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# Validation Report

**BaumInvest GmbH & Co KG**

VALIDATION OF THE CARBONFIX-PROJECT:  
BAUMINVEST REFORESTATION PROJECT

REPORT NO. 1455389

**03 August 2010**

TÜV SÜD Industrie Service GmbH  
Carbon Management Service  
Westendstr. 199 - 80686 Munich – GERMANY



Report No.	Date of first issue	Revision No.	Revision Date	Certificate No.
1455389	21 July 2010	3	03 Aug 2010	-

<b>Subject:</b> Validation of a CarbonFix Project	
<b>Accredited TÜV SÜD Unit:</b> TÜV SÜD Industrie Service GmbH Certification Body "climate and energy" Westendstr. 199 80686 Munich, Germany	<b>TÜV SÜD Contract Partner:</b> TÜV SÜD Industrie Service GmbH Carbon Management Service Westendstr. 199 80686 Munich Germany
<b>Project Participant:</b> BaumInvest GmbH & Co KG	<b>Project Site(s):</b> The project area consists of two adjacent properties covering a total area of 216 ha, located in the district of Pocosal de San Carlos (Province of Alajuela) in the Northern Zone of Costa Rica  The PDD includes information on geographic boundary. Digital boundary files are provided jointly with this report.
<b>Project Title:</b> BaumInvest Reforestation Project	
<b>Applied Methodology / Version:</b> CarbonFix Standard version 2.1	
<b>First PDD Version:</b> Date of issuance: 16 Feb 2010	<b>Final PDD version:</b> Date of issuance: 01 June 2010
<b>Estimated Total Emission Reduction including the 30% CarbonFix risk buffer:</b> 18 971 t CO <sub>2</sub> -e	
<b>Assessment Team Leader:</b> Sebastian Hetsch  <b>Assessment Team Members:</b> Martin Schröder	<b>Technical Reviewer:</b> Robert Scharpenberg  <b>Certification Body responsible:</b> Thomas Kleiser
<b>Summary of the Validation Opinion:</b> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews have provided TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. In our opinion, the project meets all relevant requirements for the CarbonFix Standard. Hence TÜV SÜD is recommending the project for registration by the CarbonFix Standard organisation.</li> <li><input type="checkbox"/> The review of the project design documentation and the subsequent follow-up interviews did not provide TÜV SÜD with sufficient evidence to determine the fulfilment of all stated criteria. Hence TÜV SÜD will not recommend the project for registration by the CarbonFix standard organisation and will inform the project participants and the CarbonFix organisation on this decision.</li> </ul>	



## Abbreviations

<b>CAR</b>	Corrective Action Request
<b>CB</b>	Certification Body
<b>CDM</b>	Clean Development Mechanism
<b>CFS</b>	CarbonFix Standard
<b>CR</b>	Clarification Request
<b>DOE</b>	Designated Operational Entity
<b>EIA</b>	Environmental Impact Assessment
<b>FAR</b>	Forward Action Request
<b>FSC</b>	Forest Stewardship Council
<b>GHG</b>	Greenhouse Gas(es)
<b>GIS</b>	Geographic Information System
<b>GPG</b>	Good Practice Guidance
<b>GPS</b>	Global Positioning System
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IRL</b>	Information Reference List
<b>IRR</b>	Internal Rate of Return
<b>LULUCF</b>	Land-Use, Land-Use Change and Forestry
<b>MP</b>	Monitoring Plan
<b>NGO</b>	Non Governmental Organisation
<b>PDD</b>	Project Design Document
<b>PP</b>	Project Participant
<b>TÜV SÜD</b>	TÜV SÜD Industrie Service GmbH
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>VER</b>	Voluntary Emission Reduction Unit (equals 1 metric tonne of CO <sub>2</sub> equivalent)
<b>VVM</b>	Validation and Verification Manual



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## INTRODUCTION

### 1.1 Objective

The validation objective is an independent assessment by a Third Party, a Designated Operational Entity (DOE) of a proposed project activity against all defined criteria set forth by the CarbonFix Standard. Validation is part of the project cycle and will finally result in a conclusion by the executing DOE whether a project activity is valid and should be submitted for registration to the CarbonFix Standard Organisation. The ultimate decision on the registration of a proposed project activity rests at the CarbonFix Organisation.

The project activity covered by this validation report was submitted under the project title: “BaumInvest Reforestation Project”.

### 1.2 Scope

The scope of any assessment is defined by the underlying legislation, regulation and guidance given by relevant entities or authorities. In the case of a CarbonFix project the scope is set by

- the CarbonFix Standard,
- guidance documents provided by the CarbonFix Standard,
- the AR-CDM additionality tool for afforestation / reforestation projects.
- Management systems and auditing methods
- Environmental issues relevant to the applicable sectoral scope
- Applicable environmental and social impacts and aspects of CarbonFix project activity
- Sector specific technologies and their applications
- Current technical and operational knowledge of the specific sectoral scope and information on best practice.

The validation is not meant to provide any consulting towards the client. However, stated Requests for Clarification and/or Requests for Corrective Actions may provide input for improvement of the project design.

The only purpose of a validation is its use during the registration process as part of the CarbonFix project cycle. Hence, TÜV SÜD cannot be held liable by any party for decisions made or not made based on the validation opinion, which will go beyond that purpose.

## 2 METHODOLOGY

The project assessment applies standard auditing techniques to assess the correctness of the information provided by the project participants. The work starts with the appointment of the team covering the technical scope, technical area and relevant host country experience for evaluating the project activity. Members of the audit team carry out the desk review, follow-up actions, resolution of issues identified, and finally preparation of the validation report. The prepared validation report and other supporting documents then undergo an internal quality control by the CB “climate and energy” before submission to the CarbonFix Standard Organisation.

In order to ensure transparency in the validation process, assumptions are clearly and explicitly stated and background material is clearly referenced. TÜV SÜD developed methodology-specific checklists and protocol customised for the project (see annex 1). The protocol shows, in a transparent manner, criteria (requirements), the discussion of each criterion by the assessment team, and the results from validating each relevant criteria.

The validation protocol serves the following purposes:

- To list the details of requirements which a CarbonFix project is expected to meet and provide of clarifications on the requirements if needed;
- To elucidate how a particular requirement has been validated as well as to document the results of the validation and any adjustments made to the project design document.

The validation protocol consists of three tables. The different columns in these tables are described in the figure below.

Validation Protocol Table 1: Conformity of Project activity and PDD				
Checklist Topic / Question	Reference	Comments	PDD in GSP	Final PDD
<i>The checklist is organised in sections following the arrangement of the applied PDD version. Each section is then subdivided. The lowest level constitutes a checklist question / criterion.</i>	<i>Gives reference to documents where the answer to the checklist question or item is found in case the comment refers to documents other than the PDD.</i>	<i>The section is used to elaborate and discuss the checklist question and/or the conformance to the question. It is used to explain the conclusions reached. In some cases sub-checklist are applied indicating yes/no decisions on the compliance with the stated criterion. Any <b>Request</b> has to be substantiated within this column</i>	<i>Conclusions are presented based on the assessment of the first PDD version. This is either acceptable based on evidence provided (☑), or a <b>Corrective Action Request (CAR)</b> due to non-compliance with the checklist question (See below). <b>Clarification Request (CR)</b> is used when the validation team identified a need for further clarification. <b>Forward Action Request (FAR)</b> to highlight issues related to project implementation that requires review during the first verification.</i>	<i>Conclusions are presented in the same manner based on the assessment of the final PDD version and further documents including assumptions presented in the documentation.</i>

Validation Protocol Table 2: Compilation and Resolutions of CARs, CRs and FARs			
	Comments and Results	Ref	Conclusion and IRL
Issue	<i>Corrective Action, Clarification or Forward Action Requests.</i>	<i>Reference to the checklist question number in Table 1</i>	<i>Final conclusions and relevant references.</i>
Response	<i>The responses given by the client or other project participants during communication with the validation team.</i>		
Assessment	<i>Summary of the discussion and revision of project documentation together with the validation team’s responses</i>		



In case of a denial of the project activity more detailed information on this decision will be presented in Table 3. Table 3 is also used for listing of any Forward Action Request.

