

VALIDATION REPORT

AES Tietê S/A

***AES Tietê
Afforestation/Reforestation Project
in the State of São Paulo, Brazil***

SGS Climate Change Programme

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Summary:			
<p>AES Tietê S/A has commissioned SGS to perform the validation of the project: AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil.</p> <p>Methodology Used: AR-AM0010 - Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas.</p> <p>Version and Date: Version 4, October 16th 2009(EB 50).</p> <p>The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and applicable CDM requirements.</p> <p>The report is based on the assessment of the project design document undertaken through stakeholder consultations, application of standard auditing techniques including but not limited to document reviews, follow up actions (e.g site visit, telephone or e-mail interviews) and also the review of the applicable approved methodology and underlying formulae and calculations.</p> <p>The report and the annexed validation describes a total of 15 findings which include:</p> <ul style="list-style-type: none"> • 03 Corrective Action Requests (CARs); • 12 Clarification Requests (CLs) and • 0 Forward Action Requests (FARs) <p>All findings have been closed satisfactorily and the project will be recommended to the CDM Executive Board with a request for registration.</p> <p>The only change in version 1.1 of this report from version 1 submitted to the Brazilian DNA is the mention of the receipt of the Letters of Approval and minor corrections which do not impact on the additionality.</p>			
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Abbreviations

ABRAGE	“Associação das empresas brasileiras geradoras de energia elétrica” (Power plants Brazilian Association)
A/R	Afforestation/reforestation
APP	“Área de preservação Permanente” (Permanent preservation area)
CAR	Corrective action request
CDM	Clean development mechanism
CDM EB	EB CDM Executive Board
CER	Certified emission reduction
CESP	Companhia Energética de São Paulo (São Paulo energetic company)
CL	Clarification request
DOE	Designated operational entity
DNA	Designated national authority
FAR	Forward action request
GHG	Greenhouse gas(es)
IBAMA	Brazilian environmental agency
IPCC	Intergovernmental Panel on Climate Change
PDD	Project Design Document
PP	Project Proponent
UNFCCC	United Nations Framework Convention on Climate Change

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1. Validation Opinion

SGS United Kingdom Ltd has been contracted by AES Tietê S/A to perform a validation of the project: AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil.

The Validation was performed in accordance with the UNFCCC criteria for the Clean Development Mechanism (CDM), Validation and Verification Manual version 1 and host country criteria, as well as criteria given to provide for consistent project operations, monitoring and reporting.

By reforesting with native species of trees up to 13,939 hectares of riparian areas, currently occupied by unmanaged grassland along the banks of 10 hydropower reservoirs, the project activity will result in reductions of greenhouse gas (GHG) emissions that are real, measurable and give long-term benefits to the mitigation of climate change.

In our opinion, the project meets all relevant UNFCCC, CDM criteria and all relevant host country criteria. The project correctly applies methodology AR-AM0010 – “Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas”, version 4. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total emission reductions from the project are estimated to be 4,729,074 tCO₂e over a 30 years crediting period during 15/12/2000 to 14/12/2030, averaging 157,635 tCO₂e annually. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given the underlying assumptions do not change.

The project will hence be recommended by SGS for registration with the UNFCCC.

Signed on Behalf of the Validation Body by Authorized Signatory



Signature:

Name: Siddharth Yadav

Date: 10th August 2010

2. Introduction

2.1 Objective

AES Tietê S/A has commissioned SGS to perform the validation of the project: AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil, with regard to the relevant requirements for Clean Development Mechanism (CDM) project activities. The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, the monitoring plan (MP) and the project's compliance with relevant UNFCCC and host country criteria are validated in order to confirm that the project design as documented is sound and reasonable and meets the stated requirements and identified criteria. Validation is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of certified emission reduction (CER). UNFCCC criteria refer to the Kyoto Protocol criteria and the CDM rules and modalities and related decisions by the COP/MOP and the CDM Executive Board.

2.2 Scope

The scope of the validation is defined as an independent and objective review of the project design document, the project's baseline study and monitoring plan and other relevant documents. The information in these documents is reviewed against Kyoto Protocol requirements, UNFCCC rules and associated interpretations. SGS has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of CERs.

The validation is not meant to provide any consulting towards the Client. However, stated requests for clarifications and/or corrective actions may provide input for improvement of the project design.

2.3 GHG Project Description

The PP, AES Tietê S.A., is an electrical energy generator that owns and operates 10 hydropower plants in the State of São Paulo, Brazil. The project activity consists of reforesting with native species of trees up to 13,939 hectares of riparian areas, currently occupied by unmanaged grassland along the banks of these 10 hydropower reservoirs. The riparian areas surrounding the reservoirs comprise of aggressive grass exotic species.

The project applies AR-AM0010 (version 04) methodology: "Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas". It is applicable for areas that are not likely to be converted to any other land use except forestry, and which have no potential to revert to forest without direct human intervention.

The baseline scenario for this project activity is the continuation of current land use as unmanaged grassland, including allowance for implementation of non-CDM forestry on lands with characteristics similar to the project area at a non-CDM baseline forestry rate that is smaller than the A/R rate of CDM project activity.

The technology implemented in the project includes: seedling development, site preparation, planting and plantation management. The techniques are based on the research and development activities initiated by AES Tietê's project team with partnership with universities and research institutes.

The project is expected to promote carbon sequestration, as it will increase the carbon stocks in the biomass above-ground and below-ground in the reforested riparian areas.

2.4 The Names and Roles of the Validation Team Members

Name	Role
Aurea Nardelli	Lead Assessor and Expert
Talita Beck	Local Assessor

Technical Review Team	Role
Kaviraj Singh	Technical Reviewer
Christian Kobel	Sectoral Scope Expert

3. Methodology

3.1 Review of CDM-PDD and Additional Documentation

The validation is performed primarily as a document review of the publicly available project design document version 01 dated 05/01/2009 (Ref.1a) and the subsequent version 2 (22/04/2009) and 3 (19/10/2009) (Ref.1b and 1c). The assessment is performed by trained assessors using a validation protocol attached as Annex 2, table 2.

The site visit was performed in the period from 02 to 06 March 2009 and the results are summarized in a separate checklist as Annex 1. During this period, the validation team auditors visited the AES Tietê office in São Paulo, where the validation team reviewed documents and interview the PP staff, consultants and a representative of the BioCarbon Fund. They also visited a sample of sites included in the project boundary.

3.2 Use of the Validation Protocol

The validation protocol used for the assessment is designed in accordance with the Validation and Verification Manual, Version 1 dated 28 November 2008. It serves the following purposes:

- it organises, details and clarifies the requirements the project is expected to meet; and
- it documents both how a particular requirement has been validated and the result of the validation (reporting).

The validation protocol consists of several tables. The different columns in these tables are described below.

Checklist Question	Ref ID	Means of Verification (MoV)	Comment	Draft and/or Final Conclusion
The various requirements are linked to checklist questions the project should meet.	Lists any references and sources used in the validation process. Full details are provided in the table at the bottom of the checklist.	Explains how conformance with the checklist question is investigated. Examples of means of verification are document review (DR) or interview (I). N/A means not applicable.	The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is further used to explain the conclusions reached.	This is either acceptable based on evidence provided (Y), or a Corrective Action Request (CAR) due to non-compliance with the checklist question (See below). Clarification Request (CL) is used when the validation team has identified a need for further clarification.

The completed validation protocol for this project is attached as Annex A.1 to this report

3.3 Findings

As an outcome of the validation process, the team can raise different types of findings

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable CDM requirements have been met

Where a non-conformance arises the Assessor shall raise a **Corrective Action Request (CAR)**. A CAR is issued, where:

- I. The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- II. The CDM requirements have not been met;
- III. There is a risk that emission reductions cannot be monitored or calculated.

The validation process may be halted until this information has been made available to the assessors' satisfaction. Failure to address a CL may result in a CAR. Information or clarifications provided as a result of a CL may also lead to a CAR.

A Forward Action Request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the CDM requirements for registration.

Corrective Action Requests and Clarification Requests are raised in the draft validation protocol and detailed in a separate form (Annex A.3). In this form, the Project Developer is given the opportunity to "close" outstanding CARs and respond to CLs and FARs.

3.4 Internal Quality Control

Following the completion of the assessment process and a recommendation by the Assessment team, all documentation will be forwarded to a Technical Reviewer. The task of the Technical Reviewer is to check that all procedures have been followed and all conclusions are justified. The Technical Reviewer will either accept or reject the recommendation made by the assessment team. Findings can be raised at this stage and client must address them within agreed timeline.

4. Validation Findings

4.1 Approval

Brazil is the Host Party and has ratified the Kyoto Protocol on 23rd August 2002. <http://maindb.unfccc.int/public/country.pl?country=BR>. At the time of validation, no Letter of Approval from the host country had been provided. The Letter of Approval (LoA) was signed when the DNA of Brazil received and analyse the draft validation report (this is the procedure of the Brazilian DNA). The LoA was issued by the Brazilian DNA (Interministerial Commission on Global Climate Change) on 14/07/2010 (Ref.3). It was confirmed that the name of the project activity and the names of the PPs are correctly mentioned in the letter. The approval details of the project activity are also available at the DNA website (<http://www.mct.gov.br/index.php/content/view/317381.html>).

Canada is also a Party involved in this CDM project activity. Canada has ratified the Kyoto protocol on 17th December 2002 and is listed as an 'Annexure-I' Party (http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php). The LoA from the Annex 1 party was issued on 26/03/2009 by the Canadian DNA (Department of Foreign Affairs and International Trade Canada) (Ref.4).

4.2 Participation Requirements

The project participants are: AES Tietê S.A (a Brazilian private entity) and the International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund.

Brazil is the Host Party and ratified the Kyoto Protocol on 23rd August 2002. <http://maindb.unfccc.int/public/country.pl?country=BR>. At the time of validation, no LoA from the host country had been provided. The LoA was signed when the DNA of Brazil receive and analyse the validation report (this is the procedure of the Brazilian DNA).). The LoA was issued by the Brazilian DNA (Interministerial Commission on Global Climate Change) on 14/07/2010 (Ref.3).

Canada is also a Party involved in this CDM project activity. Canada ratified the Kyoto protocol on 17th December 2002 and is listed as an 'Annexure-I' Party (http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php). The LoA from the Annex 1 party was issued on 26/03/2009 by the Canadian DNA (Department of Foreign Affairs and International Trade Canada) (Ref.4).

During the desk study, the following issue was raised regarding Participation Requirements:

CL# 2: The PDD (version 1) indicated in section A.3 (page 5) the PP as the "International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund", but it should be clarify why the respective Annex 1 country is not indicated in the same table. Also, it should be confirmed the exact name of the entity (in Annex 1 of the PDD, it is mentioned just as "BioCarbon Fund, The World Bank").

As response to CL#2, the PP clarified that the Annex 1 country indicated in the table in section A.3 should be Canada. The exact name of the entity in Annex 1 of the PDD should be "International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund". The PP has inserted the name of the Annex I party in the table in section A.3. The name of the entity in the Annex 1 of the PDD has been adjusted so that the names in the table in section A.3 and in Annex 1 of the PDD are now matching. CL#2 was closed out.

4.3 Project Design Document including Project Description

The PDD version 1 (Ref.1a) was provided to the validation team for a desk review. The project title is: "AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil". It clearly indicates the PP name and the location of the project, which identifies it as a unique CDM project.

The purpose of the project activity is described in the PDD and is to reforest up to 13,939 hectares of riparian areas currently occupied by unmanaged grassland along the banks of ten hydropower reservoirs in the State of São Paulo with native forest species. Specifically, is to restore the ecosystems, increase carbon sequestration,

improve water recharge in the reservoirs and protect soil against erosion and promote employment and recreational opportunities locally.

The type of technology used is described in the PDD; silvicultural techniques – as results of researches conducted by experts and AES Tietê - will be employed. The project will plant a mix of 80 to 126 native tree species and shrub species. The project includes seedling development, site preparation, planting, and plantation management.

The information provided on the location of the project activity allow for a clear identification of the sites. The project areas to be reforested are located in the Southeastern Region of Brazil, States of São Paulo and Minas Gerais. A map was provided in the PDD, section A.4.1.3, showing the region where the reservoirs are located. It was also provided a table listing the names of reservoirs and municipalities covered by them. For each one of the 10 reservoirs, the geographic coordinates were provided.

The project is an existing project (but in implementation stage yet), with around 12% of the total area reforested from year 2001 to 2007. In this first phase of the project (2001-2007), planting was performed mainly for testing and observing the results of reforestation practices. The area planted since year 2001 is informed in the TARAM model (Ref. 2). During the site visit, the auditors verified the planting plan and visited a sample of ten sites. The project was found to be in compliance with the actual planning and situation described in the PDD.

The project does not receive public funding. It is financed by the AES Tietê S.A. and counting with technical support of the BioCarbon Fund.

The following issues were raised regarding the use of correct forms and applicable guidance:

CAR#1: the PDD (version 1, provided for desk study and for global stakeholder consultation) was not using the current version of the PDD template for AR activities, available at UNFCCC CDM website. Editorial and format changes, which are not allowed, were also observed in the document. As response to CAR#1, the PP has made adjustments to correct the PDD to comply with template version 4. A revised PDD was provided and CAR#1 was closed out.

CL #3: It is not clear if the information provided in the Figure 5 (Section A.5.2 of the PDD, version 1) is the most updated. In addition, details about endangered plants species are missing in this section. As response to CL #3, PP decided to remove Figure 5 in Section A.5.2 of the PDD version 1 given that it is not the most updated information available. For threatened animal species in the State of São Paulo, the most updated information is included as a list at the State's Environment Secretary website: <http://www.ambiente.sp.gov.br/fauna.php>. The list was made public in October 2008, and identifies 436 species and subspecies of vertebrates (17% of the known taxonomy) mainly located within the Atlantic Rainforest biome (Ref.39). A summary of the findings is made available at various public websites including: <http://tvecologica.wordpress.com/2008/10/08/estado-de-sao-paulo-divulga-sua-lista-de-fauna-ameacada-faca-o-download-aqui/>. For threatened plant species, the most updated information is a list made available by the Ministry of Environment in 2008 (Ref.29). Specifically for the State of São Paulo, the State Environment Secretary released a list in 2004 included in Resolution SMA 48/2004. For threatened animal species, the PP provided a list named "Fauna SP" downloaded from the website indicated above (Ref.39). For threatened plant species, the PDD provided a list named "MME 2008" which includes the list provided by the Ministry of Environment (Ref.29). In addition, Resolution SMA 48/2004 was also provided (included in Ref. 7). References were verified and were found to be correct. A revised version of the PDD is provided, which concluded that in the areas around the reservoirs it is not expected to find the listed endangered species. CL# 3 was closed out.

CL#15: The eligible area provide in the PDD is not consistent along with the document. It mentions 13,939 ha (page 3), as 13,944 ha (page 15) and in the model for calculation of GHG removals (TARAM), the area is considered as 13,802 ha. To address CL#15, the PP corrected the values in the PDD and also provided a revised TARAM spreadsheet (Ref.2). The eligible area is confirmed as 13,939 ha. The PP explained that the area informed in the revised TARAM spreadsheet ("Total area of baseline strata") is 12,668.29 ha. This value of 12,668.29 ha is from the sheet AR-Plan. The sheet AR-Plan describes the planting plan, which can not match exactly with the total eligible area. The planting plan defines 1100 ha to be planted in 2009 and 2000 ha/year to be planted from 2010-2014. This is the basis of the field activities. This explanation is considered acceptable by the validation team. The planting area can be smaller than the eligible area. As the data of revised TARAM is the same included in the revised PDD (estimative of ER), CL#15 was closed out.

4.4 Applicability of selected methodology to the project activity

The methodology selected to the project activity is: AR-AM0010: “Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas”, version 4 (EB 50). http://cdm.unfccc.int/EB/050/eb50_repan20.pdf

AR-AM0010 is applicable to the following categories of project activities: Afforestation and reforestation (A/R) implemented on unmanaged grassland in reserves or protected areas that are not likely to be converted to any other land use except forestry, and which have no potential to revert to forest without direct human intervention.

The conditions under which this methodology is applicable are:

(1)- *Project proponents can clearly show that baseline approach 22(c) of the CDM Modalities and Procedures—Changes in carbon stocks in the pools within the project boundary from the most likely land use at the time the project starts—is the most plausible baseline scenario;*

(2)- *The most likely land use at the time the project starts shall be unmanaged grassland with A/R implemented at a non-CDM baseline forestry rate. This rate may be zero, in which case the most likely land use at the time the project starts is continuation as unmanaged grassland;*

Both conditions above mentioned were verified from the Geoconsult study about the baseline and eligibility of the lands (Ref.5 and Ref.18). It was also provided in the PDD the basis for calculation of a non-CDM baseline forestry rate for the region.

(3)- *Land to be afforested or reforested shall comprise unmanaged grassland which is designated as a reserve/protected area, and is not likely to be converted to any other land use except forestry. The grassland may include areas with either a steady-state or slowly regenerating woody cover of shrubs and/or scattered trees. However, the land shall have no potential to revert to forest without direct human intervention (through planting, seeding, or promotion of natural seed sources);*

The Brazilian forestry legislation defines that areas along rivers, springs and around lakes (also reservoirs) must be considered as “Permanent Preservation”. Depending on the area of the reservoir, an extension of land around it shall not be used for other objectives than preservation. In the past (before the construction of the reservoirs), these areas were mainly occupied by artificial pastures, using exotic and aggressive species of grass, as *Brachiaria* sp). It is no longer allowed for these areas to be used for crops or as pastures, as these areas are included in the “Permanent Preservation” areas of the reservoirs (after construction of the hydropower plants). So, the area is not likely to be converted to any other use except to be reforested (by law, no other use is allowed than the restoration with native trees).

It was confirmed during the site visit (at the PP office) that the company has used satellite images from different years and checked the field reality using surveys performed on-site (Ref.5 and Ref.18). This was the basis for the land use identification and supported that the land to be reforested comprise unmanaged grassland located at permanent preservation areas. In addition, the PP has the support of experts from the University of São Paulo (ESALQ), who studies the regional vegetation and its natural succession process. They have concluded that the natural reversion of pastures and herbaceous status to a forest is not possible in this region, mainly due the lack of natural sources for regeneration of native species (Ref.35).

(4)- *The project activity does not lead to a shift of pre-project activities to outside of the project boundary; i.e., the land under the proposed A/R CDM project activity can continue to provide at least the same amount of goods and services as in the absence of the project activity;*

The areas under management of AES Tietê are located around the reservoirs and by law is to be a protection area only (Ref.5). There is no activity or goods and services actually provided by such areas. In practice, the project activity will enhance the environmental protection services.

(5)- *The biomass of herbaceous vegetation within the project boundary at the start of the project is at steady-state, or is declining due to competition from woody species, and so baseline removals by herbaceous vegetation can be conservatively neglected;*

This applicability condition was excluded in the Revision of AR-AM0010 (version 4). So, it is not applicable.

(6)- *The soil carbon pool within the project boundary is at steady state at project commencement: that is, the project boundary shall not include areas that within the last 20 years were either severely degraded, or have been used for agricultural cropping for more than 3 years;*

The real reforestation activities started in 2001, but the project has not been fully implemented yet (until 2009, just 12% of the area has been planted by the PP). It was verified that the eligibility study was based on satellite images analysis. For historical analysis, it was used TM/Landsat 5 imagery and for the current situation, it was used QuickBird and CBERS satellites imagery. It was confirmed that areas in non-conformance with this applicability criterion were not included in the project boundary (Ref.5).

Other information that supports compliance with this criterion is that the areas included in the project activity are designated as a reserve/protected area since the construction of reservoirs. The reservoirs were constructed before 1980's (with exception of Mogi-Guaçu, constructed in 1994). Since their construction, the areas around them are considered as protected areas (APPs) by Brazilian Forestry Code. The extension of protected areas is 100 meters in horizontal projection from the maximum normal water level. Thus, AES Tietê (or the other company that had the concession of the hydropower plants before year 1999 and/or any other entity) could not conduct activities that would severely degrade areas or use the areas for agricultural cropping for more than 3 years.

(7)- Site preparation to afforest or reforest is carried out in such a way as to avoid levels of soil disturbance or soil erosion sufficient to significantly reduce the soil carbon pool over the project lifetime;

Verified on-site, in the planting plans and procedures that the site preparation involves a minimum disturbance to the soil. The contract between AES Tietê and a company responsible for planting trees was presented during site visit. Its technical specifications stated that no fire was allowed in the areas to be planted (Ref.19).

(8)- The land within the project boundary will be afforested or reforested by direct planting and/or seeding of trees to establish a forest that complies with the minimum forest thresholds advised to the CDM Executive Board by the host country's DNA;

This applicability condition was excluded in the Revision of AR-AM0010 (version 4). So, it is not applicable.

(9)- Nitrogen-fixing (N-fixing) trees planted as part of the A/R CDM project activity account for less than 10% of the total planted forest crown area, so nitrous oxide (N₂O) emissions from decomposition of litter from the N-fixing trees can therefore be considered insignificant;

This applicability condition was excluded in the Revision of AR-AM0010 (version 4). So, it is not applicable.

(10) No direct human-induced activities leading to loss of carbon stocks (such as harvesting, selective logging, fuel gathering, removal of litter, or removal of dead wood) shall occur on lands within the project boundary;

The project aims to restore the natural vegetation; no harvest or collection will be permitted. During the site visit, it was verified the surveillance system to protect the area against not authorized activities (Ref.36 and Ref.37). It was verified on-site that fences have been installed to protect the planting areas.

(11) Carbon stocks in the dead organic matter pools (litter and dead wood) are expected to be smaller in the absence of the proposed A/R CDM project activity, relative to the project scenario, and therefore accounting of these pools can be conservatively neglected;

Considering that the baseline scenario is unmanaged exotic grassland, the carbon stocks related to litter and dead wood is expected to be smaller in this ecosystem when compared with the project activity (reforested area with high diversity of native species of trees). It was verified that the PP adopted a conservative approach and neglected to account for these pools.

(12) Flood irrigation or drainage of primarily saturated soils are not permitted as part of A/R CDM project activities, so non-CO₂ greenhouse gas emissions from these activities can therefore be neglected;

No irrigation or drainage is planned to be performed in the project. It was verified on-site.

(13) If the non-CDM baseline forestry rate is other than zero, the only approach to address non-permanence is to claim emissions reductions as tCERs.

The forestry rate is calculated as 0.04%. For the identification of non-CDM baseline annual proportional forestry rate, a "region" was determined based on the multiplication of the total project boundary by a factor of 20, as required by the methodology ("A region shall be considered to be that centred on the project area, and within a radius sufficient to include an area of the non-CDM baseline forestry stratum equal to at least 20 times the proposed project area"). Quickbird satellite imagery was applied, and samples were taken during the site visit to confirm data presented by the PP. The project selected to account temporary CERs (tCERs).

The following issues were raised related to applicability of the methodology:

CL# 5: It should be clarified if the amount of nitrogen-fixing species used in the A/R CDM project activity is not significant to justify that greenhouse gas emissions from denitrification can be neglected. No details were provided in the PDD to support this applicability criterion of the methodology.

In order to clarify this issue, the PP responded that, as per the decision of EB 44 paragraph 37, the Board agreed that GHG emissions as nitrous oxide (N₂O) emissions from decomposition of litter and fine roots from N-fixing trees are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity.

Section D.1 of the PDD was revised to reflect this explanation. According to section III (Principles for Validation and Verification) of the VVM Version 01, "The principle of consistency shall not prevent a DOE from applying the most recent decisions and guidance provided by the CDM Executive Board" so it is deemed to be correct. CL# 5 was closed out.

During the technical review process of the validation report, a Revision of AR-AM0010 (version 4) was made publicly available in the report of EB 50 meeting. A revised PDD was provided applying the revised methodology. So, this condition related to nitrogen-fixing species is no longer applicable.

Considering that CL#5 is adequately addressed and the revised PDD applying AR-AM0010 version 4, the validation team concluded that the proposed CDM project activity complies with the applicability criteria of the selected methodology.

4.5 Project Boundary

The geographic boundaries of the project are defined as the area to be restored within the eligible areas around 10 reservoirs under concession to AES Tietê. Details about geographic location are provide in the PDD and was confirmed during the site visit. A study about eligibility of lands was presented by experts during the site visit (Ref.5, Ref.18 and Ref. 6). This study was conducted based on satellite imagery with a scale of 1:50,000. Images from Quickbird and CBERS (China-Brazil Earth Resources Satellite) were used for the period 2006-2007. These images were compared against 1989-1990 TM/Landsat satellite images. It was confirmed that the methods mentioned in the PDD, Annex 5, and that the "Procedures to demonstrate the eligibility of lands for afforestation and reforestation CDM project activities" (version 1) were correctly applied. A sample of sites included in the project boundaries was analyzed, to confirm if they are within the area considered as eligible.

Regarding the carbon pools, the methodology requires inclusion of: above-ground biomass and below-ground biomass. The emissions sources and gases to be included are: CO₂ due to removal of grassland vegetation during the site preparation and CO₂, CH₄ and NO₂ due slash-and-burn practices (but slash-and-burn is not applicable to the project activity).

CL#8 was raised asking to clarify if the use of fertilizers (nitrogen fertilization) will be included in the calculation of GHG emissions from the project activity. In response, the PP informed that as per the decision of EB 42 paragraph 35, the Board agreed that GHG emissions fertilizer application in A/R CDM project activities are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity. The evidence may be found at the UNFCCC CDM website using the following link: <http://cdm.unfccc.int/EB/042/eb42rep.pdf> . The text for paragraph 35 is provided below:

35. The Board clarified the guidance on accounting GHG emissions in A/R CDM project activities from the following sources: (i) fertilizer application, (ii) removal of herbaceous vegetation, and (iii) transportation; and agreed that emissions from these sources may be considered as insignificant and hence can be neglected in A/R baseline and monitoring methodologies and tools. The Board further requested the secretariat to revise all affected approved A/R CDM baseline and monitoring methodologies and tools, in order to apply the above-mentioned guidance, and make these methodologies available on 17 October 2008, after agreement by the chairs of the A/R WG and the Board. Section D.1 of the PDD was revised. CL# 8 was closed out.

Considering that CL#8 was closed out, that the revised PDD is applying the AR-AM0010 version 4 and that there is not any unexpected emissions resulting from project activity, the validation team found that the project boundary and selected sources and gases correctly justified.

4.6 Baseline Selection and Additionality

The methodology applied is: AR-AM0010: “*Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas*” (version 4, EB 50). The methodological tool applied for additionality discussion is: “Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities” (Version 02). They are correctly applied as the versions available on the UNFCCC website.

AR-AM0010 determines that if the project activity is not homogeneous, stratification should be carried out to improve the accuracy and precision of *ex ante* estimates of baseline and project removals by sinks. A specific baseline stratification approach is required to deal with the possibility that lands within the project boundary may regenerate from the existing woody species, that however has no potential to reach forest proportions without direct human intervention.

The PP performed stratification for *ex ante* estimation of existing biomass and baseline removals by sinks, following the step-wise proposed by the methodology.

Step 2.1.1: Stratify by current vegetation

As required by the methodology, the project area was stratified into an initial set of five strata on the basis of current vegetation cover:

- Herbaceous vegetation only;
- Herbaceous vegetation and shrubs only;
- Herbaceous vegetation and trees only;
- Shrubs and trees only; and,
- Herbaceous vegetation, shrubs and trees.

It was confirmed that the stratification was performed using the data obtained in the eligibility study (Ref.5). The PPs considered the “herbaceous vegetation only” category as a unique stratum. The other four strata were excluded, considering that similar protected areas within the project area are composed of herbaceous vegetation for current and climax stages. During the eligibility study (Ref.5), in the case satellite imagery depicted shrubs and/or trees, these areas were excluded from the baseline stratification process. Therefore steps 2 to 4 (2.1.2 to 2.1.4) are not applicable, as there are no woody species in the baseline stratum.

The fifth step includes stratification by variables likely to result in important variations in biomass. In the case of the project area presents a sufficiently large or not homogeneous area, variations in climate, soils or other factors controlling growth conditions may be important to be considered for further subdivision of strata defined in steps 2.1.1 to 2.1.4. However, the methodology determines that if estimates of biomass and removals by sinks are to be developed using as defaults existing data from IPCC or other literature, this re-stratification step will only be appropriate if the default data available appear as an explicit function the variables used for re-stratification. This was not found to be the case of this project activity. Hence, stratification using step 5 (2.1.5) was not performed.

The final baseline stratification map considers only one stratum for the project area – “herbaceous vegetation”. Detailed maps for each reservoir are presented in the Ref.5. Although the methodology considers the inclusion of areas with tree grassland or shrub vegetation in the project boundary, the PPs decided not to consider these areas for reforestation activities. In the case where satellite imagery identified shrubs and/or trees, these areas were excluded from the baseline stratification process.

