese “Demonstrações financeiras pró-forma combinadas referentes aos exercícios findos em 30 de abril de 2007 e 2006”, issued by KPMG – Independent Auditors, dated 30/04/2007).

Ke (cost of equity) = 16.51%

The cost of equity was calculated using the Capital Asset Pricing Model.

The cost of equity = (Rate risk free + Brazil risk) + Levered Beta * Premium of the market risk

The values and formulas applied in the spreadsheet (Annex 1) were confirmed from the references sources provided in the PDD.

As informed in the PDD, as Santa Cruz is not listed in their stock exchanges, it was used the weighted average of Beta of two other sugar mills (Cosan and São Martinho) listed in Bovespa. Information about Beta is provided in the Annex 2.

Request for Review 1-3, Issue 3:

The DOE should clarify how it has validated the sensitivity analysis, as required in paragraph 17 of EB41, Annex 45 guidance on investment analysis.

SGS' Response to Issue 3:

The guidance on investment analysis available when the final version of PDD was prepared in July 2008 was version 1 (EB 39, Annex 35). Paragraph 17 of EB41 Annex 45 has the same text of Paragraph 16 of EB39 Annex 35, which establishes the following:

“The DOE should assess in detail whether the range of variations is reasonable in the project context. Past trends may be a guide to determine the reasonable range. As a general point of departure variations in the sensitivity analysis should at least cover a range of +10% and 10%, unless this is not deemed appropriate in the context of the specific project circumstances. In cases where a scenario will result in the project activity passing the benchmark or becoming the most financially attractive alternative the DOE shall provide an assessment of the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis, taking into consideration correlations between the variables as well as the specific socio-economic and policy context of the project activity”.

Santa Cruz Cogeneration Project conducted the sensitivity analysis applying a range of variation of 5% increasing project's revenues and reducing project's costs. This range was justified as being the average inflation registered in the country (~5%).

The increase of 10% in revenues would be a result of an increase of electricity generation or an increase of electricity price. Both are not reasonable situations. The electricity generation is limited to the installed capacity and the amount delivered to the grid is defined by the licenses and agreements signed with

governmental agencies. Increasing of prices would be only possible for the electricity sold in the free market. It is important to note that the electricity prices were presented in the results of the auctions and the factors for adjustment of prices were previously defined in Power Purchase Agreements (confidential document provided by PP).

Reduction in the total costs is not likely to happen. The expenses related to the ANEEL and CCEE taxes were pre-defined in agreements and adjusted according to Brazilian economic indexes (already considered in the investment analysis). Only expenses related to O&M could decrease, but is not likely to happen. Even in this case, the IRR of the project would be lower than the benchmark (WACC value of 11.13%).

The sensitivity analysis can be simulated in the spreadsheet for investment analysis (Annex 1). Increase in revenues and/or reduction of costs can be simulated changing values in the cels "C7" and "C8" of the sheet "Fluxo de Caixa".

The assessment team verified the spreadsheet with calculation to confirm the data applied. It was justified that besides of the values and range of variation of parameters, increase in project revenue or reduction in running costs are not expected to occur, once the project costs are defined and the energy tariff (project revenues) are fixed according signed contracts, so variations or increase in the value are not authorized.

It was justified that main investment cost was not consider as a variable in the sensitivity analysis, as this investment cost is already defined by approved budgets and variations are not expected to occur in a realistic situation.

With exception of 10% increase in revenues, which results in value of IRR higher than the benchmark (but this scenario is not expected, as explained above), it was verified that the project IRR remained lower than the benchmark even in the case where the parameters (revenues and costs) change in favour of the project.

Request for Review 1-3, Issue 4:

The DOE should clarify how it has validated the barriers and common practice analysis.

SGS' Response to Issue 4:

a) Validation of barrier analysis:

Institutional and "Core business" barriers were discussed in the PDD.

To support the institutional barriers, it was mentioned an academic article written by independent and recognized authors from the Federal University of Rio de Janeiro. The full article (FELISBERTO, C.R.; SZKLO, S.A. PROINFA e CDE: Questionamentos sobre legislação e regulamentação; article presented in CPBE 2004 (Brazilian Congress of Energy Planning) can be downloaded from the link provided in the PDD. Information about the authors' research and publications can be verified at Brazilian Catalogue of Research Group (<http://lattes.cnpq.br/5314056414907898>). It was confirmed that the institutional fragilities mentioned in the PDD are discussed in this article.

Regarding the "Core business", it was confirmed during the validation that the revenues of selling electricity represent 8.76% of the total revenues of Santa Cruz mill. In this way, the focus of the company would be to invest in the production of sugar and alcohol, not in electricity generation for delivery to grid.

b) Validation of common practice analysis:

Sub-step 4 (a):

The data and source of information provide in the PDD were verified by the validation team to confirm the discussion of "Common practice analysis". The sources are governmental agencies and official consolidated data provided in their websites and bulletins. It was confirmed that the electricity generated from sugar cane bagasse represented 2.69% of the total electricity generation in Brazil (data of year 2007 obtained in the ANEEL website). It was also confirmed that less than 20% of the Brazilian sugar mills have developed expansion in order to export electricity to the grid (excluding CDM projects).

Regarding this specific project activity, a comparison of the efficiency in exporting electricity was made with the sugar mills which are Coopersucar members, excluding CDM projects. As information verified during the audit (confidential data provided by Coopersucar), Santa Cruz has a ratio of 199 (exported kWh/tonnes of bagasse). Among Coopersucar members who have expanded their plants to export electricity (50 plants that are not CDM projects), the average ratio is 50.0 exported kWh/tonnes of bagasse. It can be verified that Santa Cruz's efficiency is almost four times higher than the average efficiency among the mills which are not CDM projects, so they are not comparable activities.