Validation Protocol Table 3: Unresolved Corrective Action, Clarification Requests, Forward Action Requests		
Clarifications Request, Corrective Action Request, Forward Action Request	Id. of CAR / CR / FAR	Explanation of the Conclusion for Denial, or Background of Forward Action Request
<i>Referenced request if final conclusions from table 2 resulted in a denial.</i>	<i>Identifier of the Request.</i>	<i>Detailed explanation of why the project is considered non-compliant with a criterion and a clear reference to the criterion</i>

The completed validation protocol is enclosed in Annex 1 to this report.

## 2.1 Appointment of the Assessment Team

According to the technical scopes and experiences in the sectoral or national business environment TÜV SÜD composed a project team in accordance with the appointment rules of the TÜV SÜD certification body “climate and energy”. The composition of an assessment team has to be approved by the Certification Body (CB) to assure that the required skills are covered by the team. The CB TÜV SÜD operates five qualification levels for team members that are assigned by formal appointment rules:

- Assessment Team Leader (ATL)
- Greenhouse Gas Validator (Validator)
- Greenhouse Gas Auditor Trainee (T)
- Experts (E)
- Technical Reviewer (R)

It is required that the sectoral scope linked to the methodology has to be covered by the assessment team.

### Assessment Team:

Name	Qualification	Coverage of scope	Coverage of technical area	Host country experience
Sebastian Hetsch	ATL	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Martin Schröder	Validator	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Sebastian Hetsch** is a forestry expert and appointed as Assessment Team Leader and GHG-Validator by the certification body "climate and energy". Mr Hetsch holds a university degree in forest science. He passed extensive training on auditing of GHG projects. Before joining TÜV SÜD he worked for several years in the field of international forest policy and management.

**Martin Schröder** is appointed as Assessment Team Leader and GHG-Validator by the certification body "climate and energy". He holds a Masters degree in forestry and passed successfully internal training schemes in the field of auditing as well as the technical features of landfill and energy related projects. Before entering the company, he worked in the field of development projects in the Amazon Region and managed forestry based carbon offset projects.

## 2.2 Review of Documents

The first PDD was submitted to the audit team in February 2010. This PDD version and additional background documents related to the project design and baseline were reviewed to verify the correctness, credibility, and interpretation of the presented information. As a further step of the validation process, information provided by the PP was cross-checked with information from other sources (if available). A complete list of all documents and proofs reviewed is attached as Annex 2 to this report.

## 2.3 Follow-up Interviews

On 25 February 2010 TÜV SÜD performed interviews with project stakeholders in Germany; previously TÜV SÜD visited the project area for a physical site inspection to confirm relevant information, and to resolve issues identified in the first document review. The table below provides a list of all persons interviewed in this context.

### Persons Interviewed:

Name	Organisation
Leo Pröstler	Geschäftsführer, BaumInvest GmbH & Co KG
Michael Metz	Projektentwicklung, BaumInvest GmbH & Co KG
Frank Amann	Wirtschaftsprüfer, Amann und Jörger Wirtschaftsprüfung und Steuerberatung

Further, field worker were interviewed during the onsite visit of the project.

## 2.4 Cross-check

During the validation process the team made reference to available information related to similar reforestation projects. The documentation was also reviewed against the approved methodology applied to confirm the appropriateness of formulae and correctness of calculations.

## 2.5 Resolution of Clarification and Corrective Action Requests

The objective of this phase of the validation is to resolve the requests for corrective actions, clarifications, and any other outstanding issues which need to be clarified for TÜV SÜD’s conclusion on the project design. The CARs and CRs raised by TÜV SÜD are resolved during communication between the client and TÜV SÜD. To guarantee the transparency of the validation process the concerns raised and responses that were given are documented in more detail in the validation protocol in Annex 1.

The final PDD version submitted in June 2010 served as the basis for the final assessment presented. Changes are not considered to be significant with respect to achievement of reduction of anthropogenic GHG emissions and contribution to sustainable development of the host country.

## 2.6 Internal Quality Control

Internal quality control is the final step of the validation process and is conducted by the CB “climate and energy” who checks the final documentation, which includes the validation report and annexes. The completion of the quality control indicates that each report submitted has been approved either by the head of the CB or the deputy. In projects where either the Head of the CB or his/her deputy is part of the assessment team, the approval is given by the one not serving on the project team. A reviewer appointed by the CB carried out the technical review.

After confirmation of the PP, the validation opinion and relevant documents are submitted to the CarbonFix Standard Organisation.



### 3 SUMMARY

The assessment work and the main results are described below. The reference documents indicated in this section and Annex 1 are listed in the Information Reference List (IRL) in Annex 2.

#### 3.1 Approval by CFS Technical Board (Pre-validation)

The project was pre-validated by the Technical Board of the Carbon Fix Standard. The respective report was issued on 03 Feb 2010 (IRL 33).

#### 3.2 Project design document

The PDD complies with the relevant form and guidance provided by CarbonFix. Version 2.1 of the PDD template was used. TÜV SÜD considers that the guidelines for the completion of the PDD in their most recent version were followed. Relevant information was provided by the participants in the applicable PDD sections. Completeness was assessed through the checklist included in Annex 1 of this report.

#### 3.3 Project description

The following description of the project as per PDD was validated during the on-site audit:

The project activity consists of reforestation of two adjacent properties covering a total area of 216 ha, located in the remote Northern Zone of Costa Rica.

The project area was deforested by the former owner in the late 1970s for cattle ranching for meat and dairy production. In 2007 BaumInvest GmbH & Co KG purchased the two properties through its subsidiary company Isla Bosques de Costa Rica S.A. It is planned to reforest the project area with approx. 50 % teak (*Tectona grandis*) and 50 % native tree species (*Dipteryx panamensis*, *Terminalia amazonia*, *Swietenia macrophylla*, *Vochysia guatemalensis*) in mixed stands.

In absence of the project activity the project area would be likely to remain grazing land for cattle or potentially be converted to an intensively managed agricultural cultivation due to financial attractiveness of the alternative land uses and lack of respective knowledge of reforestation.

The information presented in the PDD on the technical design is consistent with the actual planning and implementation of the project activity as confirmed by:

- Review of data and information (see Annex 2), which was verified with other sources if available.
- An on-site visit was performed and relevant stakeholder and personnel with knowledge of the project were interviewed. If doubts arose, further investigations and additional interviews were conducted
- Finally, information related to similar reforestation projects were used (if available) to confirm the accuracy and completeness of the project description.

In conclusion, TÜV SÜD confirms that the project description, as included to the PDD, is sufficiently accurate and complete in order to comply with the requirements of the CarbonFix Standard.

### 3.4 Eligibility

The **project boundary** was assessed through physical site inspection based on maps and digital boundary files (IRL 4) submitted to the audit team, as well as cross-references to aerial photographs (IRL 3).

The project area covers 216 ha; it consists of two adjacent parcels, located in the district of Pocosol de San Carlos (Province of Alajuela) in the Northern Zone of Costa Rica (IRL 19).

134 ha are eligible planting area under the CarbonFix Standard, 82 ha are nature conservation area.

The boundary as defined in the field was found to be consistent with the indications in the PDD. In the field, the boundary delineation was cross-checked by the audit team with GPS.

The most relevant documents assessed in order to confirm the project boundary are the following:

- Extract from the National land registry in Costa Rica (IRL 19);
- Digital boundary files in a Geographic Information System (GIS) (IRL 4);
- Field sheets including coordinates obtained from GPS point documenting the assessment of the audit team during the onsite visits (IRL 34);
- Overview maps of the location of the project area and boundaries are also included to the final PDD (IRL 2).

The boundaries were validated during the validation process using standard audit techniques, details of all observations are presented in the Annex 1. TÜV SÜD confirms that the identified boundaries as documented in the PDD and attached documents are adequately defined for the project activity.

In regard to **eligibility of lands**, the project area fully complies with the requirements of the CarbonFix Standard. Among others, the assessment of the compliance was based on the following evidence:

- Analysis of high resolution aerial photograph from 1992 (IRL 3)
- Field assessment of the audit team (IRL 34).