Stratification to identify areas with risk of increased soil erosion by water and/or wind within the project boundary by implementation of the A/R project activity is not considered. It was verified that the project activity will actually improve soil conditions minimizing erosion.

Regarding the identification of credible alternative land uses for this project activity, the following scenarios were presented in the PDD:

- Continuation of the current land use as unmanaged grassland (i.e. a zero reforestation rate);
- Establishment of forest on unmanaged grassland at a mean annual non-CDM proportional forestry rate;
- Proposed project activity undertaken as a non-CDM project.

As discussed in section 4.4 of this report, the selected methodology is applicable only if the PPs demonstrate transparently that the most likely land use at the time the project starts is unmanaged grassland with a non-CDM baseline forestry rate (which may be zero).

It was verified that the PDD discussed the identification of the most likely baseline scenario, following the steps required by the methodology (refer to Section 4.6.3 of this report). This included all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations. It was confirmed that the selected baseline represent the most likely scenario among other possible and/or discussed scenarios.

The PDD demonstrate the additionality using the approach as specified in the methodology and by following all the required steps. It was used the latest version available of the “Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities” (Version 02). Refer to sections 4.6.1 to 4.6.6 for more details about the additionality discussion.

4.6.1 Additionality

The methodology applied is: AR-AM0010: “*Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas*” (version 4). The methodological tool applied for additionality discussion is: “Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities” (Version 02). They are applied as the versions available on the UNFCCC website.

The steps 0, 1, 3 and 4 of the “tool” were applied.

For step 0 (“Preliminary screening based on the starting date of the AR project activity”), refer to section 4.6.2 of this report.

Regarding the step 1 “Identification of alternatives to the A/R project activity consistent with the current laws and regulations”, the PDD discuss the sub-steps 1(a) and 1 (b):

Sub-step 1a. Identify credible alternative land use scenarios to the proposed CDM project activity

Three scenarios were identified following the methodology approach (refer to Section 4.6.3 of this report):

- Continuation of the current land use as unmanaged grassland
- Establishment of forest on unmanaged grassland at a mean annual non-CDM proportional forestry rate
- The proposed project activity not undertaken as A/R CDM project activity

Other activities, as crop production and/or cattle ranching, were not considered as a realistic and credible land-use alternative given that the Brazilian Forest Code prohibits any kind of activity that could affect adversely the natural regeneration in the APP.

Sub-step 1b. Consistency of credible land use scenarios with enforced mandatory applicable laws and regulations

During the site visit, the legal requirements related to the reforestation and/or management of APPs and areas around reservoirs were discussed with AES Tietê team and documents were checked. A request for clarification CL# 9 was raised, asking the PP to provide additional information about the environmental licenses of the area included in the scope of the project.

A new meeting between the validation team with the AES Tietê team and a document review were carried out on 30/04/2009, at AES Tietê office in São Paulo. All relevant environmental reports and licenses were available to the validation team during the visit (Ref.10). Regarding environmental passives from CESP (the company responsible for the reservoirs and hydro plant before December 1999, when AES Tietê acquired the concession), the validation team found no evidence that liabilities from CESP were passed on to AES Tietê. The complementary document review and specific documents regarding environmental licenses demonstrated that there is no legal requirement obliging AES Tietê to restore the forest around the reservoirs of hydroelectric plants of the company (Ref.7, Ref.8 and Ref.10).

In conclusion, the audit team verified whether the areas requested to be planted in the initial license of the former owner of reservoirs (CESP), have been planted before or after January 2001. The PACUERA and Environmental Report presented by the PP to the environmental agencies have been revised by DOE, also the conditions defined by the IBAMA licenses, especially the Flora Management Plans. It was checked if “passives” from CESP (areas to be restored as required by law) were all restored before 2001 and if applicable, if they were excluded from the project boundary. It was verified that there is no condition in the environmental licenses requiring the company to reforest around the reservoirs. The documents “Contrato de Concessão n. 92/99” (Ref.9) and the current licenses (Ref.10) are evidences that there is no legal requirement for AES Tietê to

perform reforestation activities. The issues were clarified and are supported by official documents issued by environmental agencies. CL # 9 was closed out.

It was also verified the legal requirements related to reforestation activities in APP around reservoirs. The reforestation activities are permitted since the projects follow the guidance provided by the environmental agencies and communicate the activities to these agencies.

It is concluded that all land use scenarios identified as alternatives to this A/R project activity are in compliance with all mandatory applicable legal and regulatory requirements.

For the selection of baseline scenario (Sub-step 1 c), refer to the stepwise approach provided by AR-AM0010, presented in the Section 4.6.3 of this report.

Step 2 ("Investment analysis") was not applicable; Step 3 ("Barrier analysis") and Step 4 ("Common practice analysis") are conducted as discussed in section 4.6.5 and 4.6.6 of this report, respectively.

4.6.2 Prior Consideration of the Clean Development Mechanism

The "step 0" (starting date and consideration of CDM) requires "evidence that the starting date of the A/R CDM project activity was after 31 December 1999; and evidence that the incentive from the planned sale of CERs was seriously considered in the decision to proceed with the project activity. This evidence shall be based on (preferably official, legal and/or other corporate) documentation that was available to third parties at, or prior to, the start of the project activity".

The chronology of the project activity (with events and details about the actions taken since the starting date to the starting of the validation process or submission of the new methodology) was not provided to the DOE. The discussion related to Step 0 was not included in the PDD version 1, so CAR #10 was raised.

Additional evidences and clarification should be provided to support the discussion of starting date and Step 0 (Consideration of CDM). The source of the information of "In the 1990s AES developed a pioneering strategy to pursue forestry activities in developing countries (especially Latin America) as a means to offset GHG emissions from electricity generation" should be provided in the PDD and to DOE. In addition, documented evidences shall be provided for the events listed in table 5 of PDD.

Regarding the starting date 01/01/2001, the starting date of an A/R CDM project activity is "the date on which the implementation or real action of an A/R CDM project activity begins, resulting in actual net GHG removals by sinks", but it was not clearly justified in the PDD what is the event that supports the starting date 01/01/2001.

To clarify the issues raised in CAR #10 and provide additional documents, a meeting between the DOE and AES Tietê team was carried out on 30/04/2009, at AES Tietê office in São Paulo. The following information and documents were verified by the validation team:

- Report on Sustainable development of Mbaracayu, Paraguay (Ref.25): report dated August 2001, which mentions a project developed with support of AES since 1992, with objective of biomass conservation, among others. This report is just used to contextualize AES engagement in biomass conservation efforts, even prior to the Kyoto Protocol. To avoid misunderstanding, this information was not included in the final PDD.
- Dossiê - Bananal Island Carbon Sequestration Project Phase II (BICPSP II) (Ref. 27): document dated 22/10/2003 which mentions a carbon sequestration project developed with AES support; documents informed that the carbon sequestration project (that started in 1998) was interrupted in 2001 due lack of investments. This carbon sequestration project is relevant to the CDM consideration because it evidences the company decision to promote a reforestation project in Brazil after AES Tietê acquired the concession to operate the 10 hydropower plants. It demonstrates that the company was investing in carbon removal activities as well as aware of the potential carbon benefits.

A revised PDD was provided, changing the starting date of project activity to 15/12/2000, which is the date when AES Tietê signed a contract with an outsourcer to starting the reforestation activities around Bariri reservoir. Copy of the contract dated 15/12/2000 was provided (Ref.19) signed with the company SERFLORA.

Evidences of hiring consultants were provided: contract signed on 01/04/2004 with NRG Ltda (consultant for carbon credits project), on 01/05/2005 with the consultant Geoconsult" (contract DC/SP/111/2005, Ref.22) and

contract signed on 01/06/2005 with the consult “Fato Assessoria Empresarial Ltda” (contract nº DC/Tietê/112/2005, Ref.28). The year of consultant’s contract mentioned in the PDD was revised to 2004.

Document application regarding the World Bank Biocarbon fund was provided (Ref.30, Letter of Intent related to potential purchase of emission reductions, dated 12/01/2007, where the letter of intent signed on 07/07/2005 was mentioned).

In addition, the PP provided a formal declaration issued by Brazilian DNA informing that AES Tietê had contacted the DNA for many times during the years 2000, 2001, 2002 and 2003 to discuss about its project (Ref.26).

Considering the evidences provided above and that the revised PDD is describing accordingly the start date of the project activity and the prior consideration of CDM, the DOE concludes that the proposed CDM project activity complies with the requirements of EB41, Annexure 46. Hence, CAR# 10 was closed out.

A summary of the main events related to CDM consideration and to the project chronology is provided below, which also is inline with the current “Guidelines for the Demonstration and Assessment of Prior Consideration of the CDM” (EB49 annex 22):

Date	Event/Project	Reference
20/12/1999	Evidence that the starting date of the A/R CDM project activity was after 31 December 1999: Concession Contract established between AES Tietê and ANEEL, signed on 20 December 1999. Prior to this date AES Tietê had no ownership rights to the water reservoirs, and thus, did not execute any type of activity in the region (it is important to highlight that from this contract, AES Tiete has the right and responsibility over the hydro plants, their generation and respective reservoirs. The contract did not require voluntary reforestation of borders of reservoirs).	Ref. 9: Concession Contract Number 92/99 established between AES Tietê and ANEEL (20/12/1999).
02/01/2000	Bananal Island Carbon Sequestration Project (BICSP): evidence that AES was investing in carbon removal activities as well as aware of the potential carbon benefits	Ref.27: Agreement between AES Tietê and Ecológica (02/01/2000) is mentioned in the dossier of BICSP.
15/12/2000	Starting date of project activity	Ref.19: Contract with outsourcer to plant the first area of the project (15/12/2000) (area around Bariri reservoir).
Years 2000, 2001, 2002 and 2003	Meetings of AES with Brazilian DNA to discuss about the reforestation project (continuous from year 2000 until validation stage of the project).	Ref. 26: Declaration of Brazilian DNA.
01/04/2004	Contract with consultant for the development of the methodology and PDD.	Ref.42 - Contract between AES Tietê and consultant NRG Ltda (01/04/2004).
01/05/2005	Contract with consultant for the eligibility study and development of the CDM methodology.	Ref.22 Contract with Geoconsult (01/05/2005)
01/06/2005	Contract with consultant for the project documentation (baseline and	Ref. 28 - Contract with FATO consultant (01/06/2005)

	monitoring).	
07/07/2005	Date mentioned as the date when the "Letter of Intent" was signed between BioCarbon Fund and AES Tietê (related to Potential Purchase of Emission Reductions)	Ref. 30 – Letter from BioCarbon Fund, dated 12/01/2007, where the former letter of intent dated 07/07/2005 was mentioned.
12/01/2007	Extension of exclusivity period for negotiation and execution of ERPA (Emission Reduction Purchase Agreement), signed between BioCarbon Fund and AES Tietê.	Ref. 30 – Letter from BioCarbon Fund, dated 12/01/2007,
05/03/2007	CDM-AR PDD sent to CDM EB	http://cdm.unfccc.int/UserManagement/FileStorage/PI7FL70USDYUEQS92XTCLB1VVZ7CBC
27/03/2007	New methodology submitted to CDM EB (ARNM0034) – start date of public input period	http://cdm.unfccc.int/UserManagement/FileStorage/QN85WWUVH7UFEUDE1VEZYOPB3AYAYB
19/10/2007	EB approval of AR-AM0010 (based on the NM submitted by AES Tietê)	http://cdm.unfccc.int/EB/035/eb35rep.pdf
During 2008	Preparation of the of PDD	
29/08/2008	Proposal by SGS for validation	Proposal sent by SGS to AES Tietê, dated 29/08/2008.
22/01/2009	Start date of validation (date of global stakeholder consultation)	UNFCCC website (http://cdm.unfccc.int/Projects/Validation/DB/KZYUMAUTQ6A1ZFQD81Q7N53T55J6Z9/view.html)

To complement the chronology above, the TARAM spreadsheet provides the project implementation plan, where it is demonstrate the area planted per year since the project start date:

Year	Area (hectares)
2001	533.86
2002	397.95 ha
2003	0
2004	205.58
2005	430.90
2006	0
2007	0
2008	0
2009	1100
2010	2000
2011	2000
2012	2000
2013	2000
2014	2000

This chronology demonstrate that the main activity will be performed in large scale and continuously from 2009 year; Before 2009, in the period when the PP was searching for CDM and submitting a new methodology, the scale of planting was small, if compared with the project full implementation. The implementation of the project before 2004 (i.e., before contracting the consultant to develop a new methodology) represents around 7.5% of the project activity and does not mean that the full implementation should be completed.

4.6.3 Identification of alternatives

As required by the methodology, the PPs should determine the most plausible baseline scenario using six steps, demonstrated below; it is important to highlight that only one stratum is considered within the project boundary:

Step 1: *Identify and list plausible and credible alternative land uses, including known public or private activities on similar reserve/protected lands (such as any similar forestry activity undertaken as a non- CDM project, or any other feasible land development activities).*

The alternatives identified by the PP include:

- Continuation of the current land use as unmanaged grassland (i.e. a zero reforestation rate);
- Establishment of forest on unmanaged grassland at a mean annual non-CDM proportional forestry rate $PFR_{non-CDM}$ (ha ha⁻¹ yr⁻¹).
- Proposed project activity undertaken as a non-CDM project.

From the alternatives, continuation of the current land use as unmanaged grassland during the crediting period was selected as the most plausible baseline scenario. AES Tietê is expected to maintain the land use around its reservoirs in its existing state. The establishment of forest on unmanaged grassland at a mean annual non-CDM proportional forestry rate was considered not applicable. It was verified that the mean annual non-CDM baseline forestry rate (in ha. ha⁻¹ yr⁻¹) was assessed by AES Tietê based on official data available for similar protected areas in the region. Data was obtained from studies carried out by the Environment Secretary of the State of Sao Paulo and the Forestry Institute (Ref.40 and Annex 9 of PDD). The studies are about a historical situation related to reforestation projects in the region. The documents were verified by the assessment team and support a zero reforestation rate as the most plausible baseline scenario.

The implementation of the proposed project activity as a non-CDM project is also not applicable due the barriers faced by the project activity. It was explained in the additionality discussion in this report, section 4.6.5.

Step 2: *Demonstrate that no natural regeneration of trees sufficient to exceed the host country's forest threshold is likely, by:*

- *Demonstrating that there is a lack of an on-site and external seed pools/sources that may result in natural regeneration with the project boundary; or*
- *Demonstrating that there are limited possibilities for seed germination and/or growth of seedlings or young trees within the project boundary because of natural climate/soil conditions, pest/disease impacts, or anthropogenic pressures; or*
- *Demonstrating through use of current and historical datasets, including supplementary surveys of current vegetation cover if necessary, that over a minimum period of 10 years prior to the project:*
 - *Either there was no significant¹² natural regeneration of trees with the project boundary;*
 - *Or that there are no significant¹³ areas of naturally regenerated forest in the non-CDM baseline forestry stratum; or*
- *Using any other evidence that demonstrates in a transparent and verifiable way that natural regeneration of trees within the project boundary sufficient to exceed the host country's forest threshold is unlikely.*

During the validation, the PP provided field data and information from current and historic satellite imagery for more than 10 years prior to the project (Ref.9). The information provided by the imagery analysis and confirmed during the site visit indicates that natural regeneration is not expected to occur, mainly due to lack of an on-site and external seed sources, the presence of exotic and aggressive grass species as a dominant vegetation in the project area and adverse impacts from the land use in the neighboring areas.

Step 3: *If there is no evidence from Step 2 above, or obtained during the stratification process, that there is significant regeneration of trees likely to exceed the host country's definition of forest within the project area, then determine the mean annual non-CDM baseline proportional forestry rate, PFR_{non-CDM}, in the non-CDM baseline forestry stratum by:*

- *Performing a transparent and verifiable analysis of land-use change to determine the average annual rate of forest planted in the non-CDM baseline forestry stratum (see Section II.2.2);*
- *To ensure a conservative approach, PFR_{non-CDM} is estimated from the land-use change analysis as the greater of:*
 - *The average annual regional or national rate of forest planting in the non-CDM baseline forestry stratum, divided by the stratum area or;*
 - *The average annual rate of forest planting by project proponents in that area of the non-CDM baseline forestry stratum, divided by the proposed project area as specified in transparent and verifiable information supplied on past A/R activities.*

As the conclusion of Step 2 is that there is no significant regeneration of trees within the project area, Step 3 is not applied.

Step 4: *Demonstrate that under the scenarios identified in Step 1, the most plausible scenario is that the most likely land use at the time the project starts—in the absence of the A/R CDM project activity—is either unmanaged grassland, or A/R of unmanaged grassland implemented at a non-CDM baseline forestry rate. This can be done in at least one of the following ways:*

- *Generally: by demonstrating that similar lands in the vicinity are not, and are not planned to be, used for any alternative land use. Show that apparent legal, regulatory, financial and/or other barriers, which prevent the plausible alternative land uses, can be identified;*
- *Specifically, for forest as an alternative land use: use the investment analysis, barrier analysis, or common practice analysis steps of the “Tool for the demonstration and assessment of additionality” to demonstrate that this land use, in the absence of revenues from the CDM A/R activity, is unattractive;*
- *Specifically, for forest establishment at a non-CDM baseline proportional forestry rate (if other than zero): use the investment analysis, barrier analysis, or common practice analysis steps of the “Tool for the demonstration and assessment of additionality” to demonstrate that this land use, in the absence of the CDM A/R activity, is only likely to be implemented at an annual rate less than the average annual rate of project A/R calculated as the forested area (in ha) within the project boundary divided by the project duration (in years).*

It was demonstrated that similar areas in the region are considered as APP (Permanent Preservation Areas) and legal and regulatory barriers prevent any alternative land uses. As discussed in Step 1, the mean annual non-CDM baseline forestry rate (in ha. ha⁻¹ yr⁻¹) was assessed by AES Tietê based on official data available for similar protected areas in the region. Data was obtained from studies carried out by the Environment Secretary of the State of Sao Paulo and the Forestry Institute (Ref.40 and Annex 9 of PDD). The documents support a zero reforestation rate as the most plausible baseline scenario.

So, in the absence of the A/R CDM project activity the most plausible scenario is unmanaged grassland.

Step 5: *Demonstrate that national and/or sectoral land-use policies or regulations that create policy driven market distortions that give comparative advantage to A/R activities, and that have been adopted before 11 November 2001, do not influence the area of the proposed A/R project activity (e.g., because the policy is not implemented, the policy does not target this area, or because there are prohibitive barriers to the policy in this area etc.).*

It was verified from the Brazilian legislation related to forestry and conservation areas that there is no national and/or sectoral land-use policies or regulations in Brazil that support A/R activities in APP around reservoirs.

Step 6: *This methodology is applicable only if project proponents can clearly show that application of Steps 1 to 5 above results in identification of baseline approach 22(c)—“Changes in carbon stocks in the pools within the project boundary from the most likely land use at the time the project starts”—is the most plausible baseline scenario. To ensure transparency when establishing the baseline approach, all information used in the analysis shall be verifiable, listed in the CDM-AR-PDD, and archived.*

It was concluded that this methodology is applicable as the analysis of Steps 1 to 5 (discussed above) confirms the baseline approach. From the alternatives, continuation of the current land use as unmanaged grassland during the crediting period was selected as the most plausible baseline scenario. The final PDD provides the required information and mentions the relevant references that support this conclusion.

4.6.4 Investment Analysis

The project consists of a restoration project. It does not have any economic objective (the trees will be not harvested and/or used for commercial objective). No revenues (besides CERs) will be expected from the project activity.

In the first version of the PDD, the PP had provided a "Simple cost analysis". As the methodology and the "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" (version 2) give a choice to use investment or barrier analysis, the PP decided to exclude the "Investment analysis" of the revised PDD.

4.6.5 Barrier analysis

The PP has conducted the barrier analysis to discuss the additionality of the project. It was identified barriers not specific to the PPs, would prevent the project be implemented as a non-CDM activity.

Sub-step 3a. Identify barriers that would prevent the implementation of type of the proposed project activity:

The following barriers were discussed, in line with EB 50, Annex 13 ("Guidelines for objective demonstration and assessment of barriers"):

Institutional barriers:

References mentioned in the PDD to substance the institutional barriers were verified (Ref.33 and Ref.41). The references describe the efforts of SOS Mata Atlântica and INPE to map and monitor the reminiscent forest fragments and also discuss some data on the reminiscent areas, causes for deforestation and the fact that the designation of areas of this biome as important, nationally and internationally, has not hindered deforestation. It shows the lack of enforcement of forest legislation in protected areas. Although the references were published in 2005, the data and information mentioned are based on studies and researches performed in early 2000's. The context discussed was found to be applicable for the time when the project activity started.

It was also confirmed by the validation team that this institutional barrier is real and relevant to the project. The site visit also indicates that areas around the reservoirs are occupied by grasslands. Other permanent preservation areas (APPs) observed outside the project boundary (farms in the neighbourhoods of AES Tietê reservoirs) are also usually occupied by grasslands and no effective actions of restoration have been implemented.

Considering the lack of enforcement of the law that should protects the APPs, the CDM revenues can help to overcome institutional barrier, contributing to pay part of the costs related to care and maintenance of newly established forest fragments (surveillance systems, fences, among others).

Technological barriers:

It was demonstrated that there is lack of access to planting materials. The auditors confirmed the reference for the information provided in the PDD (Ref.40, a presentation by the Environmental agency of State of São Paulo) which stated that a major factor that impacts the viability of large scale restoration efforts within the State of São Paulo is the availability of high quality seedlings, with the necessary species diversity. It was informed that the natural occurring seed banks are being depleted due to anthropogenic pressure, and thus, seedlings for many naturally occurring species are not available or hard to find. The information was also corroborated in the article by Melo et al (Ref.31), which states that the deficit of seeds is one of the factors related to this technological barrier. The text also discuss the deficit of financial resources for reforestation projects and lack of studies, as well as the opportunities that carbon credits represent in this sense.

The CDM can be important to overcome these barriers, as it can be an incentive to create market conditions for an increase in seedlings availability (in quantity and diversity required for APP restoration).

Barriers due to ecological conditions:

Exotic grass species such as the African *Brachiaria decumbens* ("braquiária") have significantly impacted the ability of natural regeneration of forest areas within the State of São Paulo. These species also impact agricultural operations. In the case of reforestation projects, resources have to be considered (related to

machinery, man days and/or to chemical control) to control the exotic grass in order to be possible to grow trees in such grasslands. The PDD cited an article by Pivello (2008) which supports this information about barrier due ecological conditions. Copy of the same was provided to DOE and information was confirmed (Ref.32). Although this technical study is published in 2008, it was based on researches performed in 1990's. It was also observed on-site (during the site visit) that no natural regeneration of trees is found in the areas covered by "braquiária".

The CDM revenues can alleviate this barrier, covering part of the costs related to care and maintenance of newly established forest fragments.

It is important to note that the project has no economical objective; the trees to be planted are for conservation purposes only.

Barriers due Prevailing Practice:

The project activity is considered as the "first of its kind", as that no project activity of this type (in the areas controlled by hydro-power companies) and of the same scale is currently operational in Brazil. To evidence this barrier, the PP provided the minutes of meetings conducted by ABRAGE (Brazilian Association of Electric Energy Generators) on 26 March, 2009 (Ref. 20). ABRAGE is a non-profit association with participation of the largest power generation companies operating in Brazil. It counts with 13 members, as AES Tietê, Cemig, Furnas and Light, among others. They operate mainly hydro power plants. The members represent, together, 64,095 MW of the installed capacity of Brazilian grid (the total installed capacity of interconnected grid is 92,303 MW, considering 50% of ItaipuHydro Power Plant). From this data, it can be demonstrated the relevance of ABRAGE and that it is a representative entity to provide information about the prevailing practice in the hydro power sector in Brazil.

Refer also to CL#11 and to section 4.6.6 of this report for the discussion of common practice analysis.

It was mentioned that there are initiatives in minor scale that aim to recover the original forest vegetation within the State of São Paulo, but these are occurring outside of the areas around reservoirs controlled by the hydro-power companies and can not be compared with the project activity.

Sub-step 3 b. Show that the identified barriers would not prevent the implementation of at least one of the alternative land use scenarios (except the proposed project activity):

- The "Institutional barriers" do not prevent the continuation of the current land use as unmanaged grassland. As discussed in step 3 (a), the lack of enforcement of legislation in preservation areas contributes to no restoration activities be implemented.
- The same for "Technological barriers" and "Barriers due to ecological conditions". The unavailability of seeds and seedlings of native trees in the quantity and diversity required for reforestation projects does not prevent the continuation of the identified baseline scenario. The presence of exotic grass that represents an ecological barrier for restoration of areas around reservoirs is also a factor to reinforce the continuation of the current land use as unmanaged grassland.

As result of Step 3, it is concluded that these barriers prevent the establishment of forest on unmanaged grassland at a mean annual non-CDM proportional forestry rate and the proposed project activity not undertaken as A/R CDM project activity, but do not prevent the continuation of the current land use as unmanaged grassland.

So, the selected baseline scenario is the continuation of the current land use as unmanaged grassland.

4.6.6 Common Practice Analysis

In the PDD version 1, page 26, it was mentioned that "The project activity is the "first of its kind" given that no project activity of this type and scale is currently operational in the host country. A letter forwarded by ABRAGE confirms this statement". During the validation process, CL# 11 was raised asking for documented evidence which supports the statement that the project activity is "first of kind".

As response to CL#11, the following documents were provided by the PP to the validation team:

- Minutes of 35^a Extraordinary General Assembly of ABRAGE, on 26/03/2009 (included in Ref.20);
- Minutes of 10^a Ordinary General Assembly of ABRAGE, on 26/03/2009 (included in Ref.20);
- Minutes of Plenary Meeting of ABRAGE DE 26/03/2009 (included in Ref.20);
- Attendance list of participants of the meetings of ABRAGE (Ref.21).

These documents support the information provided in the PDD regarding the ABRAGE (Brazilian Association of Electric Energy Generators) meeting, carried out on 26/03/2009. It is mentioned in the document Minutes of Plenary Meeting of ABRAGE that a consultation was performed with ABRAGE associates about projects similar to AES Tietê project activity. The companies participating in this meeting (representatives of the most important and biggest hydroelectricity companies of Brazil) informed that currently there is no similar project in the country, considering the scale of the project of AES Tietê. Considering that ABRAGE is a formal association which represents the power companies in Brazil (with 13 members, that represents the most important hydro power plants in Brazil), its statement accepted as evidence of first of kind and CL# 11 was closed out.

It was also confirmed the information from the article by Melo et al , 2001(Ref. 31), mentioned in the PDD. This article, a collaboration work of different departments within the Environmental Secretariat of São Paulo, was verified and it states that from a sample of 98 reforestation projects with native species, throughout different biomes in the State of São Paulo, the main motivation for restoration activities has been related to a regulatory obligation (mainly due to Environmental Licensing, due to Environmental Certification and due a result of public prosecution). The figures mentioned in the PDD and referenced as from the “Projeto de Recuperação de Matas Ciliares” are also available in the web. They have been verified by the validation team on the following pages: http://www.paginarural.com.br/noticias_detalhes.php?id=86482 and <http://www.ecodebate.com.br/index.php/2008/09/24/sao-paulo-programa-de-recuperacao-de-matasciliares-recebe-pouca-adesao-dos-proprietarios-rurais/>.

Considering the references provided and confirmed, it was concluded that the project activity is not common practice and hence, it is additional.

4.7 Application of Baseline Methodology and Calculation of Emission Factors

The methodology applied is: AR-AM0010: “*Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas*” (version 4). In the UNFCCC CDM website, there are a number of methodological tools references in AR-AM0010, but they are not applicable to the project activity (refer also to CL#5, CL#6 and CL#8).

The *ex ante* actual net GHG removals by sinks are the sum of the verifiable changes in carbon stocks in the carbon pools within the project boundary, minus the increase in GHG emissions—measured in CO₂ equivalents—by sources within the project boundary and attributable to the A/R CDM project activity.

Baseline removals by sinks within the project boundary are calculated for woody species only (i.e. shrubs and trees), as the biomass of herbaceous species is considered to be at steady-state under an applicability condition of the methodology.

The methodology also accounts for A/R in the baseline scenario as those lands that would have been in the project area becoming gradually afforested or reforested, at a rate equal to the non-CDM baseline proportional forestry rate. To ensure a conservative approach, it is estimated based on the non-CDM baseline forestry stratum analysis as the greater of: The annual average area of forest planting in the non-CDM baseline forestry stratum, divided by the stratum area or; the average annual rate of forest planting by project proponents in the non-CDM baseline forestry stratum, divided by the proposed project area. The PP considered the average annual rate of forest planting by them in the non-CDM baseline forestry stratum equal to 115.0 ha/year (due legal condition of the Operation License issued for hydro-power plant Água Vermelha). This rate divided by the proposed project area (i.e. 20 * 13,933 ha = 278,780 ha) results in a rate on the order of 0.04%.