For more specific data, the PP presented a list of all plants generating energy from sugar cane bagasse. This list was cross-checked with the official source (BIG – data base of power generation, available in the website of ANEEL (www.aneel.gov.br/aplicacoes/capacidadebrasil/capacidadebrasil.asp) and found correct.

Sub-Step 4 (b):

From the list of plants, it was possible to identify those that are similar to the Santa Cruz project activity. As similar plants were considered those located at the same state (São Paulo), with similar scale (as Santa Cruz will have a installed capacity of 75MW, it was selected plants with verified capacity - commercial operation - higher than 50 MW) and registered as “independent producer of energy”. These plants are under comparable environment with respect to regulatory framework, access to technology and access to financing, among others.

The list of similar projects included 11 plants (Annex 3). All of them are CDM registered projects or are CDM projects been developed. It was not found in São Paulo state any plant similar to Santa Cruz that are expanding their capacity to export electricity to the grid without CDM incentives.

Request for Review 1-3, Issue 5:

The DOE should clarify how it has validated the selection of the reference plants and the baseline assumption that, in the absence of the project activity, the plant electricity generation efficiency would have been lower.

SGS' Response to Issue 5:

The PPs supplied the DOE with the information regarding the selection of the reference plants. Concerning the baseline assumption that, in the absence of the project activity, the plant electricity generation efficiency would have been lower, it was considered that Usina Santa Cruz would build a new plant with the same sugarcane processing capacity, but without export of energy. The new plant would attend their needs for the expansion of sugar and alcohol production, with the use of cheaper boilers, than the ones used in the project. In this way, this plant would have the same electrical efficiency as the ones presented as reference plants, which are new mills in Brazil, with no export of energy, and with low electricity efficiency.

The information provided in the PDD about reference plants was verified during the validation. The plants were selected from a list of new plants obtained from UNICA's website. Among the new plants, those plants that do not export electricity or export a small amount were identified and considered as a “Reference Plant” (Annex 4).

Plant A: Installed capacity and started operation, information obtained from Operation License, N° 176/2006, issued by Instituto Pantanal; Energy generation: information obtained from the plant manager (confirmed by DOE by phone interview with managers).

NCV bagasse: information obtained from similar project;

Bagasse quantity: information obtained from Portal Unica (it is the official site of Brazilian sugar cane industry).

Plant B: Installed capacity and started operation, information obtained from ANEEL (Governmental agency of electricity) document, N° 48500.004929/2005-54, issued in 2007.

Energy generation: information obtained from data provided by the plant manager (confirmed by DOE by phone interview with managers).

NCV bagasse: information obtained from similar project;

Bagasse quantity: information obtained from Portal Unica (it is the official site of Brazilian sugar cane industry).

Plant C: Installed capacity and started operation, information obtained from ANEEL document, N° 48500.004145/04-63, issued in 2005.

Energy generation: information obtained with the plant manager (confirmed by DOE by phone interview with managers).

NCV bagasse: information obtained from similar project.

Bagasse quantity: information obtained from Portal Unica.

The average electricity efficiency considering these three plants (reference plant) was 3.40% (see spreadsheet Ref. 9, Annex 4).

As described in the validation report, the efficiency of electricity generation in the project plant was calculated by dividing the electricity generation during the year by the quantity of fuel (in the case of project, total of bagasse) expressed in energy units. The bagasse NCV value used for calculation of the efficiency of reference plants was 2.0 MWh/tonnes bagasse (value provided by the reference plants) and 2.04 MWh/tonnes bagasse (for project plant, value monitored by Santa Cruz). The quantity of biomass combusted in the project plant was estimated based on the total of sugar cane to be milled yearly. The amount of sugar cane processed yearly, presented in the PDD and in the cash flow spreadsheet, is consistent with historic data of Santa Cruz available on-site. The calculation is provided in Annex 5).

Calculation of $\epsilon_{el, project}$

2008	0.0878
2009	0.1405
2010	0.1526
2011	0.1526
2012	0.1526
2013	0.1526
2014	0.1526

From the data presented in the table above, it can be evidenced that the reference plant electricity generation efficiency (3.40%) would have been lower than the project plant electricity generation efficiency (8.78% in year 2008; 14.05% in 2009 and 15.26% from year 2010 to 2014).

Request for Review 1-3, Issue 6:

The DOE should clarify how the excess bagasse produced in currently being disposed it.

SGS' Response to Issue 6:

The same type and amount of biomass residue would be fired in the baseline and in the project activity.

The quantity of bagasse which is not burned in the boilers during harvest season is kept for tests and start up of the next harvest. This amount represents around 5% of the total bagasse produced per season (sugar cane harvest season is considered from April to November). The bagasse is not stored for more than 1 year and no diversion of biomass were identified which can result in the increase of fossil fuel consumption. The information about the amount of bagasse stored for the next season was verified from Santa Cruz mill production reports. The total sugar cane processed and the amount of bagasse produced and consumed are reported daily and consolidated monthly and annually. These reports were verified on-site and the average



amount of excess bagasse was found 5%. In the beginning of the season, this bagasse is used for starting the plant, as also confirmed from interviews with plant manager and operators during the site visit.

With the explanation provided above, we hope that all concerns of the EB have been addressed. We do however apologize if this was not sufficiently clear from the validation report.

Sanjeev Kumar (+91 987 17 94628) 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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Encl.:

Annex 1: Ref.5 Cashflow

Annex 2: Ref.12b Beta COSAN (Information about Beta used in WACC calculation)

Annex 3: Database Brazil_sugar mills in SP (List of similar projects in São Paulo state)

Annex 4: Ref.9 Reference Plants_Efficiency

Annex 5: Ref.6 Santa Cruz_calculation CERs revised (data about project activity electricity efficiency)