No forest had been on the project area prior 10 years of the project commences, as documented in the analysis of high resolution aerial photograph from 1992 (IRL 3). The document was reviewed by the audit team. Also vegetation at the time of the project start was assessed and found to be below the forest threshold (according to the national forest definition). This assessment was reviewed by the audit team through a field visit of the project area. Based on the field assessment it was confirmed that no forest was on the project area at project start.

### 3.5 Additionality

The additionality of the project was presented in the PDD using following approach: (2) an analysis of additionality according to UNFCCC guideline, applying an investment analysis.

Based on the aforementioned approach, TÜV SÜD confirms that the documentation provided is appropriate for this project. Further analysis of the additionality is summarized in the sections below (3.5.1 – 3.5.3).

In essence, the project is considered additional as the project area would have remained grazing land or being transformed into agricultural land, as the proposed project activity is not sufficiently financially attractive without generation of carbon credits.

### 3.5.1 Identifications of alternatives

Relevant alternatives (baseline scenario) were identified in the context of the additionality test: (1) Continuation of the pre-project land use (cattle grazing), (2) Afforestation / reforestation of the land within the project boundary performed without being registered as an A/R CDM project activity, (3) Cultivation of pineapples.

The presented alternatives include all plausible scenarios taking into account local and sectoral circumstances. Hence the list of alternatives is considered to be complete.

Based on the evidence provided and the discussion held with the project participants during the onsite visit, it is clear that the continuation of the current and historical land use is the most likely scenario in the absence of the project activity.

### 3.5.2 Investment analysis

The PP applied an investment analysis to demonstrate additionality. The financial returns of the proposed project are insufficient to justify the investment without carbon credits.

The applied benchmark analysis utilizes a benchmark of 7.0 % after tax. The benchmark is sustained based on different input parameter for risk free interest rates (IRL 35), country specific risk (IRL 37) and general entrepreneurial risk (IRL 36). Although the benchmark might not be fully applicable for the project, it can be considered conservative, as similar activities (commercial reforestation funds) are applying higher rate of returns (9-11%) (IRL 49).

The financial Internal Return of Investment was calculated based on Excel spreadsheet developed by the BaumInvest (IRL 23). Without the consideration of carbon the IRR is estimated with 5.98 %, which is below the relevant benchmark. The sensitivity analysis shows that the values of the IRR without carbon finance remain below the benchmark while considering a +/- 10% variation of main factors. The calculations considered a carbon price of 15.00 EUR / VER<sub>future</sub>. Even with sales of VER<sub>future</sub> the rate of return (IRR 23) is still at 6.55 %.

The assumed establishment and operation costs incorporated to the calculations were sustained with data from local sources (IRL 48). The same applies to typical revenues assumed for reforestation activities. This was confirmed with references provided as evidence for the inputs used in calculations (IRL 46).

The financial calculations were verified and it is confirmed that the calculations are correct.

Although the rate of return even with sales of VER is below the required benchmark, the benchmark is considered credible, as the key motivation for investors is generating carbon credits in an ecologically sound project, partly for their own use (IRL 50, 51, 52, 53).

In addition it needs to be underlined that alternative land use, in particular commercial pineapple plantations are likely to have a significant higher rate of return, as a conversion to pineapple can be observed as common practice in the region (IRL 40, 41, 42, 43, 44, 45).

## 3.6 Forest Management

The plantation establishment and forest management is adequately presented in the PDD. The planting area covers 134 ha, the nature conservation area 82 ha. (IRL 4, 34)

The description of management units and management of nature conservation areas is in compliance with the CarbonFix Standard as assessed in details in annex 2.

### 3.7 Environmental Aspects

The ecosystems in the project area are described according to the requirements of the CFS. CarbonFix requirements regarding environmental aspects are described appropriately in the PDD, as presented in annex 2.

Two signed statements from a responsible forest authority (MINAET, IRL 5) and an NGO (CBSS, IRL 7) were provided to the audit team. The audit team confirmed their authenticity.

The PP undertook an analysis of environmental impacts according to the requirements of the CarbonFix Standard (IRL 54, 55, 56). The assessment team carried out a document review of the information presented. In essence, the audit team concluded that no negative environmental impacts are expected. This conclusion was also sustained by the results of the field visit of the audit team.

In order to assure future compliance with environmental aspects, a Forward Action Request is posed to elaborate Standard Operational Procedures regarding use and application of chemicals and waste disposal (FAR 01) (see Table 3 in Annex 1).

### 3.8 Socioeconomic Aspects

The PP undertook an analysis of socio-economic impacts according to the requirements of the CarbonFix Standard. The socio-economic aspects of the projects are appropriately presented in the PDD. Details are assessed in annex 2.

The assessment team carried out a document review of the information presented (IRL 60, 61, 61). In essence, the audit team concluded that no negative socio-economic impacts are expected. This conclusion was also sustained by the results of the field visit of the audit team as well as positive comments on the project by the consulted stakeholders.

In order to assure future compliance with socio-economic aspects, three Forward Action Requests are posed to elaborate Standard Operational Procedures regarding workers safety (FAR 02), management and employment (FAR 03), and complaints and grievance procedures (FAR 04) (see Table 3 in Annex 1).

### 3.9 Future CO<sub>2</sub>-Fixation

#### 3.9.1 Net anthropogenic greenhouse gas removals by sinks

The future CO<sub>2</sub>-Fixation is calculated in compliance with the CarbonFix Standard.

The future CO<sub>2</sub>-Fixation is based on the ten strata described in the PDD. The strata are comprised of different mixes of species (IRL 4).

The input parameters (Biomass Expansion Factor, Wood Density, Carbon Fraction and Root-to-Shoot ratio) is presented for each strata in the PDD (IRL 8, 9, 10, 11, 12, 13, 14, 15). The audit team assessed the sources for these input parameter and confirms that the values chosen are conservative and based on available scientific data.

The estimates on the expected anthropogenic removals which are likely to be achieved by the envisioned reforestations under the project scenario are based on growth estimates from scientific publications (IRL 10, 11, 12, 13, 14, 15).

Total net anthropogenic removals of 27'101 t CO<sub>2</sub>-e are expected (IRL 57) according to the CarbonFix calculations. The actual calculations of future CO<sub>2</sub>-Fixation are compiled automatically by CarbonFix Standard software. TÜV SÜD confirms that all input parameter are based on scientific literature, conservative and in compliance with CarbonFix requirements.

As per calculation of CarbonFix, the final amount of  $VER_{\text{futures}}$  generated are 18'971, taking the 30% CarbonFix buffer into account.

### 3.9.2 Project emissions

Project emissions are calculated automatically by the CarbonFix software (default of 0.5% of future  $CO_2$  fixation for fossil fuel emissions).

Further, the automatic calculations of VERs by Carbon Fix deduct 0.005 t  $CO_2$  per kg of nitrogen contained in fertilizer used in the project. The estimated amount of fertilizer to be used in the project is presented in the PDD. In accordance to the CarbonFix Standard no further sources of emissions are considered.

### 3.10 Baseline stocks and greenhouse gas removals by sinks

Only one baseline strata is determined for the project area, which is considered acceptable under the homogenous conditions of the project area as documented through the land use and eligibility assessment.

Baseline stocks were estimated based on best data available (IRL 8, 58), which indicated 29 t  $CO_2/ha$ . For the calculations a carbon fraction of 0.5 and a Root-to-Shoot of 1.58 (IRL 8, 58) was assumed. The choice of data sources is considered adequate. Good practice in regard to forest inventory was followed in the context of the baseline assessment.

Baseline carbon stocks were discounted in the overall calculations of net anthropogenic removals. As required by the CarbonFix Standard baseline GHG removal does not have to be considered.

In summary the calculation of the baseline stocks and GHG removals are considered correct.

### 3.11 Leakage

Potentially relevant sources of leakage in this project are displacement of livestock grazing. No other sources of leakage as per Carbon Fix methodology is likely to occur.

Displacement of livestock grazing is estimated to be 0%, as the cows previously grazing on the project area had been sold to the slaughter house (IRL 32). Respective evidence was reviewed by the audit team and confirmed by the audit team (IRL 1).