The complete model for calculation the GHG removals were provided by the PP to the validation team (TARAM, Ref.2). Assumptions, formulae and input data were verified to check consistency with the methodology and with the information provided in the PDD and were found to be correct. Refer to CL#15 about project area.

The values and sources mentioned in table 6 of the PDD were verified (Parameters for Estimation of the *ex ante* Actual Net GHG Removals by Sinks).

The parameters related to the above-ground biomass and wood density (varying from 0.6 to 1.0 tdm/m³) was developed by ESALQ. They were discussed with the ESALQ expert during the site visit and also checked in the document: “*Análise ecológica, dendrométrica e do uso potencial de espécies arbóreas nativas em plantios consorciados visando o seqüestro de carbono* – December 2006 (Ref.35).

Factors of IPCC 2006 mentioned in the PDD were confirmed. They are related to: Carbon fraction (47%), Root to shoot ratio (0.24) and Biomass expansion factor (2.0 – 1.5 – 1.2).

The planting density (2000 trees/ha) is defined in the reforestation projects.

The following issues were raised during the validation:

CL# 6 was raised asking explanation about the calculation of total estimated amount of fuel consumption for equipment of 122 l/ha of reforested area and to provide details of measurement and calculation, if applicable.

As response to CL#6, the PP mentioned that as per the decision of EB 44 paragraph 37, the Board agreed that GHG emissions as fossil fuel combustion in A/R CDM project activities are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity.

The evidence may be found at the UNFCCC CDM website using the following link: <http://cdm.unfccc.int/EB/044/eb44rep.pdf>. The text for paragraph 37 and 38 is provided below:

37. The Board agreed that the GHG emissions from the following sources related to A/R CDM project activities:

- (a) Fossil fuel combustion in A/R CDM project activities;*
- (b) Collection of wood from non-renewable sources to be used for fencing of the project area; and*
- (c) Nitrous oxide (N₂O) emissions from decomposition of litter and fine roots from N-fixing trees are insignificant in A/R CDM project activities and may therefore be neglected in A/R baseline and monitoring methodologies.*

38. The Board further agreed to request the secretariat to prepare draft revisions to those approved A/R CDM baseline and monitoring methodologies affected by the above guidance, and also in doing so to make the methodologies consistent with each other, especially if they differ in approaches applied for similar issues, for consideration by the A/R WG and thereafter recommendation to the Board for approval.

Section D.1 of the PDD was changed to reflect this explanation.

According to section III (Principles for Validation and Verification) of the VVM Version 01, "The principle of consistency shall not prevent a DOE from applying the most recent decisions and guidance provided by the CDM Executive Board" so it is deemed correct. CL # 6 was closed out. It is important to note that version 4 of AR-AM0010 (applied in the final version of the PDD) does not require taking into account GHG emissions from fossil fuel combustions in A/R CDM project activities.

CL#13: It was observed that two different values are mentioned in the PDD for the parameter "carbon fraction". In the PDD, table 6, the value informed for the parameter "Carbon fraction" is 47%.

In discussion with the PP, he informed that the value used for the parameter Carbon Fraction (CF) was the default value of 0.47 from Table 4.3, Volume 4 of IPCC 2006 ("Carbon fraction of above ground forest biomass"). It is also confirmed that TARAM considers the CF = 47%.

In page 39 of the PDD, the value mentioned for the parameter "CF – average carbon fraction of above-ground biomass" is 50% (informed as IPCC (year??) default value). It was also verified that CF = 50% is the value mentioned in the methodology (refer to pages 41, 42 and 61 of AR-AM0010, CF = average carbon fraction of above ground biomass is mentioned as 0,5 – IPCC value). It should be clarified:

- if these parameters named as CF in the PDD (table 6 and in page 39) are the same or not;
- if are not the same, explained what each one cover (e.g. only main stem or all parts of the tree);
- if the same, what should be the correct value applied to be in compliance with the methodology.

To clarified CL#13, the PP responded that the parameters mentioned in the PDD as "CF" (table 6 and page 39) are the same. The value adopted in the PDD is that provided in Vol. 4, IPCC 2006, table 4.3 (default value of 0.47). Value of table E.4.1 of the PDD was revised to reflect the value of 0.47. It is known that the methodology provided CF as 50%, but the value applied in the project reflects the most recent value available from IPCC. The revised PDD is provided and the default value of 0.47 for CF is now consistent along the PDD. It is accepted to use the most recent value provided by IPCC, which is also conservative. CL #13 was closed out.

CL#14: The PDD version 2 provided a revised estimation for GHG removals by sinks (refer to table of page 17). The revised calculations (TARAM spreadsheets with revised values) have not been presented to DOE. As response to CL#14, a new version of TARAM was provided to SGS on 30/04/2009 (Ref.2). The values and assumptions of revised version of TARAM were checked to confirm consistency with the PDD. The revised version of TARAM is consistent with the revised version of PDD. Confirmed main assumptions, default values

and the calculation of estimated amount of net anthropogenic GHG removals by sinks (confirmed data provided in the summary table of the PDD, page 17). CL# 14 was closed out.

Regarding leakage emissions, no leakage has to be taken into account as per the methodology.

4.8 Application of Monitoring Methodology and Monitoring Plan

The monitoring plan was found in compliance with AR-AM0010 and with the methodological tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version 1, available at time of validation).

The monitoring plan is detailed in the PDD Annex 4 and covers:

- Monitoring the overall performance of the proposed A/R CDM project activity;
- Sources of variability and stratification for aboveground biomass pools;
- Monitoring the actual net GHG removals by sinks data.

Monitoring of leakage, Monitoring of social economy of stakeholders and monitoring of environmental impacts were not required.

The University of São Paulo (ESALQ - Escola Superior de Agricultura Luiz de Queiroz) team of experts and students will be responsible for applying the monitoring plan in partnership with AES Tietê. Monitoring data for actual GHG removals by sinks will be compiled by the University team. There is a contract between AES and the University for monitoring activities of the project. The document: Contract nº 4610000239 with FEALQ – dated on 01/09/2008 was verified (nº 4610000239 –FEALQ-2008). The scope of the contract is "Guidance for forest restoration and carbons stock quantification in AES Tietê" (Ref. 12).

AES Tietê Department of Environment (São Paulo) will be responsible for the project management, review of data and reporting.

Hydro-power plant Promissão Department of Environment) with headquarters in Promissão, will be responsible for coordinating field activities and seedlings supply.

The manual of procedures prepared for University of São Paulo for measurement of permanent plots was provided (Ref.14 - "Protocolo mensuração de parcelas 29_01_2009"). The expert from university interviewed during the site visit stated that current plot size is 450m² and in future plots to be installed size will be 400 m². Other details about measurements were confirmed with the expert, as measurement of dendrometric parameters and measurement of natural regeneration. It was confirmed on-site that plots are geo-referenced, as verified during the site visit in the reservoirs of Água Vermelha and Promissão.

Quality assurance and quality control (QA/QC) procedure are described in the Annex 4 of the PDD and will be implemented. It is defined re-measurements to check quality of field data collection and verification of data entry and analysis by an independent expert team and comparison with independent data to ensure that the data are realistic.

A list of equipment used in forestry inventories and calibration procedures for measurement accuracy and procedures for the maintenance of equipment used in vegetation measurement were mentioned in the PDD.

The PP will prepare other specific procedures to support the project implementation and monitoring activities, including training of personnel.

CL #7 was raised asking the PP to clarify if the biomass below-ground will be directly measured or will be estimated. It is not clear in some sections of the PDD. Annex 4 (Monitoring Plan) in subsection 4b) mentions the following for below-ground biomass *"Because collection of samples for estimating root biomass is expensive and time consuming, data on belowground biomass would be collected from the local forestry inventory data and Good Practice Guidance on land Use, Land Use Change and Forestry (IPCC 2004) and published literature. Field sampling would be conducted on selective basis to verify the reported data"*.

Thus, data would be collected from secondary sources in order to calculate the biomass below-ground. It is a variable that will be calculated, not directly measured or estimated.

As per the methodology, the belowground biomass should be estimated. So, it should be explained how the procedure included in Annex 4 is in compliance with the methodology (*"data on belowground biomass would be*

collected from the local forestry inventory data and Good Practice Guidance on land Use, Land Use Change and Forestry (IPCC 2004) and published literature”.

The text is still dubious when say “collected”. It should be explained exactly how the biomass will be estimated.

As response to CL#7, the text was revised in Annex 4 of the PDD to indicate that the biomass belowground will be estimated, as defined by the methodology. Information was found to be correct and CL# 7 was closed out.

4.9 Environmental Impacts

The environmental licenses of the hydro-power plants included in the project boundary and relevant communication between the PP and environmental agencies were verified to check compliance of project to legal requirements (Ref.7, 8, 10). They were found to be valid at time of the site visit.

The company responsible for seedlings production (project supplier) is formally registered in the state agency (register nº SP 7093P do Centro de defesa sanitária vegetal – Secretaria de agricultura e abastecimento, dated 05/06/2002; and nº SP 12569, dated 10/12/2001). It was also verified that the nursery of AES Tietê (located in Promissão) has a valid register certificate (nº SP 7093P/LN1, dated 15/05/2002).

No adverse impacts are expected from the project activity. As per information provided during the validation, the environmental law does not require a specific license for planting in APP (preservation areas). Recently, there is a requirement related to the notification about restoration of APP (CPRN 02, 29/01/2008).

AES presented a letter sent to environmental agency on 17/02/2009 notifying about the restoration of 13.939 ha around the reservoirs of AES hydro plants (included in Ref.8).

Regarding the areas in Minas Gerais state, refer to CL#4.

CL #4: It is informed in the PDD that pesticides can be used (control of ants and herbicides). It should be clarified if the use of such chemical products in APP (“Área de preservação permanente”) is acceptable and in compliance with the legal requirements. It is not clear if it required an authorization from environmental agencies for interventions in APP.

According to legal document “Portaria CPRN 02, de 29 de Janeiro de 2008” environmental restoration activities in APPs have to be communicated to the State of São Paulo Environment Secretary, including activities related to the application of chemical products such as pesticides. This application is acceptable, and only requires a formal communication to the State of São Paulo Environment Secretary. For the State of Minas Gerais, there is no formal requirement of communication and/or authorization required by IEF.

The PP provided legal document “Portaria CPRN 02, de 29 de Janeiro de 2008” (included in Ref.7) and the communication forwarded to the State of São Paulo Environment Secretary (included in Ref.8).

Verified copy of the e-mail sent by the representative of regional IEF office (regional Triângulo, dated 28/03/2009, Ref.38). Attached to this message, the IEF representative sent copy of the Minas Gerais State Forest Law (Lei Florestal Estadual - MG) and resolução CONAMA 369 (clause 6 informs that “the planting of native species for restoration of permanent preservation areas does not depend on the authorization from governmental agencies, since the applicable agreements and technical standards and rules are respected).

CL #4 was closed out. The verified documents (legal requirements applicable in São Paulo and Minas Gerais states) evidenced that no specific authorization is required by the environmental agencies for performing the planting of native trees in the APP.

4.10 Local Stakeholder Comments

According to the PP, there were a total of 342 invitations sent out (Ref.17). The list of the invited stakeholders in the PDD was checked by sample. The ARs for the following stakeholders were evidenced during the site visit: Town hall for Anhembi; Comercial and Industrial Association for Bariri; Movement of Ecological Support in Barra Bonita (or ‘Movimento de Amparo Ecológico’ - MAE Natureza); Comercial and Industrial Association for Borborema; SOS Cuesta de Botucatu; Municipal Chamber of Cardoso; Comercial and Industrial Association for Guaranésia; Municipal Chamber of Iacanga; Municipal Directory of Agriculture and Environment for Iacanga; Municipal Chamber for Ibitinga; Municipal Chamber for Icem; Municipal Chamber for Indaporã; Municipal Secretariat of the Environment for Itapira; Town Hall of Jaú; Biodiversitê (Organisation for the Protection of the Environment of the Lower Tietê); Town Hall for Macatuba; Town Hall for Macedônia; Directory of Agriculture and

Environment for Novo Horizonte; Municipal Secretariat of the Environment for Paulo Faria; Town Hall for Pedranópolis; Town Hall for Pongaí; Municipal Chamber for Pontes Gestal; Municipal Secretariat of the Environment for Santa Maria da Serra; Municipal Chamber for São Francisco de Sales; Comercial and Industrial Association for São Manuel; Municipal Chamber for Turiúba; Agricultural House of Uru and Commercial and Industrial Association of Urupês (ACIUR). Refer to CAR 12 for stakeholders not included in the consultation.

The ARs checked were dated September 2008 so that the requirement of resolution 7 of the Brazilian DNA that says that the invitations for comments should be sent 15 days before the beginning of the validation process has been met.

CAR#12 was raised as during the site visit, it was verified that there was not evidence that all relevant local stakeholders were contacted, as required by “Resolução nº 7” of Brazilian DNA. Copies of missing ARs should be provided. In addition, in the PDD version 2, Annex 10, the São Paulo State Government and Minas Gerais State Government are not listed as state entities consulted (they are required to be consulted by Resolução nº7).

As response to CAR #12, the State Governments of São Paulo and Minas Gerais have now been added to the PDD version 2 (22nd April 2009). The missing ARs (receipts of mailing) or Federal and State institutions listed in the PDD were evidenced by the validation team in the visit carried out on the 30th of April 2009 in AES Tietê office in São Paulo. CAR# 12 was closed out.

An example of a letter sent to the stakeholders was verified (Ref.16). It was confirmed that requirements of resolution 7 of the Brazilian DNA with regards to the contents of the letter sent were met. It was also verified the comments received from the local stakeholders and the PP responses (Ref.15).

5. Comments by Parties, Stakeholders and NGOs

In accordance with sub-paragraphs 40 (b) and (c) of the CDM modalities and procedures, the project design document of a proposed CDM project activity shall be made publicly available and the DOE shall invite comments on the validation requirements from Parties, stakeholders and UNFCCC accredited non-governmental organizations and make them publicly available. This chapter describes this process for this project.

5.1 Description of how and when the PDD was made publicly available

The Project Design Document for this project was made available on the UNFCCC website (<http://cdm.unfccc.int/Projects/Validation/DB/KZYUMAUTQ6A1ZFQD81Q7N53T55J6Z9/view.html>) and was open for comments from 22/01/2009 until 07/03/2009 Comments were invited through the UNFCCC CDM homepage.

5.2 Compilation of all comments received

Comment Number	Date Received	Submitter	Comment
1	27/02/2009	Keshav C. Das	In section A 5.4 it is stated that chemical fertilizers are being applied; however, the type of chemical fertilizers and its quantities, as well as its frequency have not been stated in the PDD. On the other hand, we feel a scope of methane emission from the rice straw too. Same is the probability while preparing a 0.04 X 0.04 X 0.04 meters pits. In these circumstances, claim made in section A.5.5 that "there are no potential leakage emissions attributable to the proposed A/R project activity needs to be revisited. In section A.8 of the PDD it is stated the project activity would consider t-CERs, where as in section B.3.2, the PDD said that the length of fixed crediting period is 30 years. Both these statements are contradictory in nature, as 5/CMP.1, Annex, paragraph 1: states that "Temporary CER' or "t-CER" is a CER issued to project participants in an afforestation or reforestation project activity under the CDM which, subject to the provisions of section K below, expires at the end of the commitment period following the one which they are issued (5/CMP.1, Annex, paragraph 1(g)). Therefore, t-CERs differ from long term certified emissions reductions (ICERs) in that tCERs expire at the end of the commitment period in which they were issued, while ICERs expire at the end of the crediting period of the project. This also presents us a scenario where the project proponent must make it clear that when the baseline will be re-estimated by considering the temporary crediting

Comment Number	Date Received	Submitter	Comment
			period.

5.3 Explanation of how comments have been taken into account

Comment 1(a): In section A 5.4 it is stated that chemical fertilizers are being applied; however, the type of chemical fertilizers and its quantities, as well as its frequency have not been stated in the PDD. On the other hand, we feel a scope of methane emission from the rice straw too. Same is the probability while preparing a 0.04 X 0.04 X 0.04 meters pits. In these circumstances, claim made in section A.5.5 that “there are no potential leakage emissions attributable to the proposed A/R project activity needs to be revisited.

Response: Chemical fertilizers are mentioned in Section A.5.4 under the sub-heading “Seedlings development”. Thus, it is related to seedlings growth at nursery. The same is related to the carbonized rice straw. It is important to clarify that emissions from the application of fertilizers can be neglected. As per the decision of EB 42 paragraph 35, the Board agreed that GHG emissions fertilizer application in A/R CDM project activities are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity. The evidence may be found at the UNFCCC CDM website using the following link: <http://cdm.unfccc.int/EB/042/eb42rep.pdf>. The text for paragraph 35 is provided below:

35. The Board clarified the guidance on accounting GHG emissions in A/R CDM project activities from the following sources: (i) fertilizer application, (ii) removal of herbaceous vegetation, and (iii) transportation; and agreed that emissions from these sources may be considered as insignificant and hence can be neglected in A/R baseline and monitoring methodologies and tools.

Methane emissions related to the rice straw (used in the nursery as part of the seedling substract) is considered as insignificant and can be also neglected in the monitoring and leakage emissions calculation.

Comment 1 (b): In section A.8 of the PDD it is stated the project activity would consider t-CERs, where as in section B.3.2, the PDD said that the length of fixed crediting period is 30 years. Both these statements are contradictory in nature, as 5/CMP.1, Annex, paragraph 1: states that “Temporary CER’ or “t-CER” is a CER issued to project participants in an afforestation or reforestation project activity under the CDM which, subject to the provisions of section K below, expires at the end of the commitment period following the one which they are issued (5/CMP.1, Annex, paragraph 1(g)). Therefore, t-CERs differ from long term certified emissions reductions (ICERs) in that tCERs expire at the end of the commitment period in which they where issued, while ICERs expire at the end of the crediting period of the project. This also presents us a scenario where the project proponent must make it clear that when the baseline will be re-estimated by considering the temporary crediting period

Response: It is not clear the comment about the approach to consider non-permanence and the choice of the crediting period described in the PDD. It is considered that one thing is not really dependent on the other. The PP selected the period of 30 years considering a concession, which includes the areas to be reforested, has a duration of 30 (thirty) years, starting in 1999 and terminating in 2029. The legal foundation of the concession allows AES-Tietê to renew it for an equal period of 30 (thirty) years through a legal decree and approval by the Brazilian Electrical Energy Agency (ANEEL). Given this, AES Tietê considers a fixed period of 30 (thirty) years for the crediting period as applicable choice, so no baseline will be re—estimated during this period.

6. List of Persons Interviewed

Date	Name	Position	Short Description of Subject Discussed
02/03/09	Samy Hotimsky	AES Tietê Carbon Credits Specialist	PDD and project implementation.
02/03/09	Clauber Leite	AES Tietê Environmental Engineer	Local stakeholder consultation and current legislation applicable to project.
02/03/09	Saima Qadir	Carbon Finance Deal Manager for the World Bank	World bank involvement.
02/03/09	Maurício Meira Braga	Geoconsult Consultant	Eligibility study, assessment and certification of the land areas for afforestation and reforestation in the sphere of the Clean Development Mechanism, according to the UNFCCC eligibility criteria.
03/03/09	José Luiz Simionato	Environmental Manager	Nursery and forest management.
03/03/09	Eduardo Gusson	Guest Researcher for ESALQ – FEALQ	Estimates of GHG removals by sinks (i.e. quantification of biomass) and technical field aspects of the project.

7. Document References

Category 1 Documents (documents provided by the Client that relate directly to the GHG components of the project, (i.e. the CDM Project Design Document, confirmation by the host Party on contribution to sustainable development and written approval of voluntary participation from the designated national authority):

- /1a/ AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil - PDD version 1, 05/01/2009 (global stakeholder consultation)
- /1b/ AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil - PDD version 2, 22/04/2009
- /1c/ AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil - PDD version 3, 19/10/2009
- /2/ ER model_spreadsheet (TARAM V1.3_RAHR_BRAZIL_02102009.zip)
- /3/ LoA from Brazil (issued on 14/07/2010)
- /4/ LoA from Canada (issued on 26/03/2009)

Category 2 Documents (background documents used to check project assumptions and confirm the validity of information given in the Category 1 documents and in validation interviews):

- /5/ Eligibility study by Geoconsult – report June 2008
- /6/ Detailed coordinates of areas
- /7/ Relevant legal requirements
- /8/ Communication with environmental agency
- /9/ Concession document - December 1999
- /10/ Environmental licenses of hydro-power plants
- /11/ Privatization announcement - September 1999
- /12/ Contract with ESALQ
- /13/ Volume projected - study October 2008
- /14/ Protocol for plots measurement 29_01_2009
- /15/ Comments and responses to local stakeholders
- /16/ Letter sent to local stakeholder
- /17/ List of stakeholders contacted
- /18/ Presentation about eligibility study (presented during the site visit)
- /19/ Contract with outsourcer 15_12_2000 (project start date)
- /20/ Minutes of Abrage meetings 26_03_2009.
- /21/ Attendance list of Abrage meeting.pdf
- /22/ Contract with Geoconsult 2005
- /23/ List of species _ Promissão nursery
- /24/ Article related to common practice analysis
- /25/ Report Mbaracayu_August 2001
- /26/ Declaration from Brazilian DNA
- /27/ Dossiê - Bananal Island Carbon Sequestration Project Phase II (BICPSP II)
- /28/ Contract with FATO consultant 2005
- /29/ Endangered species list MME 2008
- /30/ Letter of Intent World Bank _March 1st 2007
- /31/ Article: Melo, A. C. G *et al.*, Diagnóstico da recuperação de áreas degradadas no Estado de São Paulo: diretrizes e recomendações. In: V Simpósio Nacional sobre Recuperação de Áreas Degradadas: Água e Biodiversidade - Trabalhos Voluntários, 2002, Belo Horizonte. v. I. p. 469-471.
- /32/ Article: Pivello, V.R. Invasões Biológicas no Cerrado Brasileiro: Efeitos da Introdução de Espécies Exóticas sobre a Biodiversidade. ECOLOGIA INFO 33. 2008.
- /33/ Article: Tabarelli, M. *et al.*, Desafios e oportunidades para a conservação da biodiversidade na Mata Atlântica brasileira. Megadiversidade, volume 1, nº 1. 2005.
- /34/ Hydrology study
- /35/ Study of native plantations for carbon sequestration 2006
- /36/ Contract with surveillance company

- /37/ Surveillance reports
- /38/ Message from IEF about activities in APP.
- /39/ Lists of endangered Fauna Sao Paulo
- /40/ Presentation by the Environmental agency of State of São Paulo- 2008
- /41/ Article: Galindo-Leal, C.; Câmara, I.G. Mata Atlântica: Biodiversidade, Ameaças, e Perspectivas. Fundação SOS Mata Atlântica e Conservação Internacional., 2005.
- /42/ Contract between AES Tietê and consultant NRG Ltda (for carbon removals projects), 01/04/2004.

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A.1 Annex 1: Local Assessment

This checklist is designed to provide confirmation of in-country data and information provided in the Project Design Document for AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil

It serves as a “**reality check**” on the project that is completed by a local assessor from SGS Brazil.

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
1) Confirm areas included in the project (data provided in the table 1 of the PDD, page 3) and project location (municipalities and coordinates, as listed in PDD, section A.4). Provide evidences and sources of information.	<p>Presentation by Geoconsult showing the new register of AES land use and occupation. Report of June 2008 was provided (Ref.5).</p> <p>According to the consultant, IBGE topographic maps were used for planimetric information and superimposed with Landsat and Quickbird images for geo-referencing on Erdas Image software. With this the border areas of the project were delimited. IBGE and RADAMBRASIL Project thematic maps were used for phyto-physiognomy, stratification and density. This was also aided by GPS aided topographic field surveys. The work of Geoconsult was supported on-site by the company Paladini.</p> <p>Sampling was carried out from different geographical coordinates of the areas belonging to Agua Vermelha reservoir (situated on Rio Grande River Basin, to the West of the State of Minas Gerais and to the Northeast of the State of São Paulo) and Euclides Cunha reservoir (in Rio Pardo, São Paulo State).</p> <p>In the sample taken, the location of the areas along the reservoirs and their classification into eligible and non-eligible areas were observed.</p>	Interviews with consultant and AES Tietê staff; review of documents, satellite images and maps.	Ok
2) Confirm the references used as source of information for the project description (section A.5.1 of the PDD).	<p>- The names of the UHEs and the installed capacities were checked in the “Contrato de Concessão” (Ref.9) provided by the PP and also found at http://www.aneel.gov.br/aplicacoes/Contrato/Documentos_Aplicacao</p>	Review of documents	CL#9: Some references were not evidenced during site visit either because the internet connection was not

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
Are they appropriate for the project activity?	<p>/CG9992TIETE.pdf.</p> <ul style="list-style-type: none"> - The PP stated in the PDD that “AES Tietê acquired the rights to develop the hydrological potential of these plants and generate electricity, according to the conditions set forth by the privatization bid document N°SF/002/99 organized by the State Government of São Paulo in September 1999” (Ref.11). The PP provided section 4.3 of the privatisation bid document to the validator (pages 28 to 34). This section talks about the obligations of those who acquire the shares of Tietê (Ref. Edital N°SF/002/99 (Privatisation Bid Document section 4.3).- file Edital de Privatização.pdf) - The National Forest Code (Law N°4.771/1965), the Resolution 4/1985 and Resolution 302/2002 were examined and text in the PDD concurs with these. Article 5 of the Resolution 302/2002 states that for enterprises which are object of the process of became private, until the date of publication of the Resolution, the environmental requirements at the time of privatization are applied, including the minimum one hundred meters of areas of permanent preservation 		<p>available at the time, or web-pages were inaccessible or because the PP did not have the references at the site.</p> <p>CL#9</p> <p>Ok</p>
	<p>CL#9: Some references were not evidenced during site visit either because the internet connection was not available at the time, or web-pages were inaccessible or because the PP did not have the references at the site.</p> <p>To address CL#9, the PP provided complementary documents and sources of the data mentioned in the PDD. All documents mentioned below were checked by the auditors:</p> <ul style="list-style-type: none"> - The abstract of the article “Soil seed banks in tropical forest fragments with different disturbance histories in southeastern Brazil” by Martins and Engel, 2007, which showed that despite higher seed density and diversity in the soil of a disturbed forest fragment, the pioneer species were better represented in the soil of a less disturbed forest fragment. They go on to say that regeneration 		

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	<p>potential is higher at the less disturbed site and that low richness and density of pioneer tree species indicate that the ecosystems has lost its resilience.</p> <ul style="list-style-type: none"> - Copies of the environmental requirements and communication between AES Tietê and the environmental agencies were provided (Ref.8). - reference EMBRAPA (1992): data of climate was (monthly average temperature and precipitation) was crosschecked with climate data for the city of São José do Rio Preto on Wikipedia (www.wikipedia.org – last accessed on 23/03/2009) and data is comparatively similar. 		
	<ul style="list-style-type: none"> - reference Rankin-Merona and Ackerly, 1987 and reference Tabarelli et al. 2005 (ref.33): they were cited in the PDD in the context that the remaining forest fragments do not guarantee the conservation of the original ecosystem. Apart from the common knowledge of edge effects on forest fragments, both references were checked and information concurs. - reference PERH 2004-2007 (Plano Estadual de Recursos Hídricos 2004/2007, Ref.34) and reference Mortatti et al. 2004: were used in the description of the Hydrology. The references were provided by the PP, information was checked and it concurs with information in the PDD. - reference MRS, 2008: this document was also used in the description of the Hydrology of the area; it was listed in the reference list presented to the DOE as “Plano Ambiental de Conservação e Uso do Entorno do Reservatório da UHE Água Vermelha. 2008” (Environmental Plan for the Conservation and Use of the Areas Around Agua Vermelha Reservoir, 2008). This reference was used in page 10 of the PDD as the source of the value for the area of the sub-basin Turvo.Grande (15,975Km2). A 		