### 3.12 Management Capacity

The PP presented the management capacity of the project in the PDD (IRL 2). The assessment team carried out a document review of the information presented. In essence, the audit team concluded that the management capacity is in compliance with the requirements of the CarbonFix Standard. This conclusion was also sustained by the results of the field visit and respective interviews of the audit team (IRL 1).

### 3.13 Financial Capacity

The financial capacity of the project is described in the PDD and further supportive references and evidences were provided to the audit team (IRL 16, 17, 59). The assessment team carried out a document review of the information presented. In essence, the audit team concluded that the management financial is in compliance with the requirements of the CarbonFix Standard. This conclusion was also sustained by the results of the field visit and interviews carried out by the audit team with relevant stakeholders (IRL 1).

### **3.14 Technical Capacity**

The technical capacity of the project is presented in the PDD (IRL 2). The assessment team carried out a document review of the information presented. In essence, the audit team concluded that the technical capacity is in compliance with the requirements of the CarbonFix Standard. This conclusion was also sustained by the results of the field visit and respective interviews of the audit team (IRL 1).

### **3.15 Protective Capacity**

The PP presented the protective capacity of the project in the PDD (IRL 2). The assessment team carried out a document review of the information presented. In essence, the audit team concluded that the protective capacity is in compliance with the requirements of the CarbonFix Standard. This conclusion was also sustained by the results of the field visit and respective interviews of the audit team (IRL 1).

### **3.16 Secure Land Tenure**

It is confirmed that at time of validation the company “Isla Bosque de Costa Rica S.A.” is the owner of the project area. Isla Bosque is a 100% subsidiary company of “BaumInvest GmbH & Co KG”. Respective evidences (IRL 18, 19) were reviewed by the audit team.

It is further stated in a letter from the Ministry of Environment, Energy and Telecommunication (MINAET) that Isla Bosque de Costa Rica SA has the legal rights over the timber produced and carbon sequestered in the project area (IRL 5).

The corresponding documentation was reviewed, considered authentic and in compliance with Carbon Fix requirements.

### **3.17 Monitoring plan**

No monitoring plan and sampling design is required by the CarbonFix Standard version 2.1 at the time of validation. Future inventories shall be carried out according to the CarbonFix Inventory Guideline.

#### 4 VALIDATION OPINION

TÜV SÜD performed a validation of the following proposed CarbonFix project activity “BaumInvest Reforestation Project”.

Standard auditing techniques have been used for the validation of the project. A methodology-specific protocol for the project has been prepared to conduct the audit in a transparent and comprehensive manner.

The review of the project design documentation, subsequent follow-up interviews, and further verification of references have provided TÜV SÜD with sufficient evidence to determine the fulfilment of stated criteria in the protocol. In the opinion of TÜV SÜD, the project meets all relevant CarbonFix Standard requirements if the underlying assumptions do not change. TÜV SÜD recommends the project for registration by the CarbonFix Standard organisation.

An analysis, as provided by the applied methodology, demonstrates that the proposed project activity is not a likely baseline scenario. GHG removals attributable to the project are additional to any that would occur in the absence of the project activity. Given that the project is implemented as designed, the project is likely to achieve the estimated amount of GHG removals as specified in the final PDD version.

The validation is based on the information made available to TÜV SÜD, as well as the engagement conditions detailed in this report. The single purpose of this report is its use during the registration process as part of the CarbonFix project cycle. TÜV SÜD cannot be held liable by any party for decisions made, or not made, based on the validation opinion beyond this purpose.

Munich, 03 Aug 2010



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Certification Body “climate and energy”  
TÜV SÜD Industrie Service GmbH

Munich, 03 Aug 2010



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Sebastian Hetsch  
Assessment Team Leader



## Annex 1: Validation Protocol

**Table 1 Requirement Checklist**

CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<b>1. Preconditions</b>					
<b>1.1. Eligibility</b>					
1.1.1. Is a summary of the project area’s history (including its past land use) provided?	2, 20	DR, FV	The project’s past land used is briefly summarized in the project documents (PD). The land was mainly used for cattle ranching and dairy farming, in recent years lands were transformed to banana or pineapple plantations in the region.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.1.2. Is sufficient evidence given to the certification body to be able to confirm that the planting area is eligible according to the requirements of CFS by:	2	DR	See below	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
a) Is information given that the area had not been a forest for a minimum of 10 years before the project start or since the 1 <sup>st</sup> of January 1990?	2, 3, 4	DR, FV	An aerial photograph from 5 Feb 1992 was used to demonstrate that no forest was present at least 10 years prior to project start (2007). Aerial photograph was geo-referenced by the GIS consultants “In Medias Res GmbH” based in Freiburg, Germany. The road going through the parcel is used as reference.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
b) Is information given that the area is not wetland or protected area according to the CFS definitions?	2, 5	DR, FV	Wetlands are excluded from the project area. The area is also no protected area, as confirmed by the Ministry for Environment (MINAET)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is the eligibility of the project area proved by groundtruthed satellite images, aerial photographs, official maps or land-use records?	2, 3, 4	DR, FV	An aerial photograph was taken as basis.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





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1.1.3. Is sufficient evidence given by the project owner that the project activity will lead to a forest according to the national forest definition?	2, 6, 21, 22	DR, FV	The national forest definition in Costa Rica is 1 ha minimum area, 30% minimum crown cover and 5m minimum height.  If the project activities are conducted as described in the project documents, it will lead to a forest according to the Costa Rican forest definition	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.1.4. Will trees as defined in the Carbon Fix Standard used to establish the project activity?	2, 21, 22	DR, FV	Respective information is provided in the section 2.3 (Forest Management)  <b><u>Clarification Request 1.</u></b>  Please submit the actual management units of the project (latest version as of validation).	<b>CR</b>	<input checked="" type="checkbox"/>
1.1.5. Is sufficient evidence given that the planting area has not been deforested in order to generate CO <sub>2</sub> –certificates at a later time?	1, 2, 3	DR, FV	The area had been without forest cover since 1992. The current owner only purchased the land in 2007; therefore a connection to the deforestation event is unlikely.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.1.6. Is sufficient evidence given, that less than 10% of the project planting area is agriculture area for food production at project start?	2	DR, FV	Land use at project start was cattle grazing for dairy production.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.1.7. Is the project an agricultural or silvopasture activity? If yes, is sufficient evidence given that the project does not result in long-term increase of emissions from the carbon pool “soil”? If yes, does the project activity contribute to the aim of creating a forest?	2	DR, FV	The project activity is reforestation, thus this criteria is not applicable.  However in the original design it was foreseen to have agricultural plots included in the project area. These plots should have had subsistence farming for employees. However, this was not picked up by broadly.- Only three plots of about 0.5 ha are now included as subsistence farming in the project area (between the trees).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.1.8. Is an initial tree stock of at least 500 trees/ha foreseen?	1, 2, 21, 22	DR, FV	See section 2.3 (Forest Management)  625 per ha is foreseen for Teak and Dipteryx panamensis, and 925 trees per ha for Terminalia amazonia.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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<b>1.2. Additionality</b>					
1.2.1. Is sufficient evidence given to confirm that the project is additional according to the requirements of CFS?	2	DR, FV	See below		<input checked="" type="checkbox"/>
1.2.2. Is additionality proved by Option 1 or 2?					
1.2.3. Option 1: Is an official statement of a bank which gives evidence that the <i>project</i> would not be feasible without the additional financial means from the sale of <i>VER<sub>futures</sub></i> given? And does the statement base on a realistic cash-flow which has been attached to the document.	2	DR, FV	This option was not applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.2.4. Option 2: Has an analysis of additionality been carried out under the UNFCCC guideline?	2, 20	DR, FV	<p>Option 2 was chosen.</p> <p>Step 0 and step 1 is discussed in the PD.</p> <p>The land was cleared about 30 years ago for the purpose of cattle grazing. Recently land values had been increasing also due to the fact that pineapple cultivation has become economically interesting in the area.</p> <p>Reforestation is supported by the government with subsidies.</p> <p>Dominance of (exotic) grasses would have impeded natural regeneration in the project area.</p> <p>Both an investment and a barrier analysis is conducted for this project.</p> <p><b><u>Clarification Request 2.</u></b></p> <p>Provide a clear list of alternative scenarios, including cattle grazing and agriculture (pine apple plantations), and reforestation without finance from carbon credits.</p> <p>In the analysis it has to be clearly explained what would be the baseline scenario, and which barrier (or investment decision derived from the investment analysis) prohibits which land use alternative.</p>	CR	<input checked="" type="checkbox"/>



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<i>Step 2: Investment analysis</i>					
In case of applying step 2 / investment analysis of the additionality tool: Is the analysis method identified appropriately (step 2a)?	2	DR, FV	A benchmark analysis is conducted for the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
In case of Option I (simple cost analysis): Is it demonstrated that the activity produces no economic benefits other than CDM income?	2	DR, FV	Not applied	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
In case of Option II (investment comparison analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	2	DR, FV	Not applied		<input checked="" type="checkbox"/>
In case of Option III (benchmark analysis): Is the most suitable financial indicator clearly identified (IRR, NPV, cost benefit ratio, or (levelized) unit cost)?	2, 23	DR, FV	<p>A benchmark of 7% IRR after tax is determined for the project. The project participant carried out an analysis determining an IRR of 5.96% p.a. without carbon finance for 22 years.</p> <p><b><u>Clarification Request 3.</u></b> Provide the excel calculation how the benchmark of 7% was calculated. Provide reference/evidence for each input parameter that determines the benchmark</p> <p><b><u>Clarification Request 4.</u></b> Provide Excel calculation for the IRR with and without carbon revenues. All calculations must be “active” (cells linked, plain numbers only for the input parameters) All input parameters must be sustained with evidence. The sensitivity analysis must be conducted in compliance with the UN tool (see UNFCCC CDM EB 51, An-</p>	CR	<input checked="" type="checkbox"/>



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			nex 58: <a href="http://cdm.unfccc.int/EB/051/eb51_repan58.pdf">http://cdm.unfccc.int/EB/051/eb51_repan58.pdf</a> )		
In case of Option II or Option III: Is the calculation of financial figures for this indicator correctly done for all alternatives and the project activity?	2, 23	DR, FV	See CR 3 and 4		<input checked="" type="checkbox"/>
In case of Option II or Option III: Is the analysis presented in a transparent manner including publicly available proofs for the utilized data?	2, 23	DR, FV	See CR 3 and 4		<input checked="" type="checkbox"/>
<i>Step 3: Barrier Analysis</i>					
In case of applying step 3 (barrier analysis) of the additional-ity tool: Is a complete list of barriers developed that prevent the different alternatives to occur?	2	DR, FV	<p>In addition to the investment analysis, a barrier analysis is applied.</p> <p>The barrier presented is a investment barrier, as the investors are mainly investing due to the fact that this project is financed from investors that aim to have also carbon credits generated. However, it is still an financial investment and not purely for the purpose of generation carbon credits. Therefore this cannot be seen as a barrier, rather this has potentially an influence on the required benchmark.</p> <p><b><u>Clarification Request 5.</u></b></p> <p>Provide explanation and evidence that sustain the prohibitive character of the barrier as per AR-CDM tool.</p> <p>If such evidence and explanation cannot be provide, exclude the barrier from the analysis. (NB: a financial analysis is sufficient to support the additionality of a project).</p>	CR	<input checked="" type="checkbox"/>
In case of applying step 3 (barrier analysis): Is transparent and documented evidence provided on the existence and	2	DR,	See above	CR	<input checked="" type="checkbox"/>



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significance of these barriers?		FV			
In case of applying step 3 (barrier analysis): Is it transparently shown that the execution of at least one of the alternatives is not prevented by the identified barriers?	2	DR, FV	See above	CR	<input checked="" type="checkbox"/>
<i>Step 4. Impact of CDM registration</i>					
Is it appropriately explained how the approval of the project activity will help to overcome the economic and financial hurdles or other identified barriers (step 4)?	2	DR, FV	The additional finance from carbon credits increases the IRR (see Clarification Requests above).	CR	<input checked="" type="checkbox"/>
1.2.5. If the project is a non-profit one, has Option 2 been applied?	2	DR, FV	n/a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.2.6. Has responsible state authority approved that the reforestation on the <i>planting area</i> is not mandatory by any law or regulation <b>or</b> if it is mandatory has evidence be given that these laws or regulations are systematically not enforced?	2, 4	DR, FV	The Ministry has provided a statement that reforestation is not required by law on the project area.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
1.2.7. Is evidence given, that a forest would not establish itself on the <i>planting area</i> under the foreseeable land-use, and without the <i>project activities</i> ?	2	DR, FV	The land use practice of pineapple farming and cattle grazing would prohibit the establishment of forests.  <b>See CRs above</b>	CR	<input checked="" type="checkbox"/>
1.2.8. Is additionality assured for the entire project, even if parts of the project are planted without generating VER <sub>future</sub> (e.g. because the land is not eligible)?	2	DR, FV	Not applicable. All project area eligible is reforested. Non-eligible area is not reforested.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>2. Sustainable Forest Management</b>					
<b>2.1. Environmental Aspects</b>					
2.1.1. Is sufficient evidence given to confirm the long-term net positive ecological impact of the project?	2	DR, FV	Evidence is provided that the reforestation will likely not have a negative impact on the environment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.2. Description of environmental conditions.					



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Have the following parameters been described adequately? a. Soil: nutrients, erosion b. Water: quality, quantity c. Biodiversity: plants, animals d. temperatures, rain	2, 24, 25, 26	DR, FV	The different parameters have been described. A particular attention is being paid to amphibians and reptiles; a respective monitoring is done by the Senckenberg Research Institute.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is evidence given, that positive impacts are enhanced and negative impacts are mitigated – respectively avoided – if they are not essential for the project activities?	2 24, 25, 26	DR, FV	A monitoring of biodiversity (focusing on amphibians and reptiles) is implemented. Net impacts can be determined ex-post. Water quantity and quality is not likely to be impacted through the project, as well as soil quality.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.6. Are pests managed in an environmental friendly way and preferably without the use of chemical products?	2	DR, FV	The project documents indicate that it is envisioned to manage pests in an environmental friendly way.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.7. Is the use of herbicides and insecticides or will it be documented? Is a list of all applied products included in the document?	2	DR, FV	The use of chemicals will be documented in a project database. Cupravi is listed as a potential chemical that would be used in case of lack of suitable alternative options.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.8. If chemicals are used, is there an adequate training for persons working with the chemicals and is proper equipment provided to minimize environmental impacts?	2	DR, FV	Contractors are applying the chemicals. Therefore the PP does not manage the training.  <b><u>Clarification Request 6.</u></b> Clarify how it is ensured that sufficient training is ensured when chemicals are used; in particular since this is done by contractors.  <b><u>Forward Action Request 01:</u></b> Standard Operational Procedures regarding use and application of chemicals and waste disposal shall be elaborated.	CR	FAR