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	<p>similar value of 15,925 Km² was however found in the Reference PERH 2004-2007.</p> <p>reference IPT, 2003: This is the “Plano de Bacia da Unidade de Gerenciamento de Recursos Hídricos do Rio Pardo” (or Management Plan for the Hydrological Resources of Pardo River) carried out by CPTI (Cooperativa de Serviços e Pesquisas Tecnológicas e Industriais) in collaboration with IPT (Instituto de Pesquisas Tecnológicas do Estado de São Paulo – Institute for Technological Research of the State of São Paulo).</p>		
	<ul style="list-style-type: none"> - reference “The Pardo River Basin Plan”: this was accessed and information in the PDD found to be correct. This is actually the same as reference above (IPT, 2003). - for the statement that the State Secretary for the Environment of São Paulo released a list of threatened animal species and this includes 436 species and subspecies of vertebrates (17% of the known taxonomy) mainly within the Atlantic Forest biome. However, this statement is well publicised throughout the web and the “Planeta Sustentável” page published by the editing company Abril (http://planeta.sustentavel.abril.com.br/noticia/ambiente/conteudo_348942.shtml last accessed 24/03/2009), states that the publication is of threatened vertebrate species and subspecies, a total of 436 which add up to 17% of the vertebrates known in the state of São Paulo. The citation as being total threatened species is therefore conservative. (Ref.29 and Ref.39) - reference “Instrução Normativa N°6, de 23 Setembro de 2008” by the Brazilian Ministry of Environment (Ministério do Meio Ambiente). This document contains national instructions to adjust to the International Convention on Biodiversity and to CITES. Annex 1 of this document contains a list of all identified threatened species in 		

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	the country.		
	<p>- reference SMA 48/2004: List of threatened species in São Paulo State.</p> <p>This is a list of the Resolution SMA 48, of the 21st September 2004, available in the web on http://sigam.ambiente.sp.gov.br/Sigam2/legisla%C3%A7%C3%A3o%20ambiental/resolu%C3%A7%C3%A3o%20sma%202004_048.pdf.</p> <p>- reference SMA 47/2003: This resolution describes the requirements for reforestation species to be planted and proportions.</p> <p>- reference SMA 8/2007: This resolution gives further guidance about the species to be used in projects of reforestation.</p> <p>- reference “Viveiro Promissão AES Tietê” (ref.23): This is a list of species which will be used to produce seedlings for the reforested areas in the tree nurseries. They are subdivided into group A (30% of the species to be planted – chosen by ESALQ because of their greater ability for carbon fixation and greater density as well as the fact that they are species which are favored by the environment in the areas they are planted), group B (50% of the species to be planted – chosen by ESALQ due to their good development and carbon capture at the long term) and group C (20% of the species to be planted – chosen by ESALQ to give diversity to the areas planted, they are species important for certain ecological functions).</p>		
	<p>- study “Análise Ecológica, dendrométrica e do uso potencial de espécies arbóreas nativas em plantios consorciados visando o sequestro de carbono or Ecological analysis, dendrometric and of the potential use of tree species in consortium plantations with a focus to carbon sequestration) done by IPEF (Institute for Forest Research and Studies – from the Portuguese “Instituto de Pesquisas</p>		

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	<p>e Estudos Florestais”). (Ref.35)</p> <p>- Reference Galindo Leal and Câmara, 2005 (Ref.41): The chapter sent by the PP from this book describes the efforts of SOS Mata Atlantica and INPE to map and monitor the reminiscent forest patches and also discusses some data on the reminiscent areas, causes for deforestation and the fact that the designation of areas of this biome as important, nationally and internationally, has not hindered deforestation. . It shows the lack of enforcement of forest legislation in protected areas. This in combination with the abstract sent by PP (“Soil seed banks in tropical forest fragments with different disturbance histories in southeastern Brazil” by Martins and Engel, 2007), common knowledge, and the site visit supports the institutional barrier described in the PDD. However, the reference given in that paragraph does not discuss cattle grazing as a pressure factor. On the other hand, Melo et al, 2001 does discuss pasture lands as one of the pressure factors on riparian areas.</p>		
	<p>- Reference “Projeto de recuperação de matas ciliares” is a presentation. The DOE requested the PP to evidence that this presentation is made by the ‘Secretaria do Meio Ambiente’ as stated in the PDD. The PP provided a different reference to evidence the argument that one of the main factors that impact the viability of large scale restoration efforts within the state of São Paulo is the availability of high quality seedlings, with the necessary diversity. The text by Barbosa 2006 makes it clear that the deficit of seeds is one of the factors. The deficit of financial resources for reforestation projects and studies, as well as the opportunities that carbon credits represent in this sense are also discussed in this text.</p> <p>- Reference Pivello, 2008 (ref.32): The reference was presented by the PP. This reference discusses the competitive advantage of species like <i>Brachiaria decumbens</i>. It is a well known fact that this species also invade areas experiencing a high degree of edge effect</p>		

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	<p>and anthropogenic pressure. It was also seen from the site visit that the species is present in the project areas to be planted. There does not seem to be reference to it impacting sugar cane harvesting though.</p> <p>- Reference Melo et al, 2001 (ref.31): This article, a collaboration work of different departments within the Environmental Secretariat of São Paulo, was verified and it does state that from a sample of 98 reforestation projects with native species, throughout different biomes, in the State of São Paulo, 42% was due to Environmental Licensing, 11% due to Environmental Certification, 6% were a result of public prosecution and 6% as a result of coming into line with legislation which adds up to approximately 60% of the cases.</p>		
	<p>The article also identifies three main types of land degradation which occurred before the reforestation projects were introduced: cattle raising, agriculture and mining. The electricity company of São Paulo (CESP) is not amongst these but it is cited as the second main source of seedlings (securing seedlings to 23% of the areas sampled) after the project owners themselves (31% of the cases).</p> <p>The figures relating to the 'Projeto de Recuperação de Matas Ciliares' are also well published in the web. They have been verified by the DOE on the following pages: http://www.paginarural.com.br/noticias_detalhes.php?id=86482 and http://www.ecodebate.com.br/index.php/2008/09/24/sao-paulo-programa-de-recuperacao-de-matasciliares-recebe-pouca-adesao-dos-proprietarios-rurais/</p>		
3) Visit the nursery in UHE Promissão; confirm installed and seedlings production capacity (if consistent with the	The nursery activities are performed by an outsourcer, Eco Consultoria Ambiental e Comércio Ltda. The contract between AES and the outsourcer was verified on-site: scope of "Collection, processing and storage of seeds; production and delivery of	Document review and site visit	Ok

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
demand of the project); confirm if the species mentioned in the PDD have been produced in this nursery. Check records of seedlings production as such: records of purchases or receipt of seeds; records of seedling management (if applicable); records of seedling sales or dispatching to the project areas.	seedlings of native trees (contract dated 02/03/07 and valid for 24 months). The nursery has installed capacity to produce 1.000.000 seedlings. Records of seedlings production and delivery were verified during the site visit, including invoices issued by Eco: NF 00078, date 02/01/2001; NF 0085 (16/01/2001); NF 00152 (30/01/2001); NF 00589 (03/09/2003); NF 00598 (02/09/2004).		
4) Check if there is any specific requirement related to seeds collection and seedling production (as register in the Ministerio da Agricultura and/or state agencies). If so, ask copy of documents and list here any evidence observed on-site.	The company Eco consultoria Ambiental e Comércio Ltda is registered as a seedling producer (nº SP 7093P do Centro de defesa sanitária vegetal – Secretaria de agricultura e abastecimento, dated 05/06/2002) and as a seedling buyer, nº SP 12569 (Centro de defesa sanitária vegetal – Secretaria de agricultura e abastecimento, 10/12/2001). It was also verified the register of the AES Tietê nursery (Certificado de registro de Viveiro de produção de mudas – Empresa AES Tietê S/A, nº SP 7093P/LN1 do Centro de defesa sanitária vegetal – Secretaria de agricultura e abastecimento, dated 15/05/2002).	Document review	Ok
5) In the PDD, page 12, it is informed that if necessary, seedlings can be purchased from certified nurseries. What means “CERTIFIED” in this context? Please ask clarification about. Also ask for a list of nurseries in the region, to assess the	The word “certified” is related to internal inspection performed by AES on its suppliers of seedlings. It was verified the seedlings production plan for year 2009 (900.866) and it will be purchased 660.000 seedlings from the regional nurseries.	Document review and interviews	Ok

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
availability of seedlings for the project (if the own nursery has not the capacity for supplying the project).			
6) Check if the project was submitted and is authorized by environmental agencies (DEPRN and IEF), in particular regarding the intervention in APP (e.g: use of chemical pesticides in APP).	<p>As per information provided by PP, the environmental law does not require a specific license for planting in APP (preservation areas). Recently, there is a requirement related to the notification about restoration of APP (CPRN 02, 29/01/2008).</p> <p>AES presented a letter sent to environmental agency on 17/02/2009 notifying about the restoration of 13.939 ha around the reservoirs of AES hydro plants (Arquivo Word – DGMA – Tietê -073-09 – Glauber).</p> <p>Regarding the areas in Minas Gerais state, no information was provided to auditors, so refer to CL#4.</p>	Document review and interviews with PP.	CL#4 OK
7) Confirm the information provided in the PDD, page 14, section A.6: “ All the riparian areas within the boundaries of the proposed project activity (i.e. the expropriation area) are owned by AES Tietê, according to Concession Contract Number 92/99 – ANEEL, (Contrato de Concessão de Geração Nº 92/99 – ANEEL, Processo Nº 48500.004002/99-77), signed on December 20, 1999”. Ask copy of documented	<p>A pdf version of the contract was provided. The Second Clause of the contract states that the concession is given for a period of 30 years from the date of signature of the contract, and that this can be extended if requested by the concessionary within given deadlines and conditions. The contract presented can be found at the ANEEL website (http://www.aneel.gov.br/aplicacoes/Contrato/Documentos_Aplicacao/CG9992TIETE.pdf).</p> <p>The contract cites all the UHEs cited in the PDD in appendices 1, 2 and 3 of the contract. The contract does not say that AES Tietê owns the riparian areas but does give the company the concession of these areas. Clause VI of the contract lists the duties of the concessionary (the Tietê Electrical Agency Company). Amongst these duties are the one described in paragraph V which requires the concessionary to carry out the management of the reservoirs and the respective areas of protection. The First Sub-clause of</p>	Document review	Ok

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
evidences.	Clause VI, states the proceedings with regards to the use of the reservoirs' "marginal" areas and islands of the reservoirs, including proceedings with regards to registry of land occupation, the elaboration of a management plan for each reservoirs, the celebration of contracts giving right of use of reservoirs' "marginal" areas and islands with third parties. Note that paragraph IX of this sub-clause requires the concessionary to ask ANEEL authorization to make use of the reservoirs' "marginal" areas and islands for different uses of the object of the concession issued.		
8) PDD, section A.7: check the eligibility study (Geoconsult ltd) to confirm: techniques applied, resultant area of 13,944 ha.	Refer to item 1. Area was confirmed and the methods applied by Geoconsult support the results presented for the eligibility of the areas.	Document review and interview	Ok
9) Confirm assumptions, formulae and values used for calculation of the data provided in the table of PDD, page 16.	<p>It was verified the report "Análise ecológica, dendrométrica e do uso potencial de espécies arbóreas nativas em plantios consorciados visando o seqüestro de carbono – December 2006".(ref.35)</p> <p>The inventory was carried out in 2005 in plantations done by CESP; areas planted by AES were also assessed (plantations with 4 and 5 years).</p> <p>All plots have the geographic coordinates registered. The volume equation applied is from Campos et al (2001); refer to ESALQ report, page 19.</p> <p>The value of wood density was from literature (refer to ESALQ report, page 22).</p> <p>The Excel spreadsheet "Rosana- Taquaruçu – Adulto" presents the volume calculated for each tree. It was also presented the study "curva de projeção de estoque de carbono do componente arboreo em reflorestamento ciliares da AES". In this study, there are</p>	Document review and interview	Ok

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	<p>estimates for the carbon stocks in the biomass above and under-ground.</p> <p>The value 0.24 used for estimate the carbon stock in the roots was based on IPCC factor.</p>		
10) Project starting date: confirm evidence that can support the start date of the project as 01/01/2001.	<p>Invoices of the dispatch of native species seedlings from the nursery of Promissão were verified by sampling:</p> <p>Invoice no. 00078 (02/01/2001); Invoice no. 0085 (16/01/2001); Invoice no. 00152 (30/01/2001), referent to the delivery of seedlings for the planting of the margins of the reservoir of the Promissão hydroelectric.</p> <p>Invoice no. 0094 (25/01/2001), delivery of seedlings for the planting of the margins of the reservoir in Limoeiro hydroelectric.</p> <p>Also assessed by samples were the contracts with subcontractors in the scope of: "Implementation and maintenance of the reforestation of riparian areas of the margins of the hydro-electrics (from the Portuguese "Implantação e manutenção de reflorestamento ciliar nas bordas das usinas").</p> <ul style="list-style-type: none"> - Subcontractor: Serflora serviços florestais LTDA – dated 15/12/2000. Area of 79ha in Barra Bonita hydro power plant. (ref.19) - Subcontractor: Castilho Barrichelo Construtora e Empreiteira de mão de obra dated 25/04/2001. Area of 2ha in Limoeiro hydro power plant. - Subcontractor: Sartori Comércio e Paisagismo LTDA – dated 18/12/2000. Area of 37ha in the Ibatinga hydro power plant. <p>Refer to CAR 10 for issues raised related to start date and CDM consideration.</p>	Document review	<p>CAR 10: Additional evidences and clarification should be provided to support the discussion of starting date and Step 0 (Consideration of CDM). It should be justified what is the event that supports the starting date 01/01/2001 and provide any relevant documentation.</p> <p>CAR10</p> <p>Ok</p>

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?															
11) Section C.2: check (by samples) the areas where the project is being implemented. Include in the sample site visits and also document review. Confirm if the information that “areas have no potential to revert to forest without direct human intervention” can be evidenced and validated.	It was confirmed during the site visit (at PP office) that the company has used satellite images from different years and check the field reality using surveys performed on-site by the company Paladini. This is the basis for the land use identification. (ref.5 and Ref.18)	Document review and site visit	Ok															
	In addition, PP has the support of experts from University (ESALQ), who study the regional vegetation and its natural succession process. They have concluded that the natural reversion of pastures and herbaceous status to a forest is not possible, mainly due the lack of natural sources for regeneration of native species.																	
	The following sites were visited to check the land use and areas already planted by AES Tietê:																	
	<table><tr><td>Site</td><td>Coordinates</td><td>Comments</td></tr><tr><td colspan="3">UHE Promissão</td></tr><tr><td>1</td><td>S 21º 17 38' W 049º44 34'</td><td>Planted in year 2001; sugar cane plantation in the neighborhoods.</td></tr><tr><td>2</td><td>S 21º 17 13' W 049º44 49'</td><td>Fixed plot of inventory, planted in year 2001.</td></tr><tr><td>3</td><td>S 21º 16 16' W 049º43 29'</td><td>Observed neighbor area where sugar cane plantation is along the APP.</td></tr></table>			Site	Coordinates	Comments	UHE Promissão			1	S 21º 17 38' W 049º44 34'	Planted in year 2001; sugar cane plantation in the neighborhoods.	2	S 21º 17 13' W 049º44 49'	Fixed plot of inventory, planted in year 2001.	3	S 21º 16 16' W 049º43 29'	Observed neighbor area where sugar cane plantation is along the APP.
	Site			Coordinates	Comments													
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3	S 21º 16 16' W 049º43 29'	Observed neighbor area where sugar cane plantation is along the APP.																
4	S 21º 18 61' W 049º41 70'	Planted in 2002; observed high diversity of tree species planted by AES.																

Issue	Findings				Source/Mean of Verification	Further Action / Clarification / Information Required?
	5	S 21º 17 48' W 049º 37 89'	Area planted in 2002			
	6	S 21º 32 26' W 049º 39 52'	Area planted in 2005			
	UHE Água Vermelha					
	7	S 20º 07 22' W 047º 48 15'	Area planted in 2001			
	8	S 20º 00 00' W 047º 48 75'	Planted in 2004 Neighborhoods occupied by cropping and pasture lands			
	9	S 20º 01 00' W 050º 07 59'	Área to be planted in 2009. Confirmed the herbaceous stratum (baseline).			
	10	S 20º 03 41' W 049º 53 76'	Área to be planted (200 ha); Confirmed the herbaceous stratum (baseline).			
12) Check what are the measures that AES has implemented to protect the project areas from illegal	The PP has presented a contract between AES and the company “Reservat” for the environmental and patrimony inspections around the reservoirs of Barra Bonita, Bariri, Ibitinga, Promissão e Nova Anhandava. This contract is dated 1 st April 2007 and is valid for a				Document review and site visit	Ok

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
harvesting, invasions, fire or other non-authorized activities that can impact the reforestation. Ask for a plan or a programme of protection and also check on-site during the visits.	<p>period of 21 months, to be renewable. The PP has also presented two reports of environmental and patrimony inspections in Agua Vermelha, carried out by the company "Paladini" (both in October 2008).</p> <p>Verified the documents:</p> <ul style="list-style-type: none"> - Reservat contract – files Reservat 1.JPEG to 14.JPEG (ref.36) - Paladini reports – file names IE19-RIPA7867-RobervalFlorindo.pdf and (ref.37) - IE20-RIPA7886-MariaHelenaModePereira.pdf 		
13) Check how it can be evidenced that the amount of nitrogen-fixing species used in the A/R CDM project activity is not significant (so greenhouse gas emissions from denitrification can therefore be neglected).	<p>There is a list of species planted and number of seedlings used (Ref. file Excel "Saídas refl 2000 2007 AES").</p> <p>In the nursery production plan, it was identified 21 species of Leguminosae (Ref. 23) "Viveiro Promissão AES Tiete").</p> <p>It was not provided during the site visit the proportion of area occupied by nitrogen-fixing species. Refer to CL# 5.</p>	Document review	<p>CL#5: Clarify how can be evidenced that the amount of nitrogen-fixing species used in the A/R CDM project activity is not significant (so greenhouse gas emissions from denitrification can therefore be neglected). No details were provided in the PDD to support this applicability criterion of the methodology.</p> <p>CL#5 Ok</p>
14) Confirm the stratification performed to concluded that the unique stratum to be included in the project is	During the site visit, the eligible areas and analysis of the land use were provided in a discussion with the AES Tietê staff and consultants of the project. It was a criterion of the definition of project	Document review and site visits	Ok

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
"Herbaceous vegetation only"	scope to consider only herbaceous vegetation. It was confirmed on-site from satellite images and by visits to a number of samples taken randomly. Only areas covered by herbaceous vegetation were found.		
15) Confirm assumptions and values used to obtain the average annual non-CDM proportional forestry rate, $PFR_{non-CDM}$, on the order of 0.05%	The company has a statement from the State Environmental Secretariat declaring that in the state of São Paulo there is not an expressive indicator of recuperation of riparian forest areas (Annex 9 – PDD). In this way, not having a parameter, the company adopted a value of 0.05% as the area already reforested and that would be discounted from the values of the carbon stock. This value is the result of the 115ha (which is an area of reforestation serving as conditional of the environmental license of the Água Vermelha hydroelectric) over 240,000ha (area of study of AES). Refer also to TARAM data. Where 240,000ha = 12,000 ha (total area of the project) x 20 (mandatory value of methodology).	Document review.	Ok
16) Confirm the references and sources (as calculus memory) related to the costs and investments used in the cash flow presented in the "Simple cost analysis". Compare the values used in the spreadsheet with the references verified on-site. Cross-check values to	This was discussed with PP during the site visit. The "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" Version 2 was checked and Sub-step 1c states that "the baseline methodology that would use this tool shall provide for a stepwise approach justifying the selection and determination of the most plausible scenario" is also instructs the reader to proceed to Step 2 (In analysis) <u>or</u> Step 3 (Barrier analysis), as it is necessary to take at least one of them. PP decided to exclude "Investment analysis" of the PDD and use the	Review of the "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" Version 2 and AR-AM0010 requirements.	To be provide a revised PDD excluding "Investment analysis". Ok

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
validate the investment analysis. (e.g. how the costs mentioned in page 23 of R\$3,000/ha and R\$500/ha were calculated?)	Barrier Analysis to discuss additionality.		
17) Confirm references related to the survey mentioned in the PDD for Common practice analysis. Ask documented evidences.	No evidence provided during site visit. Documented evidence that support the statement that the project activity is "first of kind" should be provided. Refer to CL#11.	Review of documents	CL#11: Documented evidence that support the statement that the project activity is "first of kind" should be provided. CL#11 Ok
18) TARAM model: confirm assumptions, equations, default values, data and calculations.	The complete model was provided by the PP to lead assessor. Assumptions and input data were verified to check consistency with the methodology and with the information provided in the PDD (Ref.2 - TARAM). Refer to CL#15 about project area.	Document and calculation review.	CL#15: The eligible area provide in the PDD is not consistent along the document. It is mentioned as 13,939 ha (page 3) , as 13,944 ha (page 15) and in the model for calculation of GHG removals (TARAM), the area is considered as 13,802 ha. CL#15 Ok
19) The values and sources mentioned in table 6, page 29	The parameters related to the above-ground biomass were developed by ESALQ. They were discussed with the ESALQ expert during the site visit and also checked in the document: Ref.35	Document review and interviews.	CL#13: It was observed that two different values are mentioned in the PDD for

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
of PDD should be confirmed.	<p><i>“Análise ecológica, dendrométrica e do uso potencial de espécies arbóreas nativas em plantios consorciados visando o seqüestro de carbono – December 2006”</i>. PDF file – relatório TNC 2.</p> <p>Factors of IPCC 2006 mentioned in the PDD were confirmed</p>		<p>the parameter “carbon fraction”.</p> <p>In the PDD, table 6, the value informed for the parameter “Carbon fraction” is 47%.</p> <p>In discussion with PP, he informed that the value used for the parameter Carbon Fraction (CF) was the default value of 0,47 from Table 4.3, Volume 4 of IPCC 2006 (“Carbon fraction of above ground forest biomass”).</p> <p>It is also confirmed that TARAM considers the CF = 47%.</p> <p>In page 39 of PDD, the value mentioned for the parameter “<i>CF – average carbon fraction of above-ground biomass</i>” is 50%.</p> <p>It was also verified that CF = 50% is the value mentioned in the methodology.</p>

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?																																								
	<p>Volume 4. Agriculture, Forestry and Other Land Use</p> <table border="1"> <caption>TABLE 4.3 CARBON FRACTION OF ABOVEGROUND FOREST BIOMASS</caption> <thead> <tr> <th>Domain</th><th>Part of tree</th><th>Carbon fraction, (CF) [tonne C (tonne d.m.)⁻¹]</th><th>References</th></tr> </thead> <tbody> <tr> <td>Default value</td><td>All</td><td>0.47</td><td>McGroddy <i>et al.</i>, 2004</td></tr> <tr> <td rowspan="7">Tropical and Subtropical</td><td>All</td><td>0.47 (0.44 - 0.49)</td><td>Andrae and Merlet, 2001; Chambers <i>et al.</i>, 2001; McGroddy <i>et al.</i>, 2004; Lasco and Pulhin, 2003</td></tr> <tr> <td>wood</td><td>0.49</td><td>Feldpausch <i>et al.</i>, 2004</td></tr> <tr> <td>wood, tree d < 10 cm</td><td>0.46</td><td>Hughes <i>et al.</i>, 2000</td></tr> <tr> <td>wood, tree d ≥ 10 cm</td><td>0.49</td><td>Hughes <i>et al.</i>, 2000</td></tr> <tr> <td>foliage</td><td>0.47</td><td>Feldpausch <i>et al.</i>, 2004</td></tr> <tr> <td>foliage, tree d < 10 cm</td><td>0.43</td><td>Hughes <i>et al.</i>, 2000</td></tr> <tr> <td>foliage, tree d ≥ 10 cm</td><td>0.46</td><td>Hughes <i>et al.</i>, 2000</td></tr> <tr> <td rowspan="3">Temperate and Boreal</td><td>All</td><td>0.47 (0.47 - 0.49)</td><td>Andrae and Merlet, 2001; Gayoso <i>et al.</i>, 2002; Matthews, 1993; McGroddy <i>et al.</i>, 2004</td></tr> <tr> <td>broad-leaved</td><td>0.48 (0.46 - 0.50)</td><td>Lamloom and Savidge, 2003</td></tr> <tr> <td>conifers</td><td>0.51 (0.47 - 0.55)</td><td>Lamloom and Savidge, 2003</td></tr> </tbody> </table>	Domain	Part of tree	Carbon fraction, (CF) [tonne C (tonne d.m.) ⁻¹]	References	Default value	All	0.47	McGroddy <i>et al.</i> , 2004	Tropical and Subtropical	All	0.47 (0.44 - 0.49)	Andrae and Merlet, 2001; Chambers <i>et al.</i> , 2001; McGroddy <i>et al.</i> , 2004; Lasco and Pulhin, 2003	wood	0.49	Feldpausch <i>et al.</i> , 2004	wood, tree d < 10 cm	0.46	Hughes <i>et al.</i> , 2000	wood, tree d ≥ 10 cm	0.49	Hughes <i>et al.</i> , 2000	foliage	0.47	Feldpausch <i>et al.</i> , 2004	foliage, tree d < 10 cm	0.43	Hughes <i>et al.</i> , 2000	foliage, tree d ≥ 10 cm	0.46	Hughes <i>et al.</i> , 2000	Temperate and Boreal	All	0.47 (0.47 - 0.49)	Andrae and Merlet, 2001; Gayoso <i>et al.</i> , 2002; Matthews, 1993; McGroddy <i>et al.</i> , 2004	broad-leaved	0.48 (0.46 - 0.50)	Lamloom and Savidge, 2003	conifers	0.51 (0.47 - 0.55)	Lamloom and Savidge, 2003		
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Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	PP informed that the value used for the variable “Carbon Fraction” (CF) was the default value of 0.47 from Table 4.3, Volume 4 of IPCC 2006. It was observed inconsistencies among the value applied in the PDD for “carbon fraction” (47%0 and in the spreadsheets (50%). Refer to CL# 13.		CL#13 Ok
20) Confirm that no slash and burn site preparation is used in the areas included in the project.	The contract between AES Tietê and the company responsible for planting trees was presented during site visit. Its technical specifications stated that no fire was allowed in the areas to be planted (verified on-site the document: Serflora Contract - Contract number UPAT/BAR/004/01 – file name contrato Serflora, Ref19).	Document review, site-visit and interviews	Copy of the contract to be presented to the auditors. Ok
21) Check procedures for inventory (plots size and number of plots, parameter be measured, frequency, methods of data collection etc). Check contract or agreement with ESALQ for monitoring of the project.	Manual of procedures for measurement of permanent plots was provided (Ref.14 “Protocolo mensuração de parcelas 29_01_2009”). ESALQ expert stated that current plot size is 450m ² and in future plots to be installed size will be 400 m ² . Other details about measurements were confirmed with the expert, as such: - measurement of dendrometric parameters; measurement of natural regeneration (including all plants > 5cm diameter). It was confirmed on-site that plots are geo-referenced (site visit in UHE Água Vermelha e Promissão). There is a contract between AES and the University. The document: Contract nº 4610000239 with FEALQ – dated on 01/09/2008 was verified (4610000239 –FEALQ-2008) . The scope of the contract is “Guidance for forest restoration and carbons stock quantification in AES Tietê”.Ref.12	Document review, site visit and interviews with ESALQ expert.	Ok
22) Local stakeholder consultation: ask for documented evidences of full compliance with DNA	According to the PP, there were a total of 342 invitations sent out (ref.17). The list of the invited stakeholders in the PDD was checked by sample. The ARs for the following stakeholders were evidenced during site visit (Ref. ARs – pdf file Aviso Recebimento	Document review	CAR 12: During the site visit, it was verified that there was not evidence that <u>all relevant local</u>

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
<p>Resolução # 7. Check if the list of stakeholders included all groups or organizations required by the DNA.</p> <p>Check on-site the responses to comments received.</p>	<p>Reflorestamento):</p> <p>Town hall for Anhembi; Comercial and Industrial Association for Bariri; Movement of Ecological Support in Barra Bonita (or 'Movimento de Amparo Ecológico' - MAE Natureza); Comercial and Industrial Association for Borborema; SOS Coast of Botucatu (or 'SOS Cuesta de Botucatu'); Municipal Chamber of Cardoso; Comercial and Industrial Association for Guaranésia; Municipal Chamber of Iacanga; Municipal Directory of Agriculture and Environment for Iacanga; Municipal Chamber for Ibitinga; Municipal Chamber for Icem; Municipal Chamber for Indiaporã; Municipal Secretariat of the Environment for Itapira; Town Hall of Jaú; Biodiversitê (Organisation for the Protection of the Environment of the Lower Tietê); Town Hall for Macatuba; Town Hall for Macedônia; Directory of Agriculture and Environment for Novo Horizonte; Municipal Secretariat of the Environment for Paulo Faria; Town Hall for Pedranópolis; Town Hall for Pongaí; Municipal Chamber for Pontes Gestal; Municipal Secretariat of the Environment for Santa Maria da Serra; Municipal Chamber for São Francisco de Sales; Comercial and Industrial Association for São Manuel; Municipal Chamber for Turiúba; Agricultural House of Uru and Commercial and Industrial Association of Urupês (ACIUR). Refer to CAR 12 for stakeholders not included in the consultation.</p> <p>The ARs checked were dated September 2008 so that the requirement of resolution 7 of the Brazilian DNA that says that the invitations for comments should be sent 15 days before the beginning of the validation process has been met.</p>		<p>stakeholders were contacted, as required by "Resolução nº 7" of Brazilian DNA. In the PDD, Annex 10, the São Paulo State Government and Minas Gerais State Government are not listed as state entities consulted (they are required to be consulted by Resolução nº7).</p> <p>CAR 12 Ok</p>
	<p>An example of a letter sent to the stakeholders was verified (Ref. 16 - Invitation letter – pdf file Exemplo_Câmaraltapira.pdf). The requirements of resolution 7 of the "Comissão Interministerial de Mudança Global do Clima" with regards to the contents of the letter</p>		