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2.1.9. Is waste disposed in an environmental friendly way?	2	DR, FV	Biodegradable waste is composted, non-biodegradable waste is burned. See FAR 01 above	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.10. Is a 15 m wide buffer strips along permanent or temporary watercourses (streams, rivers, wetlands, etc.) implemented? These buffer areas are part of the nature conservation area.	2	DR, FV	15 m buffer strip will be implemented along the water bodies.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.11. Is any flooding irrigation, regular irrigation or drainage applied in the project?	2	DR, FV	No flooding irrigation is foreseen in the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.12. Is any area-wide ploughing carried out during planting activity?	2	DR, FV	Ploughing will be applied in the project for planting. For all teak planting areas ploughing was applied (once to prepare the planting). As roughly 50% of the plantation will be Teak, 50% of the planting area will be ploughed (about 25% of the overall area)  <b><u>Clarification Request 7.</u></b> It shall be clarified with the Carbon Fix Standard if this is considered as "area wide ploughing"	CR	<input checked="" type="checkbox"/>
2.1.13. Have any genetically modified tree species been used?	2	DR, FV	No genetically modified tree species are expected to be planted	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.11. Are the species planted in mixed stands with a selective harvesting method?	2	DR, FV	50% of the area will be planted with Teak in pure stands and 50% will be planted with local tree species, in mixed stands (patch-wise mixes).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
If not, is it justified by the project owner why no mixed stands were planted according to: -choice of tree species and/or -silvicultural system and/or -harvesting method	2	DR, FV	The choice of tree species, silvicultural system and harvesting is explained in the project document. Teak is usually planted in pure stands due to experience in silviculture and harvest systems (clear cut). Other tree species will be probably harvested in selective harvesting. However, experiences with these tree species are still limited, therefore this will be adopted in the future.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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2.1.13. Are all species site-adapted, also under changing climate conditions – considering the latest IPCC report?	2, 14	DR, FV	A description on forecasts of the latest IPCC report and requirements of Teak is provided in the project document. No indications are included that teak is not suitable considering future climate patterns as indicated in the IPCC forecast.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.1.14. Have been included signed statements of: a. a responsible forestry, wildlife or environmental authority b. a registered NGO in the environmental sector  including the following confirmations about: i) that the project operates according to national environmental laws, ii) that no native endangered (EN) and critically endangered (CR) species from the IUCN Red list are being threatened due to project activities, and iii) that the project has a net positive impact on the environment	2, 4, 6	DR, FV	A statement from the Ministry for Environment, Energy and Telecommunication (MINAET) is provided by the project participant. The document states inter alia, that the project is in compliance with environmental laws in Costa Rica, that no endangered species are threatened by the project and that the project has a total net positive impact.  The person having signed the document is Mr. Carlos Ulate.  The NGO “Corredor Biologico San Juan – La Selva” stating that the project is operating according to national environmental laws, no endangered plants or animals are threatened through the project activity and that the project contributes to the recovery of the forest area. Internet: <a href="http://www.lapaverde.or.cr/">http://www.lapaverde.or.cr/</a>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>2.2. Socioeconomic Aspects</b>					
2.2.1. Has sufficient evidence been given to the certification body to be able to confirm long-term net positive socio-economic impact?	1, 2	DR, FV	Long-term socio-economic impacts are mainly the creation of employment in the area for the duration of the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.2.2. Have been described the current situations of the following parameters, together with possible impacts caused by the project?	1, 2	DR, FV	See specific answers in the items below	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
a) Creation of employment - management - employees - contractors - workers	1, 2	DR, FV	A description of the creation of employment is provided in the project document. One management position, 4 employees, 2 contractors and 10 workers will be employed long-term.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





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b) Capacity building <ul style="list-style-type: none"> <li>- management</li> <li>- employees</li> <li>- contractors</li> <li>- workers</li> </ul>	1, 2	DR, FV	A description of capacity building, is provided in the project document. Capacity building is being done through “on-the-job training”. No specific training courses are planned at the time of validation	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
c) Neighbourhood <ul style="list-style-type: none"> <li>- displacement of people</li> <li>- welfare activities</li> </ul>	1, 2	DR, FV	A description of “neighbourhood” is provided in the project document. No people were displaced due to implementation of the project.  Welfare activities include the endowment of 1 ha Teak plantation to the local school and support with jerseys to the local soccer team of the village.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is evidence given that positive impacts are enhanced and negative impacts are mitigated - respectively avoided, if they are not essential for the <i>project</i> activities?	1, 2	DR, FV	No indications of negative impacts on the above listed socio-economic criteria were found during the validation assessment	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.2.3. Is a first aid kit accessible for all workers?	1, 2	DR, FV	A first aid kit is available at the administrative building in San Rafael.  As the onsite visit was conducted at an early stage of project implementation this is subject assessment at the subsequent verification  <b><u>Forward Action Request 02:</u></b> Standard Operational Procedures regarding workers safety shall be elaborated.	FAR	FAR
2.2.4. Are workers able to organize themselves and voluntarily negotiate with their employers?	1, 2	DR, FV	The audit team did not find any indications that workers are not able to organize themselves. Small team, not formalized for workers  <b><u>Forward Action Request 03:</u></b> Standard Operational Procedures regarding management and employment shall be elaborated.	FAR	FAR
2.2.5. Is all equipment (tools, machines, substrates, etc.), including those of the <i>contractors</i> , be in a safe working mode?	1, 2	DR, FV	During the audit process there were no indications of equipment tools not in safe working mode.  <i>See FAR 02</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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2.2.6. Have proper protective equipment and training of the <i>workers</i> been implemented – especially when chemicals are used?	1, 2	DR, FV	During the audit process there were no indications of protective equipment and training not in safe working mode. As the onsite visit was conducted at an early stage of project implementation this is subject assessment at the subsequent verification. <i>See FAR 01 and FAR 02</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.2.7. Are any children under the age of 16 working for the project?	1, 2	DR, FV	During the audit process there were no indications of children under the age of 16 working for the project. <i>See also FAR 03</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.2.8. Do the contracts clearly define the following parameters?	1, 2	DR, FV	See below	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
For employees: - Working hours and leave (holiday, sickness and pregnancy) - Duties - Salary - Modalities on health insurance - Modalities on the termination of the contract	1, 2	DR, FV	<b><u>Clarification Request 8.</u></b> Provide respective contracts for the employees.  See FAR 03	CR	FAR
For contractors: - Tasks (quantity, quality, time) - Payment - Modalities on the termination of the contract	1, 2	DR, FV	<b><u>Clarification Request 9.</u></b> Provide respective contracts for contractors. See FAR 03	CR	FAR
2.2.9. Are the workers from the area around the project?	1, 2	DR, FV	Workers employed in the project are from the vicinity of the project. <i>See FAR 03</i>	FAR	FAR
2.2.10. Are spiritual, religious, or other socially important places within the <i>project area</i>	1, 2	DR, FV	No spiritual, religious, or other socially important places were found within the project area. A cemetery is adjacent to the area (in the south)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.2.11. Are <i>Neighbors</i> able to address their concerns to the <i>project owner</i> ?	1, 2	DR, FV	Regular meetings with the local village spokesman are conducted on an informal level. No SOPs are developed, given the scale of the project this is acceptable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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			considering the requirements of the standards. During the onsite visit neighbors were interviewed.		
2.2.12. Is it clearly defined according to concerns of neighbors: a) How decisions which are solving concerns are undertaken? b) How results of these decisions are implemented in a cooperative way.	1, 2	DR, FV	No formal descriptions (e.g. Standard Operational Procedures) are defined. Complaints can be addressed to the managing director of Puro Verde.  <b>Forward Action Request 04:</b> Standard Operational Procedures regarding grievance shall be elaborated.	FAR	FAR
<b>2.3. Forest Management</b>					
2.3.1. Is sufficient evidence given to the certification body to be able to confirm that the project bases itself on the principles of sustainable forest management?	1, 2	DR, FV	The described management and implementation of the project is providing sufficient evidence that sustainable forest management is likely to be achieved.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.3.2. Are the objectives of the projects described?	2	DR, FV	The objective of the project is the reforestation of the area with teak, mixed with native tree species.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.3.3. Are the following figures included in the document? a) Area (ha) of the <i>project area</i> b) Area (ha) of foreseen <i>planting area</i> c) Area (ha) of foreseen <i>eligible planting area</i> d) Area (ha) of <i>nature conservation area</i>	2	DR, FV	The figures are included in the PD, 216 ha is the total project area.  <b>Clarification Request 10.</b> Include the forest management plan (planting schedule) and maps of planting units (with tree species/strata) in the project design document. <b>(see also CR 1)</b>	<b>CR</b>	<input checked="" type="checkbox"/>
2.3.4. Are the borders of the <i>project area</i> , <i>planting area(s)</i> , <i>management units</i> and <i>nature conservation area(s)</i> clearly visible in the field?	2, 3, 4	DR, FV	Boundaries are clearly visible in the maps.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Management of Nature conservation Area</b>					