Issue	Findings	Source/Mean of Verification	Further Action / Clarification / Information Required?
	<p>sent are:</p> <p>I – the name and type of the project activity under the scope of the CDM, <u>as per PDD</u></p> <p>The name of the project in the letter is not the same as in PDD.</p> <p>II - electronic address of the internet site where the latest version of the PDD in Portuguese in question can be obtained, as well as the description of the project and its contribution, under the scope of CDM, to sustainable development.</p> <p>The electronic address is provided (PDD Version 1 (04/07/2008) uploaded for local stakeholder consultation on the link www.aestiete.com.br</p> <p>III – an address for those that do not have access to the internet to request the project proponent, in writing and in good time, copy of the documentation mentioned above.</p>		

A.2 Annex 2: Validation Checklist

Table 1 Participation Requirements for Clean Development Mechanism (CDM) Project Activities (Ref PDD, Letters of Approval and UNFCCC website)

Requirement	Reference	Comments	Conclusion/CARs/CLs
<p>1. All Parties involved have approved the project activity</p> <p>1.1. Has the DNA of each Party involved in the proposed CDM project activity in section A.3 of the PDD provided a written letter of approval which confirms</p> <p>1.1.1. The country is a Party to the Kyoto Protocol</p> <p>1.1.2. Participation is Voluntary</p> <p>1.1.3. The Host Party confirming that the proposed CDM project activity contributes to sustainable development of the country</p> <p>Non-Annex 1 Party shall submit a letter of approval</p> <p>1.1.4. It refers to the precise proposed CDM project activity title in the PDD being submitted for registration</p>	<p>Annex 3, Clean Development Mechanism, Validation and Verification Manual, Version 01 (from this point forwarded referenced as VVM) - 49a-d /54a-b/125</p> <p>Paragraph 37 CDM Modalities and procedures</p>	<p>Brazil is the Host Party and has ratified the Kyoto Protocol on 23rd August 2002. http://maindb.unfccc.int/public/country.pl?country=BR . At the time of validation, no Letter of Approval from the host country had been provided. The Letter of Approval will be signed when the DNA of Brazil receives and analyse the validation report (this is the procedure of the Brazilian DNA).</p> <p>The LoA was issued on 14/07/2010 and copy is provided to SGS.</p> <p>Canada is also a Party involved in this CDM project activity. Canada has ratified the Kyoto protocol on 17th December 2002 and is listed as an 'Annexure- I' Party (http://unfccc.int/parties_and_observers/parties/annex_i/items/2774.php - last accessed 12/08/09). The LoA from the Annex 1 party was issued on 26/03/2009. .</p>	Ok
<p>○ The letter/s of approval are unconditional with respect to 1.1.1 to 1.1.4 above</p>	VVM Para. 49/54	Pending; Draft report to be sent to the DNA	Ok

Requirement	Reference	Comments	Conclusion/CARs/CLs
2. The project shall assist non-Annex I Parties in achieving sustainable development and shall have obtained confirmation by the host country thereof, and be entered into voluntarily	VVM Para. 54 Marrakech Accords, CDM Modalities §29 and §30 Kyoto Protocol Art. 12.2, Marrakech Accords, CDM Modalities §40a	Pending; Draft report to be sent to the DNA. LOA issued by Brazilian DNA on 14/07/2010	Ok
3. Parties, stakeholders and UNFCCC accredited NGOs shall have been invited to comment on the validation requirements for a minimum of 30 days, and the project design document and comments have been made publicly available	VVM Para. 128 Marrakech Accords, CDM Modalities, §40	Period of comments from 22/01/2009 until 07/03/2009, invited through the UNFCCC CDM homepage. 1 comment was received; responses to the comment is provided in validation report, section 5.2.	Ok
4. The project design document is in accordance with the applicable CDM requirements for completing PDDs.	VVM Para. 57 Marrakech Accords, CDM Modalities, Appendix B, EB Decisions. Ref. 1b	CAR#1: PDD (version 1, provided for desk study and for global stakeholder consultation) was not using the current version of the PDD form for AR activities. Editorial and format changes, which are not allowed, were also observed in the document. As response to CAR#1, the PP has made adjustments to correct the PDD to comply with template version 4. A revised PDD (Ref.1b) was provided and CAR#1 was closed out.	CAR#1 Ok

Requirement	Reference	Comments	Conclusion/CARs/CLs
5. For AR projects, the host country shall have issued a communication providing a single definition of minimum tree cover, minimum land area value and minimum tree height. Has such a letter been issued and are the definitions consistently applied throughout the PDD?	http://cdm.unfccc.int/DNA/ARDNA.html?CID=30	<p>The information from Brazilian DNA is available at UNFCCC CDM website (http://cdm.unfccc.int/DNA/ARDNA.html?CID=30).</p> <p>The definitions are: Minimum tree cover as 30%; minimum land area as 1 ha and minimum tree height as 5 meters.</p> <p>These are applied correctly in the PDD.</p>	Ok

Table 2 PDD

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/CARs/CLs
A. General Description of Project Activity				
A.1. Project Title				
A.1.1. Does the used project title clearly enable the reader to identify the unique CDM activity?	VVM Para.56 Guidelines for completing a CDM-PDD (PDD) section A.1 Ref.1b	DR	The project title is: "AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil". It clearly indicates the PP name and the location of the project, which can identify it as an unique CDM project.	Ok
A.1.2. Is there an indication of a revision number and the date of the revision?	VVM Para.56 PDD section A.1	DR	The final PDD provided to DOE is identified as version 2, dated 22/04/2009.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
A.2. Description of the Project Activity				
A.2.1. Does the description of the proposed CDM project activity as contained in the PDD sufficiently cover all relevant elements accurately?	VVM Para.59 PDD section A.2 see also A.4, A.4.3 and B.3 Ref.1b	DR	<p>The purpose of the project activity is described in the PDD and is to reforest up to 13,939 hectares of riparian areas currently occupied by unmanaged grassland along the banks of ten hydropower reservoirs in the State of São Paulo with native forest species. Specifically, is to restore the ecosystems, increase carbon sequestration, improve water recharge in the reservoirs and protect soil against erosion and promote employment and recreational opportunities locally.</p> <p>The type of technology used is described in the PDD; silvicultural techniques – as results of researches conducted by experts and AES Tietê - will be employed. The project will plant a mix of 80 to 126 native tree species and shrub species. The project includes seedling development, site preparation, planting, and plantation management. Details were provided in the PDD, section A.5.4.</p> <p>As the contribution of the project to sustainable development, it is listed in the PDD:</p> <ul style="list-style-type: none"> - environmental benefits and values associated with the restoration of riparian zones; - human services provided by riparian zones (fishing, flood mitigation, enhanced aesthetics, among others); - removal of atmospheric carbon; - avoid the conversion of riparian lands for urban settlements or other types of construction. 	Ok
A.2.2. Does the information provide the reader with a clear understanding of the proposed CDM activity?	VVM Para.60 PDD section A.2 see also A.4, A.4.3 and B.3 Ref.1b	DR	<p>Yes, the PDD described the project activity satisfactorily.</p> <p>As the project is an existing project (already in implementation stage), a physical site inspection was carried out to confirm that the description in the PDD reflects the proposed CDM project activity.</p>	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
A.2.3. Is all information provided consistent and in compliance with the actual situation or planning?	VVM Para.64 PDD section A.2 see also A.4, A.4.3 and B.3 Ref.1b Ref.2	DR	Information about location and list of plants were found correct. Some doubts are raised related to the eligible area and CL#15 was raised: The eligible area provide in the PDD is not consistent along the document. It is mentioned as 13,939 ha (page 3) , as 13,944 ha (page 15) and in the model for calculation of GHG removals (TARAM), the area is considered as 13,802 ha. Values were correct in the PDD. The eligible area is confirmed as 13,939 ha. In the revised TARAM spreadsheet the "Total area of baseline strata" is 11,568.29 ha (refer to sheet "Strata", column I). PP explained that the area 11.568,29 h is from the sheet AR-Plan. The sheet AR-Plan describes the planting plan, which can not match exactly with the total eligible area. The planting plan defines 2000 ha/year to be planted from 2009-2013. This is the basis of the field activities. The explanation is considered acceptable by the validation team. The planting area can be smaller than the eligible area. As the data of revised TARAM is the same included in the revised PDD (estimative of ER), CL 15 was closed out.	CL#15 Ok
A.2.4. Is all information provided consistent with details provided in further chapters of the PDD?	VVM Para.64 PDD section A.2 Ref.1b	DR	The information related to the location, description of environmental features and relevant references were found consistent. Refer to CL#15 regarding the differences found in the eligible area.	Ok
A.3. Project Participants				
A.3.1. Is the table required for the indication of project participants correctly applied?	VVM Para. 51 PDD section A.3 Ref.1b	DR, I	Refer also to CL#2 below. The project participants are: AES Tietê S.A (a Brazilian private entity) and the International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund (from Canada). MOC is provided.	Ok
A.3.2. Is all information provided in consistency with details provided by	VVM Para. 51 PDD section A.3	DR, I	CL#2: PDD (version 1) indicate in section A.3 (page 5) as project participant the "International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund", but it should be clarify why the respective Annex 1 country is not indicated in the same table. Also, confirm the exact name of the entity (in	CL#2 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
further chapters of the PDD (in particular Annex 1)?	Ref.1b		Annex 1 of the PDD, it is mentioned just as “BioCarbon Fund, The World Bank”. As response to CL#2, PP clarified that the Annex 1 country indicated in the table in section A.3 should be Canada. The exact name of the entity (in Annex 1 of the PDD should be “International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund”. The PP has inserted the name of the Annex 1 party in the table in section A.3. CL#2 was closed out.	
A.4. Technical Description of the Project Activity				
A.4.1. Does the information provided on the location of the project activity allow for a clear identification of the site(s)? Are the latitude and longitude of the site indicated (decimal points)	VVM Para.64 PDD section A.4 Ref.1b	DR	The project areas to be reforested are located in Southeastern Region of Brazil, States of São Paulo and Minas Gerais. A map was provided in the PDD, section A.4.1.3, showing the region where the reservoirs are located. It was also provided a table listing the names of reservoirs and municipalities covered by them. For each one of the 10 reservoirs, the geographic coordinates were provided (PDD, section A.4.2).	Ok
A.4.2. Does the proposed CDM project activity involve the alteration of existing installations or process?	VVM Para.64 PDD section A.4 Ref.1b Ref.5	DR	The project involves a reforestation project, started in December 2000. At the moment, around 15% of the eligible area was restored (planting native species of trees). The plan id to restore 2000 ha/year.	Ok
A.4.3. Do the project participants possess ownership or licenses which will allow the implementation of the project at that site /	VVM Para.64 PDD section A.4 Ref.1b Ref.11 and Ref.9	DR	AES Tietê acquired the rights to develop the hydrological potential of these plants and generate electricity, according to the conditions set forth by the privatization bid document N°SF/002/99 organized by the State Government of São Paulo in September 1999. To support this, the PP provided section 4.3 of the privatisation bid document to the validator (pages 28 to 34). This section talks about the obligations of those who acquire the shares of Tietê (Ref. Edital N°SF/002/99	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
those sites?			(Privatisation Bid Document section 4.3).- file Edital de Privatização.pdf). It was also verified the environmental licenses for the plants, where AES Tietê is mentioned as the responsible entity.	
A.4.4. Is the category(ies) of the project activity correctly identified?	VVM Para.64 PDD section A.4 Ref.1b	DR	The category is identified within the scope 14. The methodology applied is AR-AM0010: “ <i>Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas</i> ” This methodology is based on the draft CDM-AR-PDD: “AES-Tiete Afforestation/Reforestation Project Activity Around the Borders of Hydroelectric Plant Reservoirs” whose baseline study, monitoring and verification plan and project design document were prepared by AES Tietê (Brasil). For more information regarding the proposal and its consideration by the Executive Board refer to case ARNM0034: “Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas” at: http://cdm.unfccc.int/goto/ARpropmeth	Ok
A.4.5. Is all information provided in compliance with actual situation or planning as available by the project participants?	VVM Para.64 PDD section A.4 Ref.1b Ref. 23	DR	During the site visit, the auditors verified the planting plan, contract with outsourcers and availability of seedlings for project implementation. It was also visited some areas already planted in the past, to check activities already done, as mentioned in the PDD. The project was found in compliance with the actual planning and situation.	Ok
A.4.6. Is the table required for the indication of projected emission reductions correctly applied?	VVM Para.64 PDD section A.4 Ref.1b	DR	The table in section A.9 of PDD indicates the period from 2001 to 2030. The values presented were those calculated in a calculation spreadsheet (from TARAM model).	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
A.5. Public Funding				
A.5.1. Does the information on public funding provided conform to the actual situation or planning as presented by the project participants?	PDD section A.4.5 Ref.1b	DR, I	Project does not receive public funding. It is financed by the AES Tietê and counting with technical support of BioCarbon Fund. The AES manager and BioCarbon fund were interviewed during the site visit (at AES Tietê office).	Ok
A.5.2. Is all information provided consistent with details provided by further chapters of the PDD (in particular annex 2)?	PDD section A.4.5 Ref.1b	DR, I	Yes, information was confirmed and is consistent along the PDD (section A.10 and Annex 2). No public funding was provided to the project.	Ok
A.5.3. In case of public funding from Annex I Parties is it confirmed that such funding does not result in a diversion of official development assistance	PDD section A.4.5 Ref.1b	DR, I	No public funding from Parties included in Annex I was involved.	Ok
B. Baseline and Monitoring Methodology				
B.1. Choice and Applicability				
B.1.1. Is the baseline methodology previously approved by the CDM Methodology Panel?	VVM Para.68 PDD section B.1 Ref.1b	DR	The methodology applied is referenced in the PDD: AR-AM0010: "Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas", version 3. The version used in the final PDD is AR-AM0010 version 4.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
B.1.2. Has the methodology (incl. the tools) been altered from the original version as referenced in the PDD?	VVM Para.69 PDD section B (B.1-B.2) Ref.1b	DR	The methodology applied is: AR-AM0010: "Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas", version 3 (in the final PDD, it was applied version 4). The tools applied is: "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" (Version 02) They are correctly applied as the versions available on the UNFCCC website.	Ok
B.1.3. Is the selected approved methodology applicable to the project activity in the PDD?	VVM Para.75/66a/68/73 PDD section B (B.1-B.2) Ref.1b Ref.5 Ref.18	DR	The methodology is applicable to the following categories of project activities: Afforestation and reforestation (A/R) implemented on unmanaged grassland in reserves or protected areas that are not likely to be converted to any other land use except forestry, and which have no potential to revert to forest without direct human intervention. The conditions under which this methodology is applicable are: - project proponents can clearly show that baseline approach 22(c) of the CDM Modalities and Procedures—Changes in carbon stocks in the pools within the project boundary from the most likely land use at the time the project starts—is the most plausible baseline scenario; - The most likely land use at the time the project starts shall be unmanaged grassland with A/R implemented at a non-CDM baseline forestry rate. This rate may be zero, in which case the most likely land use at the time the project starts is continuation as unmanaged grassland; It was verified from the Geoconsult study about the baseline and also from the forestry rate calculate for the region. - Land to be afforested or reforested shall comprise unmanaged grassland which is designated as a reserve/protected area, and is not likely to be converted to any other land use except forestry. The grassland may include areas with either a steady-state or slowly regenerating woody cover of shrubs and/or scattered trees. However, the land shall have no potential to revert to forest without direct human	CL#5 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			<p><i>intervention (through planting, seeding, or promotion of natural seed sources);</i></p> <p>Confirmed by the study (satellite images), historic of the land use, studies from ESALQ about natural succession and regulation about protected areas around reservoirs.</p> <p><i>- The project activity does not lead to a shift of pre-project activities to outside of the project boundary; i.e., the land under the proposed A/R CDM project activity can continue to provide at least the same amount of goods and services as in the absence of the project activity;</i></p> <p>The areas are located around the reservoirs and the only permitted use is to be a protection area. There is no activity or goods and services actually provided by such areas. In practice, the project activity will enhance the environmental protection services.</p> <p><i>- The biomass of herbaceous vegetation within the project boundary at the start of the project is at steady-state, or is declining due to competition from woody species, and so baseline removals by herbaceous vegetation can be conservatively neglected;</i></p> <p>This is the approach adopted by the PP.</p> <p><i>- The soil carbon pool within the project boundary is at steady state at project commencement: that is, the project boundary shall not include areas that within the last 20 years were either severely degraded, or have been used for agricultural cropping for more than 3 years;</i></p> <p>Verified from the eligibility study that areas in non-conformance with the applicability criterion were excluded of the project boundary. The areas actually included are those occupied by pastures (gramineae and herbaceous stratum).</p>	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			<p>- <i>Site preparation to afforest or reforest is carried out in such a way as to avoid levels of soil disturbance or soil erosion sufficient to significantly reduce the soil carbon pool over the project lifetime;</i></p> <p>Verified on-site and in the planting plans and procedures that the site preparation involves a minimum disturbance to the soil.</p> <p>- <i>The land within the project boundary will be afforested or reforested by direct planting and/or seeding of trees to establish a forest that complies with the minimum forest thresholds advised to the CDM Executive Board by the host country's DNA;</i></p> <p>Verified the definitions of forest issued by Brazilian DNA; confirmed that the area, species of trees and planting density complies with the concept of "forest".</p> <p>- <i>Nitrogen-fixing (N-fixing) trees planted as part of the A/R CDM project activity account for less than 10% of the total planted forest crown area, so nitrous oxide (N₂O) emissions from decomposition of litter from the N-fixing trees can therefore be considered insignificant;</i></p> <p>This condition is no more applicable, refer to CL# 5.</p> <p>- <i>No direct human-induced activities leading to loss of carbon stocks (such as harvesting, selective logging, fuel gathering, removal of litter, or removal of dead wood) shall occur on lands within the project boundary;</i></p> <p>The project aims to restore the natural vegetation; no harvest or collection will be permitted. During the site visit, it was verified the surveillance system to protect the area against not authorized activities. Verified on-site that fences have been installed to protect the planting areas.</p>	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			<p>- Carbon stocks in the dead organic matter pools (litter and dead wood) are expected to be smaller in the absence of the proposed A/R CDM project activity, relative to the project scenario, and therefore accounting of these pools can be conservatively neglected;</p> <p>Verified that PP adopted this approach.</p> <p>- Flood irrigation or drainage of primarily saturated soils are not permitted as part of A/R CDM project activities, so non-CO2 greenhouse gas emissions from these activities can therefore be neglected;</p> <p>No irrigation or drainage is planned to be performed in the project. It was also not verified on-site.</p> <p>- If the non-CDM baseline forestry rate is other than zero, the only approach to address non-permanence is to claim emissions reductions as tCERs.</p> <p>The forestry rate is calculated as 0.05%. The project chose to account temporary CERs.</p> <p>CL# 5 was raised: it should be clarified how can be evidenced that the amount of nitrogen-fixing species used in the A/R CDM project activity is not significant (so greenhouse gas emissions from denitrification can therefore be neglected). No details were provided in the PDD to support this applicability criterion of the methodology.</p> <p>To respond CL#5, PP explain that as per the decision of EB 44 paragraph 37, the Board agreed that GHG emissions as nitrous oxide (N₂O) emissions from decomposition of litter and fine roots from N-fixing trees are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity. The evidence may be found at the UNFCCC CDM website using</p>	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			the following link: http://cdm.unfccc.int/EB/044/eb44rep.pdf . Section D.1 of the PDD was revised. According to section III (Principles for Validation and Verification) of the VVM Version 01, "The principle of consistency shall not prevent a DOE from applying the most recent decisions and guidance provided by the CDM Executive Board" so it is deemed correct. CL# 5 was closed out.	
B.1.4. Is the discussion in the PDD in conformance with all applicability criteria of the applied methodology?	VVM Para.75/66b/68 PDD section B (B.1-B.2) Ref.1b	DR	See details above. Refer also to CL# 5.	Ok
B.2. Project Boundary				
B.2.1. Are all emission sources and gases related to the baseline scenario, project scenario and leakage clearly identified and described in a complete and transparent manner? Is there information on GHG emissions in proposed CDM project activity boundary as a result of the implementation of the proposed CDM project activity which are expected to	VVM Para.79/76 /67a PDD section B.3 Ref.1b Ref.5 and Ref.18		<p>The geographic boundaries of the project are defined as the eligible areas around 10 reservoirs under concession to AES Tietê. Details about geographic location are provide in the PDD and was confirmed during the site visit. :</p> <p>Regarding the carbon pools, the methodology requires inclusion of: above-ground biomass and below-ground biomass. The emissions sources and gases to be included are: CO2 due combustion of fossil fuels; CO2 due removal of grassland vegetation during the site preparation; CO2, CH4 and NO2 due slash-and-burn practices (this is not applicable to the project activity).</p> <p>CL#8: It should be clarified if the use of fertilizers (nitrogen fertilization) will be included in the calculation of GHG emissions from the project activity. As response PP informed that as per the decision of EB 42 paragraph 35, the Board agreed that GHG emissions fertilizer application in A/R CDM project activities are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is</p>	CL#8 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
contribute more than 1% of the overall expected average annual emissions reductions, which are not addressed by the applied methodology.			not being considered by the project activity. The evidence may be found at the UNFCCC CDM website using the following link: http://cdm.unfccc.int/EB/042/eb42rep.pdf . The text for paragraph 35 is provided below: <i>35. The Board clarified the guidance on accounting GHG emissions in A/R CDM project activities from the following sources: (i) fertilizer application, (ii) removal of herbaceous vegetation, and (iii) transportation; and agreed that emissions from these sources may be considered as insignificant and hence can be neglected in A/R baseline and monitoring methodologies and tools. The Board further requested the secretariat to revise all affected approved A/R CDM baseline and monitoring methodologies and tools, in order to apply the above-mentioned guidance, and make these methodologies available on 17 October 2008, after agreement by the chairs of the A/R WG and the Board.</i> Section D.1 of the PDD was revised. CL# 8 was closed out.	
B.2.2. In case of grid connected electricity projects: Is the relevant grid correctly identified in accordance with the tool to calculate emission factor of electricity system (wherever applicable) and the underlying methodology?	VVM Para.79 PDD section B.3 Ref.1b	DR	Not applicable	Not applicable
B.2.3. Does the project boundary include the physical delineation of the proposed CDM project activity?	VVM Para.78/79 PDD section B.3 also see section A.4.3 Ref.1b	DR, SV	Physical boundary described in the PDD is confirmed from maps, satellite images and confirmed by samples during the site visit (10 sites randomly selected to be visited). The requirements of AR-AM0010 version 4 were met.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
	Ref.5 and Ref.18			
B.2.4. Are the project's geographical boundaries and the project's system boundaries (components and facilities used to mitigate GHGs) clearly defined?	VVM Para.76/79 PDD section B.3 also see section A.4.3	DR, SV	See above (items B.2.3 and B.2.1). The requirements of AR-AM0010 version 4 were met both for the geographic boundaries and GHG sources and gases.	Ok
B.3. Identification of the Baseline Scenario				
B.3.1. Does the PDD discuss the identification of the most likely baseline scenario? Does the PDD follow the steps to determine the baseline scenario required by the methodology and is the application of the methodology and the discussion and determination of the chosen baseline transparent?	VVM Para.67b.80/82/86 PDD Section B.4/B.5	DR	The methodology applied is: AR-AM0010: "Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas" (version 4). The methodological tool applied for additionality discussion is: "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" (Version 02). They are applied as the versions available on the UNFCCC website. Regarding the identification of credible alternative land uses for this project activity, the following scenarios were presented in the PDD: - Continuation of the current land use as unmanaged grassland (i.e. a zero reforestation rate); - Establishment of forest on unmanaged grassland at a mean annual non-CDM proportional forestry rate; - Proposed project activity undertaken as a non-CDM project.	Ok
B.3.2. Are all tools/procedures in the methodology correctly applied to identify the most reasonable baseline	VVM Para.81/82/86a-d/83/84 PDD Section	DR	The methodology applied is: AR-AM0010: "Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas" (version 4). The methodological tool applied for additionality discussion is: "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" (Version 02). They are applied as the versions available on the	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
scenario? This includes all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	B.4/B.5		UNFCCC website. It was verified that the PDD discussed the identification of the most likely baseline scenario, following the steps required by the methodology. This included all potential realistic and credible baseline scenarios in the discussion taking into account relevant national and/or sectoral policies, macro-economic trends and political aspirations. It was confirmed that the selected baseline represent the most likely scenario among other possible and/or discussed scenarios.	
B.3.3. Is the choice of the baseline compatible with the available data?	VVM Para.86b-c/95 PDD Section B.4/B.5	DR	The three identified scenarios were analysed. - Continuation of the current land use as unmanaged grassland - Establishment of forest on unmanaged grassland at a mean annual non-CDM proportional forestry rate; The proposed project activity not undertaken as A/R CDM project activity; Other activities, as crop production and/or cattle ranching, were not considered as a realistic and credible land-use alternative given that the Brazilian Forest Code prohibits any kind of activity that could affect adversely the natural regeneration in the APP.	Ok
B.3.4. Is conservativeness addressed in the way of identifying the baseline?	VVM Para.90 PDD Section B.4/B.5	DR	Yes, all the steps required by methodology and tool were applied.	Ok
B.3.5. Does the selected baseline represent the most likely scenario among other possible and/or discussed scenarios?	VVM Para.90/91 PDD Section B.4/B.5	DR	Yes, see above	Ok
B.3.6. Is there a verifiable	VVM	DR	The selected baseline scenario is the continuation of the current land use as	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
description of the baseline scenario? Does this include a description of the technology that would be employed and/or the activities that would take place in the absence of the proposed CDM project activity?	Para.86e/85 PDD Section B.4/B.5		unmanaged grassland.	
B.4. Additionality				
B.4.1. Does the PDD clearly demonstrate the additionality using the approach as specified in the methodology and by following all the required steps?	VVM Para.67d/95 PDD Section B.1/B.4/B.5	DR	The methodology applied is: AR-AM0010: "Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas" (version 4). The methodological tool applied for additionality discussion is: "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" (Version 02). They are applied as the versions available on the UNFCCC website.	
B.4.2. In case of using the additionality tool: Is the 'Additionality Tool' used in the PDD latest version? If an earlier version has been used, do the changes impact the discussion in the PDD? Are all steps followed in a transparent manner?	PDD Section B.1/B.4/B.5	DR	The methodological tool applied for additionality discussion is: "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" (Version 02). They are applied as the versions available on the UNFCCC website.	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
B.4.3. Has all information been backed up with references, sources and certification? Is the data presented credible and reliable with complete transparency to all available data and documentation?	VVM Para.93/91 PDD Section B	DR	<p>During the site visit, the legal requirements related to the reforestation and/or management of APPs and areas around reservoirs were discussed with AES Tietê team and documents were checked. The objective is to verify the additionality of the project. Some references and sources of information were not provided during the site visit, so CL#9 was raised (refer also to details of CL# 9 in section xx of this checklist).</p> <p>As response, PP informed that there is no condition in the environmental license requiring that the company plants around the reservoirs. The documents "Contrato de Concessão n. 92/99" and the current licenses are evidences that there is no legal requirement oblying AES Tietê to perform reforestation activities. A new visit was performed to AES Tietê site on 30/04/2009. The complementary document review and verification of specific documents regarding environmental licenses demonstrated that there is no legal requirement obliging AES Tietê to restore the forest around the reservoirs of hydroelectric plants of the company. The issues were clarified and are supported by official documents issued by environmental agencies. CL# 9 was closed out.</p>	CL# 9 Ok
B.4.4. Is the discussion on additionality and the evidence provided consistent with the starting date of the project? If the project activity start date is prior to the validation is it discussed how the CDM was taken into account in the decision to go ahead with the project activity	VVM Para.102b PDD Section B.5 Ref.1b Ref.19 Ref.22 Ref.25 Ref.26 Ref.27 Ref.30	DR	<p>The project is an existing project activity (project activities with a start date before 02 August 2008). The start date (15/12/2000) is prior to the date of publication of the PDD for global stakeholder consultation (22/01/2009).</p> <p>The methodology refers to the "Tool for the demonstration and assessment of additionality for afforestation and reforestation CDM project activities".</p> <p>The "step 0" (starting date and consideration of CDM) requires: "Provide evidence that the starting date of the A/R CDM project activity was after 31 December 1999; and • Provide evidence that the incentive from the planned sale of CERs was seriously considered in the decision to proceed with the project activity. This evidence shall be based on (preferably official, legal and/or other corporate) documentation that was available to third parties at, or prior to, the start of the project activity".</p> <p>The chronology of the project activity was not provided to the DOE. The discussion related to Step 0 was not included in the PDD version 1. Hence, CAR 10 was raised.</p>	CAR# 10 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			<p>To address CAR #10, a revised PDD was provided considering the starting date as 15/12/2000, which is the date when AES Tietê signed a contract with an outsourcer to starting the reforestation activities around Bariri reservoir. Copy of the contract signed on 15/12/2000 was provided (contract with SERFLORA, nº UPAT/BAR/004/01).</p> <p>Evidences of hiring consultants for submission of a new methodology to UNFCCC CDM were provided: contract signed on 01/05/2005 with the consultant "Geoconsult" (contract DC/SP/111/2005) and contract signed on 01/06/2005 with the consult "Fato Assessoria Empresarial Ltda" (contract nº DC/Tietê/112/2005). Document application regarding the World Bank Biocarbon fund was provided (Letter of Intent related to potential purchase of emission reductions, dated 12/01/2007, where the letter of intent signed on 07/07/2005 was mentioned). In addition, PP provided a formal declaration issued by Brazilian DNA informing that AES Tietê had contacted the DNA for many times to discuss about its project.</p> <p>The chronology indicates that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation. It is important to highlight that at the moment of validation (March 2009), there was less than 15% of the total eligible area planted. So, although the start date is considered as 15/12/2000, the project is still in implementation stage.</p> <p>Regarding the CDM consideration, the following information and documents were verified by SGS:</p> <ul style="list-style-type: none"> - Report on Sustainable development of Mbaracayu (Paraguay): report dated August 2001, which mentions a project developed with support of AES since 1992, with objective of biomass conservation, among others. - Dossiê - Bananal Island Carbon Sequestration Project Phase II (BICPSP II): document dated 22/10/2003 which mentions a carbon sequestration project developed with AES support; documents informed that the carbon sequestration project (that started in 1998) was interrupted in 2001 due lack of investments. These documents were available prior to the start of the project activity and indicate that awareness of the CDM prior to the project activity start date, and that 	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			the benefits of the CDM were a decisive factor in the decision to proceed with the project. CAR#10 was closed out.	
B.4.5. If an investment analysis has been used, has it been shown that the proposed project activity is economically or financially less attractive than at least one other alternative without the revenue from the sale of CERs?	VVM Para. 106, 107, 109 112a-c PDD Section B.5 Ref.1b	DR	The project consists in a restoration project. It does not have any economic objective (the trees will be not harvested and/or used for commercial objective). No revenues (besides CERs) will be expected from the project activity. In the first version of PDD, PP had provided a "Simple cost analysis". As the methodology and the "Tool for the Demonstration and Assessment of Additionality in A/R CDM Project Activities" Version 2 give a choice to use investment or barrier analysis, PP decided to exclude the "Investment analysis" of the PDD.	Ok
B.4.6. If a benchmark is used, is it ensured that it is selected in accordance with the requirements of the tool /methodology and it represents standard returns in the market (not linked to the subjective profitability expectation or risk profile of a particular project developer).	VVM Para. 110 PDD Section B.5	DR	Not applicable	Not applicable
B.4.7. If a barrier analysis has been used, has it been shown that the	VVM Para. 114	DR	<u>Institutional barriers:</u> References mentioned in the PDD to substantiate the barrier analysis were verified: (Tabarelli et al 2005, Galindo Leal and Câmara, 2005). The references describe	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
proposed project activity faces barriers that prevent the implementation of this type of proposed project activity but would not have prevented the implementation of at least one of the alternatives?	115a-b/116 PDD Section B.5 Ref.1b Ref.31 Ref.32 Ref.33 Ref.35 Ref.41		<p>the efforts of SOS Mata Atlantica and INPE to map and monitor the reminiscent forest fragment and also discuss some data on the reminiscent areas, causes for deforestation and the fact that the designation of areas of this biome as important, nationally and internationally, has not hindered deforestation. It shows the lack of enforcement of forest legislation in protected areas. It was also confirmed by the forestry experts (lead assessor who have experience of more than 18 years in the Brazilian forest sector) that this institutional barrier is real and relevant to the project. The site visit also indicates that areas around the reservoirs are usually occupied irregularly by pastures and cropping, and no effective actions of restoration have been implemented.</p> <p><u>Technological barriers:</u> It was demonstrated that there is lack of access to planting materials. The auditors confirmed the reference for the information provided in the PDD (Ref.40, a presentation by the Environmental agency of State of São Paulo) which stated that a major factor that impacts the viability of large scale restoration efforts within the State of São Paulo is the availability of high quality seedlings, with the necessary species diversity. It was informed that the natural occurring seed banks are being depleted due to anthropogenic pressure, and thus, seedlings for many naturally occurring species are not available or hard to find. The information was also corroborated in the article by Melo et al (Ref.31), which states that the deficit of seeds is one of the factors related to this technological barrier. The text also discuss the deficit of financial resources for reforestation projects and lack of studies, as well as the opportunities that carbon credits represent in this sense.</p> <p><u>Barriers due to ecological conditions:</u> Exotic grass species such as the African <i>Brachiaria decumbens</i> ("braquiária") have significantly impacted the ability of natural regeneration of forest areas within the State of São Paulo. These species also impact agricultural operations. In case of reforestation projects, resources has to be considered (related to machinery, man days and/or to chemical control) to control the exotic grass in order to be possible to grow trees in such grasslands. The PDD cited an article by</p>	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			<p>Pivello (2008) which supports this information about barrier due ecological conditions. Copy of the same was provided to DOE and information was confirmed (Ref.32). It was also observed on-site (during the site visit) that no natural regeneration of trees is found in areas covered by “braquiária”.</p> <p><u>Barriers due Prevailing Practice:</u></p> <p>The project activity is considered as the “first of its kind”, as that no project activity of this type (in the areas controlled by hydro-power companies) and of the same scale is currently operational in Brazil. To evidence this barrier, PP provided the minutes of meetings conducted by ABRAGE (Brazilian Association of Electric Energy Generators) on 26 March, 2009 (Ref. 20). Refer also to CL#11 and to section 4.6.6 of this report.</p> <p>It was mentioned that there are initiatives in minor scale that aim to recover the original forest vegetation within the State of São Paulo, but these are occurring outside of the areas around reservoirs controlled by the hydro-power companies and can not be compared with the project activity.</p>	
B.4.8. Is the discussion on additionality consistent with the identification of all plausible and credible baseline scenarios?	VVM Para. 105 PDD Section B.5	DR	Yes, see above.	Ok
B.4.9. Do the identified baseline scenarios include technologies and practices that include outputs or services comparable with the proposed CDM project activity? Do they	VVM Para. 105 PDD Section A.4.3/B.5	DR	The selected baseline scenario is the continuation of the current land use as unmanaged grassland.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
also abide by the same applicable laws and legislations?				
B.4.10. Has it been shown that the project is not common practice?	VVM Para. 119a/b PDD Section B.5 Ref1b Ref.31 Ref.24 and Ref.20	DR	<p>In the section describing barrier due to prevailing practice, the PDD states that the project is 'First of its kind' given that no project activity of this type and scale is currently operational in the host country. It also states that "A survey was conducted by a group of private and state owned companies, controllers of hydropower plants in the South and Southeast regions of Brazil found that no other large hydro generator has a reforestation project activity." Melo et al, 2001</p> <p>This article, a collaboration work of different departments within the Environmental Secretariat of São Paulo, was verified and it does state that from a sample of 98 reforestation projects with native species, throughout different biomes, in the State of São Paulo, 42% was due to Environmental Licensing, 11% due to Environmental Certification, 6% were a result of public prosecution and 6% as a result of coming into line with legislation which adds up to approximately 60% of the cases.</p> <p>The article also identifies three main types of land degradation which occurred before the reforestation projects were introduced: cattle raising, agriculture and mining. The electricity company of São Paulo (CESP) is not amongst these but it is cited as the second main source of seedlings (securing seedlings to 23% of the areas sampled) after the project owners themselves (31% of the cases).</p> <p>The figures relating to the 'Projeto de Recuperação de Matas Ciliares' are also well published in the web. They have been verified by the DOE on the following pages:</p> <p>http://www.paginarural.com.br/noticias_detalhes.php?id=86482</p> <p>and</p> <p>http://www.ecodebate.com.br/index.php/2008/09/24/sao-paulo-programa-de-</p>	CL#11 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			<p>recuperacao-de-matasciliares-recebe-pouca-adesao-dos-proprietarios-rurais/</p> <p>CL#11 was raised: Documented evidence that support the statement that the project activity is "first of kind" should be provided. As response, PP informed that In the revised PDD, page 26, it is mentioned that "The project activity is the "first of its kind" given that no project activity of this type and scale is currently operational in the host country. A letter forwarded by ABRAGE confirms this statement". The following documents were provided to SGS: - ATA DA 35ª ASSEMBLEIA GERAL EXTRAORDINARIA DA ABRAGE - 26-03-2009.doc - ATA DA 10ª ASSEMBLEIA GERAL ORDINARIA DA ABRAGE DE 26-03-2009.doc - ATA DA REUNIÃO PLENÁRIA DA ABRAGE DE 26.03.2009.doc - lista presenca Abrarg.pdf</p> <p>These documents support the information provided in the PDD regarding the ABRAGE meeting, carried out on 26/03/2009. It is mentioned in the document "ATA DA REUNIÃO PLENÁRIA DA ABRAGE DE 26.03.2009" that a consultation was performed with ABRAGE associates about projects similar to AES Tietê project activity. The companies participating in this meeting (representatives of the most important hydroelectricity companies of Brazil) informed that currently there is no similar project (in extension of reforested area) in the country. The document was accepted as evidence of first of kind and CL 11 was closed out.</p>	
B.4.11. What are the key distinctions between the project activity and any similar projects that are widely used as	VVM Para. 118, 119c/d PDD Section B.5	DR	No similar project (considering the scale of AES Tiete) has been implemented in Brazil by hydropower plants around reservoirs.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
common practice?				
B.5. Application of the Baseline Methodology				
B.5.1. Has the approved methodology been applied correctly for determining baseline emissions ?	VVM Para. 91d PDD Section B (B.6.1 -B.71)	DR	Yes, verified formulas and assumptions as defined in the methodology.	Ok
B.5.2. Has the approved methodology been applied correctly for determining project emissions ?	VVM Para. 90/91d PDD Section B (B.6.2-B.71)	DR	CL#6 was raised: Clarify how the total estimated amount of fuel consumption for equipment of 122 l/ha of reforested area was obtained. Provide details of measurement and calculation, if applicable. It was clarified by PP that as per the decision of EB 44 paragraph 37, the Board agreed that GHG emissions as fossil fuel combustion in A/R CDM project activities are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity. The evidence may be found at the UNFCCC CDM website using the following link: http://cdm.unfccc.int/EB/044/eb44rep.pdf . The EB documents were verified. The explanation was included in the PDD. CL 6 was closed out.	CL#6 Ok
B.5.3. Has the approved methodology been applied correctly for determining leakage ?	VVM Para. 91d PDD Section B (B.6.2 -B.71)	DR	No leakage has to be accounted by project activity	Ok
B.5.4. Where applicable, has the approved methodology been applied correctly for the direct calculation of emission reductions ?	VVM Para 88/91d PDD Section B (B.6.2 -B.71)	DR	No direct emissions reductions is expected to be monitored.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
B.5.5. Where there is an option between different equations or parameters, has the methodological choices for the project been explained, have they been properly justified and are they correct?	VVM Para.89/90/91 PDD Section B (B.6.2 -B.71)		Yes, in the PDD all choice of PP is justified. The values and sources mentioned in table 6 of PDD were verified (Parameters for Estimation of the <i>ex ante</i> Actual Net GHG Removals by Sinks). The parameters related to the above-ground biomass were developed by ESALQ. They were discussed with the ESALQ expert during the site visit and also checked in the document: “ <i>Análise ecológica, dendrométrica e do uso potencial de espécies arbóreas nativas em plantios consorciados visando o sequestro de carbono</i> – December 2006 (Ref.35). Factors of IPCC 2006 mentioned in the PDD were confirmed.	Ok
B.5.6. Are uncertainties in the GHG emissions estimates properly addressed in the documentation?	PDD Sections B.5-C	DR	Yes, following the recommendations of the methodology.	Ok
B.6. Ex-ante Data and Parameters Used				
B.6.1. Are the data provided in compliance with the methodology?	VVM Para. 91/67c PDD Section B.6.3B.6.4	DR	CL#13 was raised: It was observed that two different values are mentioned in the PDD for the parameter “carbon fraction”. In the PDD, table 6, the value informed for the parameter “Carbon fraction” is 47%. In discussion with PP, he informed that the value used for the parameter Carbon Fraction (CF) was the default value of 0,47 from Table 4.3, Volume 4 of IPCC 2006 (“Carbon fraction of above ground forest biomass”). It is also confirmed that TARAM considers the CF = 47%. In page 39 of PDD, the value mentioned for the parameter “ <i>CF – average carbon fraction of above-ground biomass</i> ” is 50% (also indicated as IPCC default value). It was also verified that CF = 50% is the value mentioned in the methodology (refer to pages 41, 42 and 61 of AR-AM0010, CF = average carbon fraction of above ground biomass is mentioned as 0,5 – IPCC value). PP response to CL#13 clarified that the parameters mentioned in the PDD as “CF” (table 6 and page 39) are the same. The value adopted in the PDD is that provided in Vol. 4, IPCC 2006, table 4.3 (default value of 0.47). Value of table	CL#13 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			E.4.1 of PDD was revised to reflect the value of 0.47. It is known that the methodology provided CF as 50%, but the value applied in the project reflects the most recent value available from IPCC and is conservative. The explanation was found acceptable and CL#13 was closed out.	
B.6.2. Is all the data derived from official data sources or replicable records and have these been correctly quoted?	VVM Para. 91a/b PDD Section B.6.3/B.6.4	DR	Factors applied are mainly from IPCC	Ok
B.6.3. Is the vintage of the baseline data correct?	PDD Section B.6.3/B.6.4	DR	Yes, considering also the cut date regarding the eligibility study (31/12/1989)	Ok
B.6.4. Is all the data appropriate and correctly applied to the CDM project activity?	VVM Para. 91c PDD Section B.6.3/B.6.4	DR	Yes, data and assumptions applied are justified in the PDD.	Ok
B.6.5. Are data and parameters that are not being monitored and remained fixed throughout the crediting period appropriately assessed, correct, and will they result in conservative estimates?	VVM Para. 90 PDD Section B.6.3/B.6.4	DR	Parameters mentioned in the PDD were confirmed; they will be fixed for the 30 years period.	Ok
B.7. Calculation of Emissions Reductions				
B.7.1. Has the approved methodology been	VVM Para.	DR	The methodology applied is: AR-AM0010: "Afforestation and reforestation project activities implemented on unmanaged grassland in reserve/protected areas"	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
applied correctly for determining emission reductions ?	91d PDD Section A.4.4/B.6		(version 4). In the UNFCCC CDM website, there are a number of methodological tools references in AR-AM0010, but they are not applicable to the project activity (refer also to CL#5, CL#6 and CL#8).	
B.7.2. Are the emission reduction calculations documented in a complete and transparent manner?	VVM Para. 91e PDD Section B.6	DR	Yes, described in details in the PDD and with traceable formulas in the TARAM spreadsheet.	Ok
B.7.3. Is the projection based on same procedures as used for later monitoring or acceptable alternative models?	PDD Section B.6	DR	GHG removals are calculated using TARAM model. This model was designed considering formulas and assumptions of the methodology.	Ok
B.7.4. Is the calculation of the emission reduction correct?	VVM Para. 91e PDD Section B.6	DR	<p>The <i>ex ante</i> actual net GHG removals by sinks are the sum of the verifiable changes in carbon stocks in the carbon pools within the project boundary, minus the increase in GHG emissions—measured in CO2 equivalents—by sources within the project boundary and attributable to the A/R CDM project activity.</p> <p>CL#14 was raised: The PDD version 2 provided a revised estimation for GHG removals by sinks (refer to table of page 17). The revised calculations (TARAM spreadsheets with revised values) have not been presented to DOE.</p> <p>As response to CL#14, PP provided Excel spreadsheet TARAM V1.3_RAHRA_BRAZIL_april20 2009. The revised version of TARAM is consistent with the revised version of PDD. Confirmed main assumptions, default values and the calculation of estimated amount of net anthropogenic GHG removals by sinks (confirmed data provided in the summary table of PDD, page 17). CL 14 was closed out.</p>	CL#14 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
B.8. Emission Reductions				
B.8.1. Is the form/table required for the indication of projected emission reductions correctly applied?	PDD Section A.4.4/ Section B.6 Ref.1b	DR	Yes, as confirmed in the revised PDD	Ok
B.8.2. Is the projection in line with the envisioned time schedule for the project's implementation and the indicated crediting period?	PDD Section A.4.4/ Section B.6 Ref.1b	DR	Project period is defined as 30 years (fixed). Project life time is considering as perpetual. The planting plan considers 200 ha /year	Ok
B.9. Monitoring Methodology				
B.9.1. Does the monitoring methodology provide a consistent approach in the context of all parameters to be monitored and further information provided by the PDD? Are all parameters and data that are available at validation consistent with the approved methodology. Has this data been interpreted	VVM Para. 67e PDD Section B.7-B.8 see also Annex 4	DR	The monitoring plan was found in compliance with AR-AM0010 and with the methodological tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version 1, available at time of validation). The monitoring plan covers: Monitoring the overall performance of the proposed A/R CDM project activity; Sources of variability and stratification for aboveground biomass pools; Monitoring the actual net GHG removals by sinks data. Monitoring of leakage, Monitoring of social economy of stakeholders and monitoring of environmental impacts were not required.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
and applied correctly?				
B.9.2. Does the monitoring methodology apply consistently the choice of the option selected for monitoring both of project and baseline emissions?	PDD Sections B and C	DR	Yes	
B.10. Data and Parameters Monitored				
B.10.1. Does the monitoring plan in the PDD comply with the approved methodology provided for the collection and archiving of all relevant data necessary for estimation or measuring the emission reductions within the project boundary during the crediting period?	VVM Para. 91a/91d/121/79 PDD Section B.7-B.7.2 Ref.1b	DR	Yes; monitoring plan is detailed in the PDD and Annex 4. It is provided a description of archiving procedures and information about management system related to the monitoring.	Ok
B.10.2. Are the choices of project GHG indicators reasonable and in conformance with the requirements set by the approved methodology applied?	PDD Section B.7-B.7.2/B.6.2 Ref.1b	DR	Yes; the main parameter to be monitored is the carbon stocks in the above-ground biomass (obtained from the volume, to be measured).	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
B.10.3. Will it be possible to determine the specified project GHG indicators?	PDD Section B.6.2-B.8 Ref.1b	DR	CL#7 was raised: Clarify if the biomass below-ground will be directly measured or will be estimated. It is not clear in some sections of the PDD. As per the methodology, the belowground biomass should be estimated. So, it should be explained how the procedure included in Annex 4 is in compliance with the methodology (" <i>data on belowground biomass would be collected from the local forestry inventory data and Good Practice Guidance on land Use, Land Use Change and Forestry (IPCC 2004) and published literature</i> "). To address CL#7, the text was revised in Annex 4 of PDD to indicate that the biomass belowground will be estimated, as defined by the methodology. CL 7 was closed out.	CL#7 Ok
B.10.4. Is the information given for each monitoring variable by the presented table sufficient to ensure the verification of a proper implementation of the monitoring plan?	PDD Section B.6.2-B.7.1 Ref.1b	DR	The manual of procedures prepared for University of São Paulo for measurement of permanent plots was provided (Ref.14 - "Protocolo mensuração de parcelas 29_01_2009"). The PP will prepare other specific procedures to support the project implementation and monitoring activities, including training of personnel.	Ok
B.10.5. Is the information given for each monitoring variable by the presented table sufficient to ensure the delivery of high quality data free of potential for biases or intended or unintended changes in data records?	PDD Section B.6.2-B.7.1 Ref.1b	DR	Quality assurance and quality control (QA/QC) procedure are described in the Annex 4 of PDD and will be implemented. It is defined re-measurements to check quality of field data collection and verification of data entry and analysis by an independent expert team and comparison with independent data to ensure that the data are realistic.	Ok
B.10.6. Is the monitoring approach in line with current good practice,	PDD Section B.5-B.7.2	DR	Yes; it considers: QA/QC procedures; internal checks, maintenance and calibration of monitoring equipment, training people in charge, among others.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
i.e. will it deliver data in a reliable and reasonably acceptable accuracy?	Ref.1b			
B.10.7. Are all formulae used to determine project emission clearly indicated and in compliance with the monitoring methodology.	PDD Section B.6.2-B.7.1 Ref.1b	DR	Formulas are presented in the PDD and also traceable in TARAM model.	Ok
B.11. Quality Control (QC) and Quality Assurance (QA) Procedures				
B.11.1. Is the selection of data undergoing quality control and quality assurance procedures complete?	VVM Para. 121 Refer to all data within the PDD Inc. B.6.2-B.7.1 Ref.1b	DR	Quality assurance and quality control (QA/QC) procedure are described in the Annex 4 of PDD and will be implemented. It is defined re-measurements to check quality of field data collection and verification of data entry and analysis by an independent expert team and comparison with independent data to ensure that the data are realistic.	Ok
B.11.2. Is the belonging determination of uncertainty levels done correctly for each ID in a correct and reliable manner?	Refer to all data within the PDD Inc. B.4/B.7.2/Annex 4	DR	The monitoring plan was found in compliance with AR-AM0010 and with the methodological tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version available at time of validation).	Ok
B.11.3. Are quality control procedures and quality assurance procedures sufficiently described to ensure the delivery of	VVM Para 121 Ref.1b	DR	See above. Quality assurance and quality control (QA/QC) procedure are described in the Annex 4 of PDD and will be implemented. It is defined re-measurements to check quality of field data collection and verification of data entry and analysis by an independent expert team and comparison with independent data to ensure that the data are realistic.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
high quality data?				
B.11.4. Is it ensured that data will be bound to national or internal reference standards?	VVM Para. 86d Ref.1b	DR	The monitoring plan was found in compliance with AR-AM0010 and with the methodological tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version available at time of validation).	Ok
B.11.5. Is it ensured that data provisions will be free of potential conflicts of interests resulting in a tendency of overestimating emission reductions?	VVM Para. 19 Ref.1b	DR	There are procedures for verification of field data collection. The re-measurement data will be compared with the original measurement data. Any errors discovered will be expressed as a percentage of all plots that have been rechecked to provide an estimate of the measurement error. If the difference between the re-measurement and original measurement is higher than 5%, the sample plot will be eliminated.	Ok
B.12. Operational and Management Structure				
B.12.1. Is the authority and responsibility of project management clearly described?	PDD Section B.8/Annex 1	DR	AES Tietê manager is responsible for the general project management.	Ok
B.12.2. Is the authority and responsibility for registration, monitoring, measurement and reporting clearly described?	PDD Section B.8/Annex 1	DR	ESALQ team of experts and students will be responsible for monitoring and measurements. AES Tietê staff is responsible for reporting.	Ok
B.12.3. Are procedures identified for training of monitoring personnel?	PDD Section B.8/Annex 1	DR	Annex 4 detailed the monitoring plan for the project activity and also mentioned that the PP will prepare specific procedures (standard operation procedures - SOPs) to support the monitoring activities, including training of personnel.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
B.13. Monitoring Plan (Annex 4)				
B.13.1. Is the monitoring plan developed in a project specific manner clearly addressing the unique features of the CDM activity?	VVM Para. 122a Ref.1b	DR	The monitoring plan was found in compliance with AR-AM0010 and with the methodological tool for the "Calculation of the number of sample plots for measurements within A/R CDM project activities" (version available at time of validation). Annex 4 detailed the monitoring plan for the project activity, considering the features of AES Tietê project. It was also mentioned that the PP will prepare specific procedures (standard operation procedures - SOPs) to support the monitoring activities.	Ok
B.13.2. Does the monitoring plan completely describe all measures to be implemented for monitoring all parameter required, including measures to be implemented for ensuring data quality?	VVM Para. 122b Ref.1b	DR	The monitoring plan is detailed in the PDD Annex 4; it covers: <ul style="list-style-type: none"> - Monitoring the overall performance of the proposed A/R CDM project activity; - Sources of variability and stratification for aboveground biomass pools; - Monitoring the actual net GHG removals by sinks data; Monitoring of leakage, Monitoring of social economy of stakeholders and monitoring of environmental impacts were not required.	Ok
B.13.3. Does the monitoring plan provide information on monitoring equipment and respective positioning in order to safeguard a proper installation?	VVM Para. 122b	DR	In Annex 4, there is a list of equipment used in forestry inventories and calibration procedures for measurement accuracy, also includes procedures for the maintenance of equipment used in vegetation measurement.	Ok
B.13.4. Are procedures identified for calibration	VVM Para.	DR	Yes, see above. Provided in Annex 4 of PDD.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
of monitoring equipment?	122a-c			
B.13.5. Are procedures identified for maintenance of monitoring equipment and installations?	VVM Para. 122a-c	DR	Yes, see above. Provided in Annex 4 of PDD.	Ok
B.13.6. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)	VVM Para. 122a-c	DR	It is informed in Annex 4 that the MP will be complemented by standard operating procedures (SOPs) under development by the project proponents. These will include procedures for project implementation and monitoring (i.e. training, emergency preparedness, equipment used in inventory and calibration etc). Regarding archiving, as described in Annex 4, data archiving will take both electronic and paper forms, and copies of all data will be provided to each project participant. All electronic data and reports will also be copied on durable media such as CDs and copies of the CDs are stored in multiple locations.	Ok
B.13.7. Are procedures identified for dealing with possible monitoring data adjustments and missing data allowing redundant reconstruction of data in case of monitoring problems?	VVM Para. 122a-c	DR	There are procedures for verification of field data collection. The re-measurement data will be compared with the original measurement data. Any errors discovered will be expressed as a percentage of all plots that have been rechecked to provide an estimate of the measurement error. If the difference between the re-measurement and original measurement is higher than 5%, the sample plot will be eliminated.	Ok
B.13.8. Are procedures identified for internal audits of GHG project compliance with operational	VVM Para.122a-c	DR	Quality assurance and quality control (QA/QC) procedure are described in the Annex 4 of PDD. It is defined re-measurements to check quality of field data collection and verification of data entry and analysis by an independent expert team and comparison with independent data to ensure that the data are realistic.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
requirements where applicable?				
B.13.9. Are procedures identified for project performance reviews before data is submitted for verification, internally or externally?	VVM Para. 122a-c	DR	Quality assurance and quality control (QA/QC) procedure are described in the Annex 4 of PDD. It is defined re-measurements to check quality of field data collection and verification of data entry and analysis by an independent expert team and comparison with independent data to ensure that the data are realistic.	Ok
B.13.10. Describe the ability of the project participants to implement the monitoring plan.	VVM Para. 122c	DR	PP has a trained staff and also has support of experts from consultancies and universities.	Ok
B.14. Baseline Details				
B.14.1. Is there any indication of a date when determining the baseline?	PDD Section B.8/Annex 3 Ref.1b	DR	Section C.8 of PDD indicates: 01/09/2008.	Ok
B.14.2. Is this consistent with the time line of the PDD history?	Also see revision history of the PDD Ref.1b	DR	Yes, the first PDD was dated January 2009.	Ok
B.14.3. Is all data required provided in a complete manner by annex 3 of the PDD?	PDD Annex 3 Ref.1b	DR	Annex 3 provided additional information about the São Paulo state vegetation and forest reminiscent in the region. Annex 5 presented the assessment of land eligibility (also important in the discussion of baseline) and determination of the project boundary.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
C. Duration of the Project / Crediting Period				
C.1.1. Are the project's starting date and operational lifetime clearly defined and reasonable?	VVM Para. 102a-c PDD Section C.1.1/C.1.2	DR	<p>Starting date is defined as 15/12/2000. It is the date of contract between AES Tietê and a contractor for planting the first area of the scope of the project (real action of a project activity begins). As the project has already started, the following documents were checked: Invoices of the dispatch of native species seedlings from the nursery of Promissão (Invoice no. 00078 (02/01/2001); Invoice no. 0085 (16/01/2001); Invoice no. 00152 (30/01/2001); Invoice no. 0094 (25/01/2001), delivery of seedlings for the planting of the margins of the reservoir in Limoeiro hydroelectric.</p> <p>Samples of the contracts with subcontractors in the scope of: "Implementation and maintenance of the reforestation of riparian areas of the margins of the hydro-electrics (from the Portuguese "Implantação e manutenção de reflorestamento ciliar nas bordas das usinas"): Subcontractor: Serflora serviços florestais LTDA – dated 15/12/2000; area of 79ha in Barra Bonita hydro power plant (project start date); Subcontractor: Castilho Barrichelo Construtora e Empreiteira de mão de obra dated 25/04/2001; area of 2ha in Limoeiro hydro power plant; Subcontractor: Sartori Comércio e Paisagismo LTDA – dated 18/12/2000, area of 37ha in the Ibitinga hydro power plant.</p> <p>The areas to be restored will not be subjected to harvesting or other kind of intentional exploration, and are also protected by law, so the operational life can be perpetual.</p> <p>Refer to CAR #10 for issues raised related to start date and CDM consideration.</p>	Refer to CAR #10 Ok
C.1.2. Is the assumed crediting time clearly defined and reasonable (renewable crediting period of max 7 years with potential for 2	VVM Para. 102a PDD Section C.2/C.2.1/C.2.2	DR	As AR project, the crediting period is defined as 30 years (fixed).	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
renewals or fixed crediting period of max. 10 years)?				
C.1.3. Does the project's operational lifetime exceed the crediting period	VVM Para. 102a PDD Section C.1.2/C.2.1.1/C.2.1.2	DR	The crediting period is defined as 30 years (period of concession of AES Tietê); the areas to be restored will not be subjected to harvesting or other kind of intentional exploration, so the operational life can be perpetual.	Ok
C.1.4. Does the start date indicate whether this is a new project activity or a pre-existing project activity?	VVM Para. 102a/ 98 PDD Section C.1.1/C.2.1.1	DR	Project start date is 15/12/2000; it is a pre-existing project (but it is important to highlight that only less than 15% of the project is implemented until date of the site visit.	Ok
D. Environmental Impacts				
D.1.1. Does the project comply with environmental legislation in the host country?	VVM Para. 131 PDD section D Ref.1b Ref.7, Ref.8, Ref.10, Ref.38	DR	<p>The environmental licenses and relevant communication between PP and environmental agencies were verified to check compliance of project to legal requirements. They were found valid at time of the site visit.</p> <p>CL#4: It is informed in the PDD that pesticides can be used (control of ants and herbicides). Clarify if the use of such chemical products in APP ("Área de preservação permanente") is acceptable and in compliance with the legal requirements.</p> <p>As response, PP informed that according to legal document "Portaria CPRN 02, de 29 de Janeiro de 2008" environmental restoration activities in APPs have to be communicated to the State of São Paulo Environment Secretary, including activities related to the application of chemical products such as pesticides. This application is acceptable, and only requires a formal communication to the State of São Paulo Environment Secretary. For the State of Minas Gerais, there is no formal requirement of communication and/or authorization required by IEF. To</p>	CL#4 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
			support their response, PP provided to SGS legal document "Portaria CPRN 02, de 29 de Janeiro de 2008 and the communication forwarded to the State of São Paulo Environment Secretary. For the State of Minas Gerais, PP provided written communication with IEF. Verified copy of the e-mail sent by the representative of regional IEF office (regional Triângulo, Sr. Carlos Luiz Mamede) dated 28/03/2009. Attached to this message, the IEF representative sent copy of the Minas Gerais State Forest Law (Lei Florestal Estadual - MG) and resolução CONAMA 369 (clause 6 informs that "the planting of native species for restoration of permanent preservation areas does not depend on the authorization from governmental agencies, since the applicable agreements and technical standards and rules are respected. CL 04 was closed out.	
D.1.2. Has an analysis of the environmental impacts of the project activity been sufficiently described?	VVM Para. 131 PDD section D	DR	No adverse impacts are expected from the project activity (restoration of the reservoirs margins). The PDD provided the description of environmental features and activities performed in AES Tietê its environmental programmes.	Ok
D.1.3. Are there any Host Party requirements for an Environmental Impact Assessment (EIA), and if yes, is an EIA approved?	VVM Para. 131 PDD section D	DR	EIA are required for installation of hydro-power plants. For the restoration of reservoir margins, no EIA is required. Verified environmental licenses of the plants, communication between AES Tietê and environmental agencies and also the relevant regulations.	Ok
D.1.4. Will the project create any adverse environmental effects?	VVM Para. 131 PDD section D	DR	No adverse impact is expected from the project activity.	Ok
D.1.5. Are trans-boundary environmental impacts considered in the analysis?	VVM Para. 131 PDD section D	DR	No adverse impact is expected from the project activity.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLS
D.1.6. Have identified environmental impacts been addressed in the project design?	VVM Para. 131 PDD section D	DR	No adverse impact is expected from the project activity; it was informed that AES Tietê will continue to inspect and manage the use and occupation of its border areas according to its Biodiversity program.	Ok
E. Stakeholder Comments				
E.1.1. Have relevant stakeholders been consulted?	VVM Para. 128a PDD Section E.1 Ref.17	DR	<p>There were a total of 342 invitations sent out. The list of the invited stakeholders in the PDD was checked by sample. The ARs for the following stakeholders were evidenced during site visit (ARs – pdf file Aviso Recebimento Reflorestamento).</p> <p>CAR#12 was raised: During the site visit, it was verified that there was not evidence that all relevant local stakeholders were contacted, as required by “Resolução nº 7” of Brazilian DNA. Copies of missing ARs should be provided. In addition, in the PDD version 2, Annex 10, the São Paulo State Government and Minas Gerais State Government are not listed as state entities consulted (they are required to be consulted by Resolução nº7).</p> <p>To respond to CAR#12, PP included the State Governments of São Paulo and Minas Gerais in the PDD version 2 (22nd April 2009). The missing ARs (receipts of mailing) or Federal and State institutions listed in the PDD were evidenced by the DOE in the visit carried out on the 30th of April 2009 in AES Tietê office. CAR#12 was closed out.</p>	CAR#12 Ok
E.1.2. Have appropriate media been used to invite comments by local stakeholders?	VVM Para. 128a PDD Section E.1 Ref.1b Ref.16	DR	The ARs checked were dated September 2008 so that the requirement of resolution 7 of the Brazilian DNA that says that the invitations for comments should be sent 15 days before the beginning of the validation process has been met. An example of a letter sent to the stakeholders was verified (Invitation letter – pdf file) Exemplo_Câmaraltapira.pdf). The requirements of resolution 7 of the “Comissão Interministerial de Mudança Global do Clima was met.	Ok
E.1.3. Is the undertaken stakeholder process	VVM Para.	DR	Yes, complete information was inserted in the PDD.	Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
described in a complete and transparent manner?	128b PDD Section E.1			
E.1.4. Is a summary of the stakeholder comments received provided?	VVM Para. 128b PDD Section E.2	DR	Yes, table 8 of PDD presented a list of comments received.	Ok
E.1.5. Has due account been taken of any stakeholder comments received?	VVM Para. 128b PDD Section E.3 Ref.15	DR	Verified during the site visit that the comments were positive and responses were sent by e-mail from PP to stakeholders.	Ok