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2.3.5. Is a description of the selected IUCN management category(ies) and its (their) implementation for the <i>nature conservation area(s)</i> included in the document?	2	DR, FV	The IUCN management category is included in the document	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Have one or several of following categories been selected: I, II, III, IV or V – following the guideline ‘IUCN categories’?	2	DR, FV	The IUCN category I Strict Nature reserve / Wilderness Area is selected	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Do the <i>nature conservation area(s)</i> consist of different eco-types (bush, grassland, swamp, etc.).	2	DR, FV	The conservation area consists of water bodies, secondary forests and riparian zones.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.3.6. Are there any patches of the <i>non-eligible area that are</i> forests, wetlands or protected areas larger than 1 hectare at the <i>project</i> start? If yes they become part of the <i>nature conservation area</i> .	2, 3, 4	DR, FV	Forests, wetlands and protected areas are included in the protected area. These areas are larger than 1 ha. Native tree species will be planted in the buffer strip adjacent to the water bodies	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Management of Planting Area</b>					
2.3.7. Have characteristics of the tree species planted on the <i>eligible planting area</i> been described?	2	DR, FV	Description is provided, and references are provided.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
a) Origin and distribution of the tree species b) Provenance of the seeds c) Main purpose / use of trees d) Possible pests and diseases e) Time when forest products are foreseen to be used	2, 27, 28, 29, 30, 31	DR, FV	The characteristics of the relevant tree species are included in the PD. Information on origin and distribution of the tree species, provenance of the seeds, main purpose / use of trees, possible pests and diseases, time when forest products are foreseen to be used is included.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2.3.8. Have the following steps of the technical implementation of the project been described? a) Nursery b) Land preparation (incl. Lining out / spacing) c) Planting d) Beating up (replacing of the seedlings) e) Maintenance f) Pruning g) Thinning	2	DR, FV	The requirements a-h are included in the PD. BaumInvest has its own nursery. Site preparation is based on ploughing for teak. Planting and maintenance is done manually. Pruning schedule is not yet clearly defined; thinning will be done in year 7, 12 and 16 for teak. No SOPs are defined, which is however not required by the standard.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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h) Harvesting					
<b>Management units</b>					
<p>2.3.9. Have the following information been submitted for each management unit?</p> <ul style="list-style-type: none"> <li>- Start of the planting, or start of protection (in case of natural regeneration)</li> <li>- Tree species used</li> <li>- Area (ha)</li> <li>- Foreseen <i>eligible planting area</i> (ha)</li> <li>- GPS coordinates of a point within the <i>management unit</i></li> <li>- Future quantity of stored CO<sub>2</sub> (tCO<sub>2</sub>/ha) <i>Chapter ‘Future CO<sub>2</sub>-fixation’</i></li> <li>- Fertilizer application (kg of N/ha) <i>Chapter ‘Project Emissions’</i></li> <li>- Baseline CO<sub>2</sub> (tCO<sub>2</sub>/ha) <i>Chapter ‘Baseline’</i></li> <li>- Leakage (tCO<sub>2</sub>/ha) <i>Chapter ‘Leakage’</i></li> </ul>	2, 4, 21, 22	DR, FV	<p>Separate documents with information on the management units (IRL 22) and respective maps have been submitted to the audit team.</p> <p>Only organic fertilizer (compost) is used, which does not account for significant GHG emissions.</p> <p><b>See Clarification Request 1 and 10 regarding the inclusion in the project documents</b></p>	CR	<input checked="" type="checkbox"/>
<b>Maps and Locations</b>					
<p>2.3.10. Have the following maps been provided as JPG?</p> <p>a) The location of the <i>project’s</i> country.</p> <p>b) The location of the <i>project</i> area(s) within the country.</p> <p>c) The <i>nature conservation area(s)</i>.</p> <p>d) The foreseen <i>planting area(s)</i>. (eligible and not eligible areas must be differentiated)</p> <p>e) The <i>management units</i>. (eligible and not eligible areas must be differentiated)</p> <p>f) The <i>neighbors</i> around the <i>project</i> area.</p> <p>g) The topography of the <i>project</i> area. (optional)</p> <p>h) The soil properties of the <i>project</i> area. (optional)</p>	2, 3, 4	DR, FV	<p>Arial photos and print-outs of GIS files have been submitted to the DOE and included in the PD.</p> <p>The GIS files allow to clearly identify the location of the project with the country.</p> <p><b>See CR 10 regarding inclusion of map of forest management units in the project document</b></p>	CR	<input checked="" type="checkbox"/>
<p>2.3.11. Are the maps from point c) to h) GIS maps? Are they</p> <ul style="list-style-type: none"> <li>- Geo-referenced, and</li> </ul>	2	DR, FV	Maps are provided validation process, <b>see CR 10</b>	CR	<input checked="" type="checkbox"/>



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Do they visibly include the following information? <ul style="list-style-type: none"> <li>- Name of the <i>project</i></li> <li>- Printing date</li> <li>- Scale</li> <li>- Direction of North</li> <li>- Legend</li> <li>- Used GPS coordinate system</li> <li>- Infrastructure (roads, houses, etc.), and rivers</li> </ul>					
Are the GIS-shape files available for the Certification body?			GIS files were provided to the audit team and assessed during the validation process and found to be in compliance with figures provided in the PDD and cross-checked during field measurements.	☑	☑
<b>3. CO<sub>2</sub> - Fixation</b>					
3.1.1. Has sufficient evidence been given to the certification body to confirm that the variables used for the calculation follow a conservative approach and that the amount of VER-futures has been accurately calculated according to the CFS formulas?	2, 21, 22	DR	Scientific references for the input parameters have been provided to the audit team during the validation (see comments below)	☑	☑
<b>3.2. Calculation of VER<sub>futures</sub></b>					
3.2.1. Has the right formula according to the methodology been applied for determining the amount of VER futures?	2, 21, 22, 57	DR	The calculations have been carried out using the web-based software from Carbon Fix.	☑	☑
3.2.2. Has the formula been used individually for every management unit?	2, 22, 57	DR	See above, the additional document “Certificates and Management Units” (IRL 22) provides details per management units. The table is generated by CarbonFix from the web-based calculations.	☑	☑
3.2.4. Are the following carbon pools selected for calculation of variables for Future CO <sub>2</sub> -fixation, baseline and leakage?	2, 21, 22, 57	DR	As per web-based calculations the respective carbon pools have used.	☑	☑



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CHECKLIST QUESTION					Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Carbon Pools		Examples	Future CO <sub>2</sub> fixation	Baseline	Leakage				
Aboveground	Woody	Living Biomass	<i>Stem, bark, foliage and branches</i>	Selected	Selected				
		Dead Biomass	<i>Dead trees or branches</i>						
	Non-woody	Living Biomass	<i>Grass</i>	Selected					
		Dead Biomass	<i>Dead grass, litter and seeds</i>						
Belowground	Woody	Living Biomass	<i>Roots</i>	Selected	Selected				
		Dead Biomass	<i>Died off roots</i>						
	Non-woody	Living Biomass	<i>Grassroots</i>	Selected					
		Dead Biomass	<i>Died off grassroots and organic soil</i>						
Wood products		<i>Construction timber or furniture</i>							
Wood as renewable energy		<i>Replacement of oil or coal</i>							
Conservative approach									
Does the parameter derive from available scientific sources?					2	DR	Different parameters are discussed below	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Is a conservative value for BEF for each stand model chosen? Are adequate sources for the data provided?					2, 8, 10, 11, 12, 13, 14, 15	DR	Teak (T1 & T2): 1.53 (local study (Ref 06-03) provides a value of 1.37) D. panamensis (A1 & A2): 1.5 T. Amazonia (R1 & R2): 1.2 V. guatemalensis (Cebo): 1.5  <b><u>Clarification Request 11.</u></b> Clarify if local or national studies on BEF are available for Swietenia m., use conservative value for Teak.	CR	<input checked="" type="checkbox"/>
Is a conservative value for Wood Density for each stand model chosen? Are adequate sources for the data provided?					2, 8, 9, 10, 11, 12, 13, 14, 15	DR	Teak (T1 & T2): 0.68 (a conservative value shall be applied in case of uncertainty) D. panamensis (A1 & A2): 0.96 (a conservative value shall be applied in case of uncertainty) T. Amazonia (R1 & R2): 0.75 Swietenia macrophylla: 0.6 (a conservative value shall be applied in case of uncertainty) V. guatemalensis (Cebo): 0.35 MIX: 0.79	CAR	<input checked="" type="checkbox"/>