Table 3 Additional Requirements for AR Projects

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
F. Additional Requirements for AR Projects				
F.1.1. 3.1 Does the PDD specifically consider impacts on biodiversity and natural ecosystems, in addition to socio-economic and environmental impacts?	Ref.1b	DR	<p>CL#3 was raised: It is not clear if the information provided in the Figure 5 (Section A.5.2 of the PDD, version 1) is the most updated. In addition, details about endangered plants species is missing in this section.</p> <p>To respond to CL#3, PP decided to remove Figure 5 in Section A.5.2 of the PDD version 1 given that it is not the most updated information available. For threatened animal species in the State of São Paulo, the most updated information is included as a list at the State's Environment Secretary website: http://www.ambiente.sp.gov.br/fauna.php. A summary of the findings is made available at various public websites including:</p>	CL#3 Ok

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
			http://tvecologica.wordpress.com/2008/10/08/estado-de-sao-paulo-divulga-sua-lista-de-fauna-ameacada-faca-o-download-aqui/ . For threatened plant species, the most updated information is a list made available by the Ministry of Environment in 2008. Specifically for the State of São Paulo, the State Environment Secretary released a list in 2004 included in Resolution SMA 48/2004. References were verified and are correct; a revised version of PDD is provided, which concluded that in the areas around the reservoirs it is not expected to found endangered species. CL3 was closed out.	
F.1.2. Are management activities, including harvesting cycles and verification programmes chosen to avoid a systemic verification of peaks in carbon stocks?	Ref.1b	DR, I, SV	No harvesting is planned for the project areas; the monitoring of the carbon stocks is defined by experts from ESALQ and the frequency of measurements is defined.	Ok
F.1.3. Have the project participants indicated whether they choose to account using ICERs or tCERs as defined in Section K, paras 38 – 60 of Decision 19/CP.9	Ref.1b	DR	PP has chosen tCERs.	
F.1.4. Has the project undergone international public consultation for a period to 45 days?	UNFCCC website	DR	Yes, the PDD was available on the UNFCCC website (http://cdm.unfccc.int/Projects/Validation/DB/KZYUMAUTQ6A1ZFQD81Q7N53T55J6Z9/view.html) and was open for comments from 22/01/2009 until 07/03/2009. 1 comment was received.	Ok
F.1.5. Have selected carbon pools been ignored in accordance with the conditions described in	Ref.1b	DR	Refer also to section B	

Checklist Question	Ref. ID	MoV*	Comments	Conclusion/ CARs/CLs
Para 21 of Decision 19/CP.9 and does the project avoid double counting?				
F.1.6. Has a project lifetime of 20 years renewable three times or 30 years been selected?	Ref.1b	DR	30 years was selected.	Ok
F.1.7. Does the monitoring plan take account of issues related to biodiversity and natural ecosystems identified elsewhere in the PDD?	Ref.1b	DR	The methodology does not require monitoring of indicators related to biodiversity and other aspects of natural ecosystems. The monitoring system is designed to measure the parameters related to quantification of carbon stocks.	Ok
F.1.8. Is the application of ICERs and tCERs accounting regimes consistent with Sections J and K and Decision 19/CP.9?	Ref.1b	DR	The PDD mentioned tCERS (temporary CERs), for a 30 years crediting period.	Ok
F.1.9. Note Appendix B highlighting the differences in the PDD, the PDD template for AR projects and the guidelines, available at http://cdm.unfccc.int/Reference/Documents	Ref.1b	DR	Refer also to CAR#1 (section A of this checklist).	Refer to CAR#1 Ok

References

Reference ID	Title / Description	Comments
/3a/	AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil - PDD version 1, 05/01/2009	PDD for global stakeholder consultation
/1b/	AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil - PDD version 2, 22/04/2009 (final)	PDD
/1c/	AES Tietê Afforestation/Reforestation Project in the State of São Paulo, Brazil - PDD version 3, 19/10/2009	PDD final
/4/	ER model_spreadsheet (TARAM V1.3_RAHR_BRAZIL_april20 2009.zip)	Model to calculate the GHG removals
/3/	LOA from Brazil	Issued on 14/07/2010
/4/	LOA from Canada	Issued on 26/03/2009
/5/	Eligibility study by Geoconsult – report June 2008	
/6/	Detailed coordinates of areas	
/7/	Relevant legal requirements	A zip file containing several legal requirements applicable to the project
/8/	Communication with environmental agency	Letters sent and received by PP regarding environmental licences and conditions defined by environmental agencies
/9/	Concession document - December 1999	Document defining the rights and obligations of AES Tietê
/10/	Environmental licenses of hydro-power plants	A zip file containing several licences of power plants
/11/	Privatization announcement - September 1999	
/12/	Contract with ESALQ	Contract for monitoring services
/13/	Volume projected - study October 2008	
/14/	Protocol for plots measurement 29_01_2009	Manual for data collection on-site
/15/	Comments and responses to local stakeholders	

Reference ID	Title / Description	Comments
/16/	Letter sent to local stakeholder	Model of letter sent
/17/	List of stakeholders contacted	
/18/	Presentation about eligibility study (presented during the site visit)	
/19/	Contract with outsourcer 15_12_2000 (project start date)	Evidence of project start date
/20/	Minutes of Abrage meetings 26_03_2009.	Evidence of first of kind
/21/	Attendance list of Abrage meeting.pdf	Evidence of first of kind
/22/	Contract with Geoconsult 2005	Evidence of the project chronology
/23/	List of species _ Promissão nursery	
/24/	Article related to common practice analysis	
/25/	Report Mbaracayu_August 2001	Evidence related to CDM consideration
/26/	Declaration from Brazilian DNA	Evidence related to CDM consideration
/27/	Dossiê - Bananal Island Carbon Sequestration Project Phase II (BICPSP II)	Evidence related to CDM consideration
/28/	Contract with FATO consultant 2005	Evidence of the project chronology
/29/	Endangered species list MME 2008	
/30/	Letter of Intent World Bank _March 1st 2007	Evidence of the project chronology
/31/	Article: Melo, A. C. G <i>et al.</i> , Diagnóstico da recuperação de áreas degradadas no Estado de São Paulo: diretrizes e recomendações. In: V Simpósio Nacional sobre Recuperação de Áreas Degradadas: Água e Biodiversidade - Trabalhos Voluntários, 2002, Belo Horizonte. v. I. p. 469-471.	Evidence for analysis of barriers
/32/	Article: Pivello, V.R. Invasões Biológicas no Cerrado Brasileiro: Efeitos da Introdução de Espécies Exóticas sobre a Biodiversidade. ECOLOGIA INFO 33. 2008.	Evidence for analysis of barriers
/33/	Article: Tabarelli, M. <i>et al.</i> , Desafios e oportunidades para a conservação da biodiversidade na Mata Atlântica brasileira. Megadiversidade, volume 1, nº 1. 2005.	Evidence for analysis of barriers
/34/	Hydrology study	

Reference ID	Title / Description	Comments
/35/	Study of native plantations for carbon sequestration 2006	Evidence for analysis of barriers
/36/	Contract with surveillance company	
/37/	Surveillance reports	
/38/	Message from IEF about activities in APP.	Legal requirements related to APP
/39/	Lists of endangered Fauna Sao Paulo	
/40/	Presentation by the Environmental agency of State of São Paulo- 2008	Evidence for analysis of barriers
/41/	Article: Galindo-Leal, C.; Câmara, I.G. Mata Atlântica: Biodiversidade, Ameaças, e Perspectivas. Fundação SOS Mata Atlântica e Conservação Internacional., 2005.	Evidence for analysis of barriers
/42/	Contract between AES Tietê and consultant NRG Ltda (for carbon removals projects), 01/04/2004.	CDM consideration event

A.3 Annex 3: Overview of Findings

Findings Overview Summary

	CARs	CLs	FARs
Total Number raised	3	12	0

Date:	20/01/2009		Raised by:	Aurea Nardelli		
Type:	CAR	Number:	01		Reference:	AU4, table 1, item 5 (PDD template and format)
Lead Assessor Comment:				Date: 20/01/2009		
PDD (version 1, provided for desk study and for global stakeholder consultation) is not using the current version of the PDD form for AR activities (it should be version 4); editorial changes were also observed in the document (e.g. section A.5, the sub-title "Ecosystems" should be used, instead of "Vegetation"; table in section C.7; format of the table in page 27; font format in many sub-titles etc).						
Project Participant Response:				Date: 16/03/2009		
The project PDD was revised to conform to PDD form for AR activities version 4.						
Documentation Provided by Project Participant:						
The evidence provided is the revised project PDD.						
Information Verified by Lead Assessor:						
The PP has made adjustments to correct the PDD to comply with template version 4, however a few mistakes remain (e.g. the first page informs version 4 and the header in the rest of the document states that this is template Version 03; format of table in section A.3; in section A.5, the sub-title "Ecosystems" should be used, instead of "Vegetation"; it is missing a table in section C.7, among others). Revise and check if the current template has been used in the complete document. <u>It shall be used the current template and also followed the current PDD Guide applicable for using this template.</u>						
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 28/04/2009		
See above. The PDD is not applying the correct template yet. See also minor corrections required on 03 June 2009, to be in compliance with the PDD form version 4 (current version available on the CDM website).						
Acceptance and Close out by Lead Assessor:				Date: 19/06/2009		
The corrections were done in the revised PDD; the template 4 was applied. CAR 01 was closed out.						

Date:	20/01/2009		Raised by:	Aurea Nardelli	
Type:	CL	Number:	02	Reference:	AU4, table 1, items 1 and 2; and table 2, item A.3.1 and A.3.2 (Participation requirements)
Lead Assessor Comment:				Date: 20/01/2009	
PDD (version 1) indicate in section A.3 (page 5) as project participant the “International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund”, but it should be clarify why the respective Annex 1 country is not indicated in the same table. Also, confirm the exact name of the entity (in Annex 1 of the PDD, it is mentioned just as ““BioCarbon Fund, The World Bank”.					
Project Participant Response:				Date: 16/03/2009	

The Annex 1 country indicated in the table in section A.3 shall be Canada. The exact name of the entity (in Annex 1 of the PDD shall be "International Bank for Reconstruction and Development as a trustee for the BioCarbon Fund". In this way information provided by both the table in section A.3 and Annex 1 of the PDD will be the same.	
Documentation Provided by Project Participant:	
The evidence provided is the revised project PDD.	
Information Verified by Lead Assessor:	
The PP has inserted the name of the Annex I party in the table in section A.3. The name of the entity in the Annex 1 of the PDD has been adjusted so that the names in the table in section A.3 and in Annex 1 of the PDD now match. See other minor corrections (mistake in the name of Brazil in the section A.3) and clarify if the Bank address is in USA, not Canadá (Annex 1 of PDD).	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/04/2009
See minor pending issues above. CL2 remains open.	
Acceptance and Close out by Lead Assessor:	Date: 03/06/2009
A revised version of PDD was provided, with a correct table in section A.3. CL2 was closed out.	

Date:	20/01/2009	Raised by:	Aurea Nardelli		
Type:	CL	Number:	03	Reference:	Au4, item 3.1 (information about endangered species)
Lead Assessor Comment:			Date: 20/01/2009		
It is not clear if the information provided in the Figure 5 (Section A.5.2 of the PDD, version 1) is the most updated. In addition, details about endangered plants species is missing in this section.					
Project Participant Response:			Date: 16/03/2009		
PP decided to remove Figure 5 in Section A.5.2 of the PDD version 1 given that it is not the most updated information available. For threatened animal species in the State of São Paulo, the most updated information is included as a list at the State's Environment Secretary website: http://www.ambiente.sp.gov.br/fauna.php . The list was made public in October 2008, and identifies 436 species and subspecies of vertebrates (17% of the known taxonomy) mainly located within the Atlantic Rainforest biome. A summary of the findings is made available at various public websites including: http://tvecologica.wordpress.com/2008/10/08/estado-de-sao-paulo-divulga-sua-lista-de-fauna-ameacada-faca-o-download-aqui/ . For threatened plant species, the most updated information is a list made available by the Ministry of Environment in 2008. Specifically for the State of São Paulo, the State Environment Secretary released a list in 2004 included in Resolution SMA 48/2004.					
Documentation Provided by Project Participant:					
For threatened animal species, the PP provided a file named "Fauna SP" downloaded from the website indicated above. For threatened plant species, the PDD provided a file named "MME 2008" which includes the list provided by the Ministry of Environment. In addition, Resolution SMA 48/2004 was also provided as file named "2004 Res SMA 48".					
Information Verified by Lead Assessor:					
References were verified and are correct; however section A.5.2 of the PDD requires the description of the presence, if any, of rare or endangered species and their habitats. This section A.5.2 should be concluded informing if among rare or endangered species, listed in these lists and links mentioned, there are species present (or expected to be present) in the project area.					
Reasoning for not Acceptance or Acceptance and Close Out:			Date: 28/04/2009		
A conclusion should be included in section A.5.2.					
Acceptance and Close out by Lead Assessor:			Date: 03/06/2009		
A revised version of PDD is provided, which concluded that in the areas around the reservoirs it is not expected to found endangered species. CL3 was closed out.					

Date:	20/01/2009	Raised by:	Aurea Nardelli
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Type:	CL	Number:	04	Reference:	AU4, item D.1.1 (Compliance with environmental legislation)
Lead Assessor Comment:				Date: 20/01/2009	
It is informed in the PDD that pesticides can be used (control of ants and herbicides). Clarify if the use of such chemical products in APP (“Área de preservação permanente”) is acceptable and in compliance with the legal requirements. Is it required any authorization from environmental agencies for interventions in APP?					
Project Participant Response:				Date: 28/03/2009	
According to legal document “Portaria CPRN 02, de 29 de Janeiro de 2008” environmental restoration activities in APPs have to be communicated to the State of São Paulo Environment Secretary, including activities related to the application of chemical products such as pesticides. This application is acceptable, and only requires a formal communication to the State of São Paulo Environment Secretary. For the State of Minas Gerais, there is no formal requirement of communication and/or authorization required by IEF.					
Documentation Provided by Project Participant:					
PP provided legal document “Portaria CPRN 02, de 29 de Janeiro de 2008” as file named Portaria_CPRN_02, and the communication forwarded to the State of São Paulo Environment Secretary, as file named DGMA_Tietê_073_09. For the State of Minas Gerais, PP provided written communication with IEF.					
Information Verified by Lead Assessor:					
Verified copy of the legal requirements applicable in São Paulo State.					
Verified copy of the e-mail sent by the representative of regional IEF office (regional Triângulo, Sr. Carlos Luiz Mamede) dated 28/03/2009. Attached to this message, the IEF representative sent copy of the Minas Gerais State Forest Law (Lei Florestal Estadual - MG) and resolução CONAMA 369 (clause 6 informs that “the planting of native species for restoration of permanent preservation areas does not depend on the authorization from governmental agencies, since the applicable agreements and technical standards and rules are respected.					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 13/04/2009	
CL 04 was closed out. The verified documents (legal requirements applicable in São Paulo and Minas Gerais states) evidenced that no specific authorization is required by the environmental agencies for performing the planting of native trees in the APP.					
Acceptance and Close out by Lead Assessor:				Date: 13/04/2009	

Date:	20/01/2009		Raised by:	Aurea Nardelli	
Type:	CL	Number:	05	Reference:	AU4, item B.1.3 (applicability criteria of the methodology)
Lead Assessor Comment:				Date: 20/01/2009	
Clarify how can be evidenced that the amount of nitrogen-fixing species used in the A/R CDM project activity is not significant (so greenhouse gas emissions from denitrification can therefore be neglected). No details were provided in the PDD to support this applicability criterion of the methodology.					
Project Participant Response:				Date: 16/03/2009	
As per the decision of EB 44 paragraph 37, the Board agreed that GHG emissions as nitrous oxide (N ₂ O) emissions from decomposition of litter and fine roots from N-fixing trees are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity.					
Documentation Provided by Project Participant:					

<p>The evidence may be found at the UNFCCC CDM website using the following link: http://cdm.unfccc.int/EB/044/eb44rep.pdf. The text for paragraph 37 is provided below: 37. The Board agreed that the GHG emissions from the following sources related to A/R CDM project activities:</p> <p>(a) Fossil fuel combustion in A/R CDM project activities; (b) Collection of wood from non-renewable sources to be used for fencing of the project area; and (c) Nitrous oxide (N₂O) emissions from decomposition of litter and fine roots from N-fixing trees are insignificant in A/R CDM project activities and may therefore be neglected in A/R baseline and monitoring methodologies.</p> <p>The Board further agreed to request the secretariat to prepare draft revisions to those approved A/R CDM baseline and monitoring methodologies affected by the above guidance, and also in doing so to make the methodologies consistent with each other, especially if they differ in approaches applied for similar issues, for consideration by the A/R WG and thereafter recommendation to the Board for approval.</p>	
Information Verified by Lead Assessor:	
The EB documents were verified. The explanation should be included in the PDD.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 13/04/2009
Section D.1 of the PDD was changed to reflect this explanation (see page 32 of PDD version 2). According to section III (Principles for Validation and Verification) of the VVM Version 01, "The principle of consistency shall not prevent a DOE from applying the most recent decisions and guidance provided by the CDM Executive Board" so it is deemed correct. CL 5 was closed out.	
Acceptance and Close out by Lead Assessor:	Date: 28/04/2009

Date:	20/01/2009	Raised by:	Aurea Nardelli		
Type:	CL	Number:	6	Reference:	AU4, item B.5.2 (determining project emissions)
Lead Assessor Comment:			Date: 20/01/2009		
Clarify how the total estimated amount of fuel consumption for equipment of 122 l/ha of reforested area was obtained. Provide details of measurement and calculation, if applicable.					
Project Participant Response:			Date: 16/03/2009		
As per the decision of EB 44 paragraph 37, the Board agreed that GHG emissions as fossil fuel combustion in A/R CDM project activities are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity.					
Documentation Provided by Project Participant:					
The evidence may be found at the UNFCCC CDM website using the following link: http://cdm.unfccc.int/EB/044/eb44rep.pdf . The text for paragraph 37 and 38 is provided below: 37. <i>The Board agreed that the GHG emissions from the following sources related to A/R CDM project activities:</i> <i>(a) Fossil fuel combustion in A/R CDM project activities;</i> <i>(b) Collection of wood from non-renewable sources to be used for fencing of the project area; and</i> <i>(c) Nitrous oxide (N2O) emissions from decomposition of litter and fine roots from N-fixing trees are insignificant in A/R CDM project activities and may therefore be neglected in A/R baseline and monitoring methodologies.</i> 38. <i>The Board further agreed to request the secretariat to prepare draft revisions to those approved A/R CDM baseline and monitoring methodologies affected by the above guidance, and also in doing so to make the methodologies consistent with each other, especially if they differ in approaches applied for similar issues, for consideration by the A/R WG and thereafter recommendation to the Board for approval.</i>					
Information Verified by Lead Assessor:					
The EB documents were verified. The explanation should be included in the PDD.					
Reasoning for not Acceptance or Acceptance and Close Out:			Date: 13/04/2009		

Section D.1 of the PDD was changed to reflect this explanation (see page 32 of PDD version 2). According to section III (Principles for Validation and Verification) of the VVM Version 01, "The principle of consistency shall not prevent a DOE from applying the most recent decisions and guidance provided by the CDM Executive Board" so it is deemed correct. CL 6 was closed out.

Acceptance and Close out by Lead Assessor: **Date:** 28/04/2009

Date:	20/01/2009		Raised by:	Aurea Nardelli		
Type:	CL	Number:	7		Reference:	AU4, item B.10.3 (parameters to be monitored)

Lead Assessor Comment: **Date:** 20/01/2009

Clarify if the biomass below-ground will be directly measured or will be estimated. It is not clear in some sections of the PDD.

Project Participant Response: **Date:** 16/03/2009

Annex 4 (Monitoring Plan) in subsection 4b) mentions the following for below-ground biomass
"Because collection of samples for estimating root biomass is expensive and time consuming, data on belowground biomass would be collected from the local forestry inventory data and Good Practice Guidance on land Use, Land Use Change and Forestry (IPCC 2004) and published literature. Field sampling would be conducted on selective basis to verify the reported data".

Thus, data will be collected from secondary sources in order to calculate the biomass below-ground. It is a variable that will be calculated, not directly measured or estimated.

Documentation Provided by Project Participant:

The evidence provided by the PP is Annex 4 (Monitoring Plan) of the project PDD.

Information Verified by Lead Assessor:

As per the methodology, the belowground biomass should be estimated. So, it should be explained how the procedure included in Annex 4 is in compliance with the methodology ("data on belowground biomass would be collected from the local forestry inventory data and Good Practice Guidance on land Use, Land Use Change and Forestry (IPCC 2004) and published literature").

The text is still dubious when say "collected". It should be explained exactly how the biomass will be estimated. E.g., what kind of data will be obtained from Good Practice Guidance on land Use, Land Use Change and Forestry (IPCC 2004)? What equation will be applied for estimation?

Reasoning for not Acceptance or Acceptance and Close Out: **Date:** 28/04/2009

See above. The text in the PDD is not clear yet.

Acceptance and Close out by Lead Assessor: **Date:** 03/06/2009

The text was revised in Annex 4 of PDD to indicate that the biomass belowground will be estimated, as defined by the methodology. CL 7 was closed out.

Date:	20/01/2009		Raised by:	Aurea Nardelli	
Type:	CL	Number:	8	Reference:	Au4, item B.2.1 (emissions sources included in the project boundary)

Lead Assessor Comment: **Date:** 20/01/2009

Clarify if the use of fertilizers (nitrogen fertilization) will be included in the calculation of GHG emissions from the project activity.

Project Participant Response: **Date:** 16/03/2009

As per the decision of EB 42 paragraph 35, the Board agreed that GHG emissions fertilizer application in A/R CDM project activities are insignificant in A/R CDM project activities, and may therefore be neglected in A/R baseline and monitoring methodologies. Thus, this element is not being considered by the project activity.

Documentation Provided by Project Participant:

The evidence may be found at the UNFCCC CDM website using the following link:

<http://cdm.unfccc.int/EB/042/eb42rep.pdf>. The text for paragraph 35 is provided below:

35. The Board clarified the guidance on accounting GHG emissions in A/R CDM project activities from the following sources: (i) fertilizer application, (ii) removal of herbaceous vegetation, and (iii) transportation; and agreed that emissions from these sources may be considered as insignificant and hence can be neglected in A/R baseline and monitoring methodologies and tools. The Board further requested the secretariat to revise all affected approved A/R CDM baseline and monitoring methodologies and tools, in order to apply the above-mentioned guidance, and make these methodologies available on 17 October 2008, after agreement by the chairs of the A/R WG and the Board.

Information Verified by Lead Assessor:

The EB documents were verified. The explanation should be included in the PDD.

Reasoning for not Acceptance or Acceptance and Close Out:

Date: 13/04/2009

Section D.1 of the PDD was changed to reflect this explanation (see page 32 of PDD version 2). According to section III (Principles for Validation and Verification) of the VVM Version 01, "The principle of consistency shall not prevent a DOE from applying the most recent decisions and guidance provided by the CDM Executive Board" so it is deemed correct. CL 8 was closed out.

Acceptance and Close out by Lead Assessor:

Date: 28/04/2009

Date:	13/04/2009		Raised by:	Aurea Nardelli		
Type:	CL	Number:	9		Reference: Additionality	AU4: B.4.3
Lead Assessor Comment:				Date: 13/04/2009		

During the site visit, the legal requirements related to the reforestation and/or management of APPs and areas around reservoirs were discussed with AES Tietê team and documents were checked. The objective is to verify the additionality of the project.

The following information was verified in the document “Contrato de Concessão”:

- Paragraph XVIII of section 4.3 states that constant environmental programs of the environmental assessment report held at the “Sala de Operações” should be carried out, according to the pertinent environmental law and the Environmental Policy defined by CESP in May 1996 as well as other environmental programs derived from requirements of licensing institutions.

- Paragraph XXIX of section 4.3 states that the functioning of the seedlings nursery of Promissão should be maintained, for the continuation of the execution of the management plan of the flora with native species in conformity with the environmental requirements, according with standards already developed by Tietê, securing 1 million native seedlings per year, for this programme.

Also:

- Small Hydroelectric Plant Mogi Guaçu Operational License issued by the State of São Paulo Environmental Secretariat on 22.09.94. This license issued to CESP, states that the creation of areas of Conservation of Flora and Fauna were a prerequisite for the operational license issued. The license also states that the report handed by CESP to the State Environmental Secretariat foresees the creation of 5 such areas with 154,43 ha to be reforested within this and a further 200ha to serve as corridors to link these areas of Conservation of Flora and Fauna. The Environmental Secretariat also required from CESP a management plan of the 5 areas proposed by CESP. The question of whether the areas requested to be planted in the initial license (from the 22/09/94), have been planted before or after 2001 remain un-answered.

- The PACUERA and Environmental Report presented by PP to the environmental agencies have not been revised by DOE (e.g., documents related to plant Alvaro de Souza Lima – Bariri; plant Caconde; plant Ibitinga; plant Mario Lopes Leão (Promissão); plant Água Vermelha, among others).

All of the IBAMA licenses ask for several reports to be handed within different periods of time, including the “Plano Ambiental de Conservação e Uso do Entorno do Reservatório” (or Environmental Management Plan for the Conservation and Use of the Areas Around the Reservoir); the Commitment Term with IBAMA to carry out the “Programa de Compensação Ambiental” or “Environmental Compensation Program” established by the “Coordenadoria Geral de Unidades de Conservação”; the assessment of fauna and flora; “Plano de Manejo da Flora” or Flora Management Plan with information of species that will be utilized and places of seed collection, forecasting the realization of seed banks; “Programa de Recuperação de Áreas Degradadas e Monitoramento de Margens” or Programme of Recuperation of Degraded Areas and Monitoring of Margins. These reports were not presented to the DOE during site visit but it would be important to examine them, especially the Flora Management Plan, to see how they impact on the CDM Project and vice-versa (i.e. was reforestation stipulated by this and were CERs really essential in the return of reforestation activities as stated in their website - www.aestiete.com.br/relatórios/sa/site/06_obrigações.html - or would it have to be carried out anyway due to these requirements?.

- Clarify if “passives” from CESP (areas to be restored as required by TACs) were all restored before 2001 and if applicable, if they were excluded from the project boundary.

Project Participant Response:

Date: 22/04/2009

The PP informed that there is no condition in the environmental license requiring that the company plants around the reservoirs. The documents “Contrato de Concessão n. 92/99” and the current licenses are evidences that there is no legal requirement oblying AES Tietê to perform reforestation activities. To be discussed with SGS team in the AES Tietê office on 30/04/2009.

Documentation Provided by Project Participant:

To be verified at AES Tietê office on 30/04/2009.

Information Verified by Lead Assessor:

A meeting with AES Tietê team and a document review were carried out on 30/04/2009, at AES Tietê office in São Paulo. The following information and documents were verified by SGS:

Mogi Guaçu License:

As far as the analysis of the DOE goes the PP has requested a new license for the Hydropower plant of Mogi Guaçu on 12/04/07 (pdf. Renovação LO mogi) and answered to further questions of the Secretariat (pdf.files Ofício DAIA-246-08; DGMA_0090_08; DGMA_0096_08; DGMA_0106_08). They are now waiting for the State Environmental Secretariat's position on their proposal for the PACUERA and the license.

With regards to the question of whether the areas requested to be planted in the initial license (from the 22/09/94 - when CESP was still in charge of the reservoirs), were planted before or after 2001: during the visit on 30/04/2009 the PP presented the report "Pequena Central Hidroelétrica Mogi Guaçu AES Tietê S/A - Relatório Ambiental Licença de Operação 22/Setembro/1994" issued in 2008. This document stated that the reforested area of 200ha implemented between 1997 and 1998, after the formation of the reservoirs in 1994, are being maintained by AES Tietê. It was not possible to identify whether this were corridors or areas of conservation itself, and whether the remaining 154.43ha had been planted by CESP. However the PP provided an excel table (excel file Tabela Geoconsult 200904) compiled by Geoconsult during their eligibility study, showing the areas reforested by AES Tietê. This table showed that there was no reforestation carried out by AES Tietê after 2001 in Mogi Guaçu at all. Furthermore, the PP explained that the program TARAM discounts 115ha per year of the area planted to be conservative and account for such uncertainties.

Other licenses:

All environmental reports were available to the DOE during the visit on the 30/04/09. The DOE thoroughly verified the information in the Consolidated Report for Caconde, the PACUERA for the plant in Agua Vermelha and the Environmental Report for the plant of Bariri. These three reports were randomly selected in order to understand the contents of these reports and their environmental requirements (a copy of the relevant sections of each document were provided to the DOE).

The Consolidated Report of October 2008 was written as a response to the conditionals given on the 2003 IBAMA Operational Licenses (including reports cited above on Lead Assessors Comments). The report listed each of the conditionals and programs which would be implemented in response to them. All the conditionals requested by IBAMA and that could compromise the additionality of the project were examined (i.e. the request for an Environmental Management Plan for the Conservation and Use of the Areas Around the Reservoir - known in Brazil as PACUERAs - and Erosion Programs). The answers given by AES Tietê to these conditionals were that the programs would be an integrated part of the PACUERA.

The PACUERAs are a regulatory requirement since 2002 established by the CONAMA resolution 302 (pdf file CONAMA 302). They aim at establishing guidelines and propositions in order to achieve the conservation, recuperation, use and occupation of the areas around artificial reservoirs. Although companies can propose reforestation as a measure of conservation and recuperation of these areas (specially the areas of permanent preservation), these is not a legal requirement.

The Environmental Report for the plant of Bariri was carried out with the objective to present to DAIA (the regulators which took on the responsibility for the operational license for this plant from IBAMA) basic information about the plant and an up-to-date diagnose of its environmental impacts as well as the programs implemented during the term of the operation license issued by IBAMA in 2003.

Passives from CESP:

The DOE found no evidence that liabilities from CESP were passed on to AES Tietê during the site visit.

Reasoning for not Acceptance or Acceptance and Close Out:

Date: 03/06/2009

The complementary document review and specific documents regarding environmental licenses demonstrated that there is no legal requirement obliging AES Tietê to restore the forest around the reservoirs of hydroelectric plants of the company. The issues were clarified and are supported by official documents issued by environmental agencies. CL 9 was closed out.

Acceptance and Close out by Lead Assessor:

Date: 03/06/2009

Date:	13/04/2009	Raised by:	Aurea Nardelli		
Type:	CAR	Number:	10	Reference: Starting date and CDM consideration	AU4: B.4.4
Lead Assessor Comment:				Date: 13/04/2009	

<p>For the additionality discussion, the methodology refers to the <i>“Tool for the demonstration and assessment of additionality for afforestation and reforestation CDM project activities”</i>. The “step 0” (starting date and consideration of CDM) requires: <i>“Provide evidence that the starting date of the A/R CDM project activity was after 31 December 1999; and • Provide evidence that the incentive from the planned sale of CERs was seriously considered in the decision to proceed with the project activity. This evidence shall be based on (preferably official, legal and/or other corporate) documentation that was available to third parties at, or prior to, the start of the project activity”</i>. The chronology of the project activity (with events and details about the actions taken since the starting date to the starting of the validation process or submission of the new methodology) was not provided to the DOE. The discussion related to Step 0 was not included in the PDD version 1.</p>	
Project Participant Response:	Date: 22/04/2008
Revised PDD, version 2, included Step 0 discussion.	
Documentation Provided by Project Participant:	
Revised PDD version 2.	
Information Verified by Lead Assessor:	
The Step 0 discussion inserted in the revised PDD, version 2.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 28/04/2009
<p>Additional evidences and clarification should be provided to support the discussion of starting date and Step 0 (Consideration of CDM). The source of the information of <i>“In the 1990s AES developed a pioneering strategy to pursue forestry activities in developing countries (especially Latin America) as a means to offset GHG emissions from electricity generation”</i> should be provided in the PDD and to DOE. As per EB 41 annex 46, <i>“The project participant must indicate awareness of the CDM prior to the project activity start date (Ok, it is explained in the revised PDD), and that the benefits of the CDM were a decisive factor in the decision to proceed with the project.</i> (it is not clear, from the PDD, what are the evidences to support that CDM benefits are <u>DECISIVE FACTOR</u> in the decision to proceed with the project. <i>“Evidence to support this would include, inter alia, minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a CDM project activity.”</i> In addition, documented evidences shall be provided for the events listed in table 5, page 25 of PDD version 2. Regarding the starting date 01/01/2001, the starting date of an A/R CDM project activity is <i>“the date on which the implementation or real action of an A/R CDM project activity begins, resulting in actual net GHG removals by sinks”</i>. <u>Please justify what is the event that supports the starting date 01/01/2001 and provide any relevant documentation.</u> CAR 10 remains open.</p> <p>A meeting with AES Tietê team and a document review were carried out on 30/04/2009, at AES Tietê office in São Paulo. The following information and documents were verified by SGS:</p> <ul style="list-style-type: none"> - Report on Sustainable development of Mbaracayu (Paraguay): report dated August 2001, which mentions a project developed with support of AES since 1992, with objective of biomass conservation, among others. - Dossiê - Bananal Island Carbon Sequestration Project Phase II (BICPSP II): document dated 22/10/2003 which mentions a carbon sequestration project developed with AES support; documents informed that the carbon sequestration project (that started in 1998) was interrupted in 2001 due lack of investments. <p>Documented information about the following events listed in the PDD <u>were not provided</u> to the lead assessor:</p> <ul style="list-style-type: none"> - document that can evidence the date of start of AES Tietê in concession areas (01/01/2001); - evidence of hiring of consultants to draft ARNM0034 and CDM PDD (2003) - application to the World Bank Biocarbon Found (2005) 	
Acceptance and Close out by Lead Assessor:	Date: 19/06/2009

A revised PDD was provided, changing the starting date of project activity to 15/12/2000, which is the date when AES Tietê signed a contract with an outsourcer to starting the reforestation activities around Bariri reservoir. Copy of the contract signed on 15/12/2009 was provided (contract UPAT/BAR/004/01) signed with the company SERFLORA).

Evidences of hiring consultants were provided: contract signed on 01/05/2005 with the consultant "Geoconsult" (contract DC/SP/111/2005) and contract signed on 01/06/2005 with the consult "Fato Assessoria Empresarial Ltda" (contract nº DC/Tietê/112/2005). The date in the PDD was revised to 2005.

Document application regarding the World Bank Biocarbon found was provided (Letter of Intent related to potential purchase of emission reductions, dated 12/01/2007, where the letter of intent signed on 07/07/2005 was mentioned).

In addition, PP provided a formal declaration issued by Brazilian DNA informing that AES Tietê had contacted the DNA for many times to discuss about its project.

Considering the evidences provided above and the revised PDD, CAR 10 was closed out.

Date:	13/04/2009	Raised by:	Aurea Nardelli		
Type:	CL	Number:	11	Reference: Barriers analysis	AU4: B.4.7 and B.4.10.
Lead Assessor Comment:				Date: 13/04/2009	
Documented evidence that support the statement that the project activity is "first of kind" should be provided.					
Project Participant Response:				Date:	
In the revised PDD, page 26, it is mentioned that “The project activity is the “first of its kind” given that no project activity of this type and scale is currently operational in the host country. A letter forwarded by ABRAGE confirms this statement”.					
Documentation Provided by Project Participant:					
Revised PDD.					
Information Verified by Lead Assessor:					
Revised PDD.					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 28/04/2009	
The copy of the letter forwarded by ABRAGE has not been provided yet.					
Acceptance and Close out by Lead Assessor:				Date: 03/06/2009	
The following documents were provided to SGS: - ATA DA 35ª ASSEMBLEIA GERAL EXTRAORDINARIA DA ABRAGE - 26-03-2009.doc - ATA DA 10ª ASSEMBLEIA GERAL ORDINARIA DA ABRAGE DE 26-03-2009.doc - ATA DA REUNIÃO PLENÁRIA DA ABRAGE DE 26.03.2009.doc - lista presença Abrarg.pdf					
These documents support the information provided in the PDD regarding the ABRAGE meeting, carried out on 26/03/2009. It is mentioned in the document “ATA DA REUNIÃO PLENÁRIA DA ABRAGE DE 26.03.2009” that a consultation was performed with ABRAGE associates about projects similar to AES Tietê project activity. The companies participating in this meeting (representatives of the most important hydroelectricity companies of Brazil) informed that currently there is no similar project (in extension of reforested area) in the country.					
The document was accepted as evidence of first of kind and CL 11 was closed out.					

Date:	13/04/2009	Raised by:	Aurea Nardelli		
Type:	CAR	Number:	12	Reference: Local stakeholders consultation	AU4, E.1.1
Lead Assessor Comment:			Date: 13/04/2009		

During the site visit, it was verified that there was not evidence that all relevant local stakeholders were contacted, as required by “Resolução nº 7” of Brazilian DNA. Copies of missing ARs should be provided. In addition, in the PDD version 2, Annex 10, the São Paulo State Government and Minas Gerais State Government are not listed as state entities consulted (they are required to be consulted by Resolução nº7).	
Project Participant Response:	Date: 30/04/2009
Revised PDD and copies of ARs	
Documentation Provided by Project Participant:	
Revised PDD and copies of ARs	
Information Verified by Lead Assessor:	
Revised PDD, version 2.	
Reasoning for not Acceptance or Acceptance and Close Out:	Date: 07/05/2009
The State Governments of São Paulo and Minas Gerais have now been added to PDD version 2 (22 nd April 2009). The missing ARs (receipts of mailing) or Federal and State institutions listed in the PDD were evidenced by the DOE in the visit carried out on the 30 th of April 2009.	
Acceptance and Close out by Lead Assessor:	Date: 03/06/2009
Refer to the information above. CAR 12 was closed out.	

Date:	13/04/2009	Raised by:	Aurea Nardelli		
Type:	CL	Number:	13	Reference: Parameters used in compliance with methodology	AU4, B.6.1
Lead Assessor Comment:				Date: 13/04/2009	
<p>It was observed that two different values are mentioned in the PDD for the parameter “carbon fraction”. In the PDD, table 6, the value informed for the parameter “Carbon fraction” is 47%. In discussion with PP, he informed that the value used for the parameter Carbon Fraction (CF) was the default value of 0,47 from Table 4.3, Volume 4 of IPCC 2006 (“Carbon fraction of above ground forest biomass”). It is also confirmed that TARAM considers the CF = 47%.</p> <p>In page 39 of PDD, the value mentioned for the parameter “<i>CF – average carbon fraction of above-ground biomass</i>” is 50% (informed as IPCC (year??) default value). <u>It was also verified that CF = 50% is the value mentioned in the methodology (refer to pages 41, 42 and 61 of AR-AM0010, CF = average carbon fraction of above ground biomass is mentioned as 0,5 – IPCC value).</u></p> <p>Please clarify:</p> <ul style="list-style-type: none">- if these parameters named as CF in the PDD (table 6 and in page 39) are the same or not;- if are not the same, explained what each one cover (e.g. only main stem or all parts of the tree?);- if the same, what should be the correct value applied to be in compliance with the methodology? <p>Revise where applicable.</p>					
Project Participant Response:				Date: 07/05/2009	
The parameters mentioned in the PDD as “CF” (table 6 and page 39) are the same. The value adopted in the PDD is that provided in Vol. 4, IPCC 2006, table 4.3 (default value of 0.47). Value of table E.4.1 of PDD was revised to reflect the value of 0.47. It is known that the methodology provided CF as 50%, but the value applied in the project reflects the most recent value available from IPCC.					
Documentation Provided by Project Participant:					
Revised PDD.					
Information Verified by Lead Assessor:					
Revised PDD and IPCC 2006 table 4.3.					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 03/06/2009	
The revised PDD is provided and the default value of 0.47 for CF is now consistent along the PDD. It is accepted to use the most recent value provided by IPCC, that is also conservative. CL 13 was closed out.					
Acceptance and Close out by Lead Assessor:				Date: 03/06/2009	

Date:	28/04/2009		Raised by:	Aurea Nardelli		
Type:	CL	Number:	14		Reference: Emissions/removals calculation	AU4, B.7.4
Lead Assessor Comment:				Date: 28/04/2009		
The PDD version 2 provided a revised estimation for GHG removals by sinks (refer to table of page 17). The revised calculations (TARAM spreadsheets with revised values) have not been presented to DOE.						
Project Participant Response:				Date: 30/04/2009		
New version of TARAM provided to SGS on 30/04/2009						
Documentation Provided by Project Participant:						
Excel spreadsheet TARAM V1.3 RAHR BRAZIL april20 2009						
Information Verified by Lead Assessor:						
The values and assumptions of revised version of TARAM were checked to confirm consistency with PDD.						
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 03/06/2009		
The revised version of TARAM is consistent with the revised version of PDD. Confirmed main assumptions, default values and the calculation of estimated amount of net anthropogenic GHG removals by sinks (confirmed data provided in the summary table of PDD, page 17). CL 14 was closed out.						
Acceptance and Close out by Lead Assessor:				Date: 03/06/2009		

Date:	28/04/2009	Raised by:	Aurea Nardelli		
Type:	CL	Number:	15	Reference: Consistence of data related to project description	AU4, A.2.3/A.2.4
Lead Assessor Comment:				Date: 28/04/2009	
The eligible area provide in the PDD is not consistent along the document. It is mentioned as 13,939 ha (page 3) , as 13,944 ha (page 15) and in the model for calculation of GHG removals (TARAM), the area is considered as 13,802 ha.					
Project Participant Response:				Date: 07/05/2009	
Areas were revised in the new version of PDD; the correct value of eligible area is 13,939 ha.					
Documentation Provided by Project Participant:					
Revised PDD and revised TARAM.					
Information Verified by Lead Assessor:					
Revised PDD and revised TARAM					
Reasoning for not Acceptance or Acceptance and Close Out:				Date: 03/06/2009	
Values were correct in the PDD. The eligible area is confirmed as 13,939 ha. Provide a explanation why in the revised TARAM spreadsheet the “Total area of baseline strata” is 11,568.29 ha (refer to sheet “Strata”, column I). It is not used in the model the total eligible area? Explain any discount applied in Taram when compared with eligible area mentioned in the PDD.					
Acceptance and Close out by Lead Assessor:				Date: 19/06/2009	
PP explained that the area 11.568,29 h is from the sheet AR-Plan. The sheet AR-Plan describes the planting plan, which can not match exactly with the total eligible area. The planting plan defines 2000 ha/year to be planted from 2009-2013. This is the basis of the field activities. The explanation is considered acceptable by the validation team. The planting area can be smaller than the eligible area. As the data of revised TARAM is the same included in the revised PDD (estimative of ER), CL 15 was closed out.					

A.4 Annex 4: Team Members Statements of Competency

Statement of Competence

Name: **Nardelli, Aurea** SGS Affiliate: **SGS Brazil**

Status

- Lead Assessor	<input checked="" type="checkbox"/>	- Expert	<input checked="" type="checkbox"/>
- Assessor	<input checked="" type="checkbox"/>	- Financial Expert	<input type="checkbox"/>
- Local Assessor	Brazil	- Technical Reviewer	<input checked="" type="checkbox"/>

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
2. Energy Distribution	<input type="checkbox"/>
<i>Sub scope(s):</i>	
3. Energy Demand	<input type="checkbox"/>
<i>Sub scope(s):</i>	
4. Manufacturing	<input type="checkbox"/>
<i>Sub scope(s):</i>	
5. Chemical Industry	<input type="checkbox"/>
<i>Sub scope(s):</i>	
6. Construction	<input type="checkbox"/>
<i>Sub scope(s):</i>	
7. Transport	<input type="checkbox"/>
<i>Sub scope(s):</i>	
8. Mining/Mineral Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
9. Metal Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
10. Fugitive Emissions from Fuels (solid, oil and gas)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	<input type="checkbox"/>
<i>Sub scope(s):</i>	
12. Solvent Use	<input type="checkbox"/>
<i>Sub scope(s):</i>	
13. Waste Handling and Disposal	<input type="checkbox"/>
<i>Sub scope(s):</i>	
14. Afforestation and Reforestation	<input checked="" type="checkbox"/>
<i>Sub scope(s): A/R of degraded Land, A/R with agricultural issues, A/R for wood production</i>	
15. Agriculture	<input type="checkbox"/>
<i>Sub scope(s):</i>	

Approved Member of Staff by: **Siddharth Yadav** Date: **07/10/2009**

Statement of Competence

Name: **Beck, Talita** SGS Affiliate: **SGS Brazil**

Status

- Lead Assessor	<input checked="" type="checkbox"/>	- Expert	<input checked="" type="checkbox"/>
- Assessor	<input checked="" type="checkbox"/>	- Financial Expert	<input type="checkbox"/>
- Local Assessor	<input checked="" type="checkbox"/>	- Technical Reviewer	<input type="checkbox"/>

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
2. Energy Distribution	<input type="checkbox"/>
<i>Sub scope(s):</i>	
3. Energy Demand	<input type="checkbox"/>
<i>Sub scope(s):</i>	
4. Manufacturing	<input type="checkbox"/>
<i>Sub scope(s):</i>	
5. Chemical Industry	<input type="checkbox"/>
<i>Sub scope(s):</i>	
6. Construction	<input type="checkbox"/>
<i>Sub scope(s):</i>	
7. Transport	<input type="checkbox"/>
<i>Sub scope(s):</i>	
8. Mining/Mineral Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
9. Metal Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
10. Fugitive Emissions from Fuels (solid, oil and gas)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	<input type="checkbox"/>
<i>Sub scope(s):</i>	
12. Solvent Use	<input type="checkbox"/>
<i>Sub scope(s):</i>	
13. Waste Handling and Disposal	<input checked="" type="checkbox"/>
<i>Sub scope(s): Wastewater and sludge treatment</i>	
14. Afforestation and Reforestation	<input type="checkbox"/>
<i>Sub scope(s):</i>	
15. Agriculture	<input type="checkbox"/>
<i>Sub scope(s):</i>	

Approved Member of Staff by: **Siddharth Yadav** Date: **06/11/2009**

Statement of Competence

Name: Singh, Kaviraj

SGS United Kingdom

Status

- Lead Assessor	<input checked="" type="checkbox"/>	- Expert	<input checked="" type="checkbox"/>
- Assessor	<input type="checkbox"/>	- Financial Expert	<input type="checkbox"/>
- Local Assessor	<input type="checkbox"/>	- Technical Reviewer	<input checked="" type="checkbox"/>

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
2. Energy Distribution	<input type="checkbox"/>
<i>Sub scope(s):</i>	
3. Energy Demand	<input type="checkbox"/>
<i>Sub scope(s):</i>	
4. Manufacturing	<input type="checkbox"/>
<i>Sub scope(s):</i>	
5. Chemical Industry	<input type="checkbox"/>
<i>Sub scope(s):</i>	
6. Construction	<input type="checkbox"/>
<i>Sub scope(s):</i>	
7. Transport	<input type="checkbox"/>
<i>Sub scope(s):</i>	
8. Mining/Mineral Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
9. Metal Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
10. Fugitive Emissions from Fuels (solid, oil and gas)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	<input type="checkbox"/>
<i>Sub scope(s):</i>	
12. Solvent Use	<input type="checkbox"/>
<i>Sub scope(s):</i>	
13. Waste Handling and Disposal	<input checked="" type="checkbox"/>
<i>Sub scope(s): Landfill gas, Wastewater and sludge treatment, Composting</i>	
14. Afforestation and Reforestation	<input type="checkbox"/>
<i>Sub scope(s):</i>	
15. Agriculture	<input type="checkbox"/>
<i>Sub scope(s):</i>	

Approved Member of Staff by:

Siddharth Yadav

Date:

16/12/2009

Statement of Competence

Name: **Kobel, Christian** SGS Affiliate: **SGS Switzerland**

Status

- Lead Assessor	<input type="checkbox"/>	- Expert	<input checked="" type="checkbox"/>
- Assessor	<input checked="" type="checkbox"/>	- Financial Expert	<input type="checkbox"/>
- Local Assessor	<input type="checkbox"/>	- Technical Reviewer	<input type="checkbox"/>

Scopes of Expertise

1. Energy Industries (renewable / non-renewable)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
2. Energy Distribution	<input type="checkbox"/>
<i>Sub scope(s):</i>	
3. Energy Demand	<input type="checkbox"/>
<i>Sub scope(s):</i>	
4. Manufacturing	<input type="checkbox"/>
<i>Sub scope(s):</i>	
5. Chemical Industry	<input type="checkbox"/>
<i>Sub scope(s):</i>	
6. Construction	<input type="checkbox"/>
<i>Sub scope(s):</i>	
7. Transport	<input type="checkbox"/>
<i>Sub scope(s):</i>	
8. Mining/Mineral Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
9. Metal Production	<input type="checkbox"/>
<i>Sub scope(s):</i>	
10. Fugitive Emissions from Fuels (solid, oil and gas)	<input type="checkbox"/>
<i>Sub scope(s):</i>	
11. Fugitive Emissions from Production and Consumption of Halocarbons and Sulphur Hexafluoride	<input type="checkbox"/>
<i>Sub scope(s):</i>	
12. Solvent Use	<input type="checkbox"/>
<i>Sub scope(s):</i>	
13. Waste Handling and Disposal	<input type="checkbox"/>
<i>Sub scope(s):</i>	
14. Afforestation and Reforestation	<input checked="" type="checkbox"/>
<i>Sub scope(s): A/R of degraded Land, A/R with agricultural issues and A/R for wood production</i>	
15. Agriculture	<input type="checkbox"/>
<i>Sub scope(s):</i>	

Approved Member of Staff by: **Siddharth Yadav** Date: **13 January 2010**