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			<p><b><u>Corrective Action Request No 1.</u></b>                      Considering the conservative approach lower values with in average shall be used in case of uncertainties.</p>		
Is a conservative value for Root-to-Shoot for each stand model chosen? Are adequate sources for the data provided?	2, 8, 10, 11, 12, 13, 14, 15	DR	Teak (T1 & T2): 0.42 D. panamensis (A1 & A2): 0.42 T. Amazonia (R1 & R2): 0.42 V. guatemalensis (Cebo): 0.42  <p><b><u>Clarification Request 12.</u></b>                      Clarify if local or national studies on R-t-S are available. Figures for Teak are provided in the references mentioned and shall be applied.</p>	CR	<input checked="" type="checkbox"/>
Are conservative values for growth of the stand models chosen? Are adequate sources for the data provided?	2, 8, 10, 11, 12, 13, 14, 15	DR	Include the information on values used for increment in the PD.  Teak (T1 & T2): D. panamensis (A1 & A2): 148,2 m3/ha mean above-ground biomass T. Amazonia (R1 & R2): V. guatemalensis (Cebo): Swietenia macrophylla: 227,265 m3/ha mean above-ground biomass  <p><b><u>Corrective Action Request No 2.</u></b>                      Conservative values for increments shall be used.                      Provide further explanation on increment data to the audit team.</p>	CAR	<input checked="" type="checkbox"/>
Is the default value for carbon fraction of 0.5 chosen?	2, 8	DR	Yes, the default value is chosen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>





CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
Is the default value for C to CO <sub>2</sub> factor of 3.666 chosen?	2, 8	DR	Yes, the default value is chosen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the parameter lead to a conservative calculation approach? Like: a) the future CO <sub>2</sub> -fixation must unlikely to be overestimated, and b) the project emissions baseline and leakage must unlikely to be underestimated.	2	DR	Yes, see points above.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>3.3. Future CO<sub>2</sub>-fixation</b>					
3.3.1. Has a <i>management unit</i> specific and scientifically based growth-model been used to determine the future CO <sub>2</sub> -fixation? Is a description of this growth-model given?	2	DR	<i>See comments on growth models in section 3.2</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the growth-model cover: - in case of selective harvesting or conservation forest, at least the time period up to the forest reaches its equilibrium stem volume? - in case of rotation forestry, at least the time period of the first rotation?	2	DR	<i>See comments on growth models in section 3.2</i>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.3.2. If a forest inventory (at least before every certification process) has been conducted has the growth model been adapted corresponding to its results?	2	DR	No inventories have been carried out so far	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Has the inventory be executed according to the “Inventory” guideline?	2	DR	n/a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.3.4. Has the project owner chosen one of the following methods (options) to determine the future CO <sub>2</sub> -fixation?	2	DR	Option 2 (“rotation forestry”) is chosen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.3.5. <b>Option 1:</b> “Selective harvesting or conservation Forest”	2	DR	Not applied		<input checked="" type="checkbox"/>
3.3.7. <b>Option 2:</b> “Rotation Forestry”	2	DR	The rotation forestry approach is applied as harvesting will be done in the project.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
In case of rotation forestry, the future CO <sub>2</sub> -fixation is based on the mean Stem volume during the first rotation period. If	2, 21, 22	DR	Calculations are done by CarbonFix on a web-based system. Calculations were checked based on the Excel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
the first rotation period takes longer than 50 years, the future CO <sub>2</sub> - fixation is calculated by the mean Stem volume within this first 50 years.			sheets provided by the PPs.		
<b>3.4. Project emissions</b>					
3.4.1. To account for <i>project</i> emissions, have 0.5% of the <i>projects</i> CO <sub>2</sub> -fixation been deducted due to the use of fossil energy within the <i>project</i> (machines, flights, etc.)?	2	DR, FV	As per CarbonFix calculation a default deduction of 0.5% is applied.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.4.2. In case fertilizer is used, have 0.4 tCO <sub>2</sub> per kg of nitrogen (N) been deducted? <i>(As per CarbonFix decision the default value of nitrogen was lowered to 0.005 t CO<sub>2</sub> equivalents per kg of nitrogen.)</i>	2	DR, FV	Initially no fertilizer was expected to be used in the project. However during the course of the validation it was decided to include a figure for fertilizer to conservatively estimate potential emissions from fertilizer. Organic fertilizer will be used, with 45 kg nitrogen per hectare. This value has been included to the final calculation. As per CarbonFix decision the default value of nitrogen is lowered to 0.005 t CO <sub>2</sub> equivalents per kg of nitrogen.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>3.5. Baseline</b>					
3.5.2. Have the woody and non-woody living biomass values been determined according to the best available scientific references? Do they follow the following order? 1) local default values 2) national default values 3) international default values	2	DR, FV	Parameters for the calculation of the baseline are based on IPCC values. (6.2 t biomass and 1.58 as R-t-S ratio. (total of 29 t CO <sub>2</sub> -e)  Grassland is used as basis for calculations, no trees or shrubs available on the eligible planting area.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.5.3. For the conversation of default values into t-CO <sub>2</sub> has the 'Conversion Procedure' and 'Conservative Approach' been used?	2	DR, FV	A conservative approach has been used		<input checked="" type="checkbox"/>
3.5.4. In case the baseline biomass is burned on the field for the purpose of land preparation, has an increase of 10% of the baseline emissions calculated?	2	DR, FV	No baseline burning of biomass is foreseen	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<b>3.6. Leakage</b>					
3.6.4. Has the project owner justified his selection of leakage emissions from the following categories: a) fuel wood use b) charcoal burning c) timber harvesting d) agricultural farming e) resettlement f) livestock grazing	2	DR, FV	Only livestock grazing is a source of leakage. No significant fuel wood collection, charcoal production, timber harvest, agriculture or settlement has been in the project area before project start.  <b><u>Clarification Request 13.</u></b> Provide a description on leakage from grazing in the project document	CR	<input checked="" type="checkbox"/>
3.6.6. According to leakage by a),b) or c) has been used the right formula to calculate the leakage?	2	DR, FV	Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.6.7. According to leakage by d) or e) has been used the right formula to calculate the leakage?	2	DR, FV	Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3.6.8. According to leakage by f) has been used the right formula to calculate the leakage?	2, 32	DR, FV	0.7 heads had been on the project area before project start, cattle was slaughtered and sold. This is confirmed by a written statement from the manager from Isla Bosque.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>4. Permanence</b>					
<b>4.1. Management Capacity</b>					
4.1.1. Is a list of the management staff included to the document and does it include following information? - Educational level - Work experience - Duties - Type of employment - Title - GPS and GIS know-how	2	DR, FV	A list of staff with the respective education, years of work experience, duties, type of employment, title and GPS/GIS knowledge.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.1.2. Is the <i>management</i> structure sufficiently explained and does the description include an organizational chart?	2	DR, FV	An organizational chart is included in the PD  <b><u>Clarification Request 14.</u></b>	CR	<input checked="" type="checkbox"/>



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
			Provide information on the management system in the PD as required by CFS.		
4.1.3. Has the general decisions-making process been described? And have the decisions been taken in an open and cooperative way?	2	DR, FV	The general decision making process is described in the PD. Considering the relatively small scale of the project staff no formal process is defined, which is considered adequate in the respective to the requirements of CarbonFix.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.1.4. Has the four eye system used within the <i>management</i> structure? (This means that at least more than one person double-checks the work of another person.)	2	DR, FV	Quality control is enforced through double check by a staff member and the managing director. Considering the relatively small scale of the project staff no formal process is defined, which is considered adequate in the respective to the requirements of CarbonFix.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.1.5. Adapted to the extent of the work, has the <i>management</i> worked with Standard Operational Procedures SOP?	2	DR, FV	No SOPs are required for the project. Considering the relatively small scale of the project this is considered adequate. SOP for management shall be elaborated, see FAR 03.	FAR	FAR
4.1.6. Does the <i>project</i> collaboratively cooperate with other organizations or individuals to expand capacities of the <i>management</i> ?	2	DR, FV	The project is collaboration with CATIE, ITCR/CIDASTH, OJOCHE, the research Institute and natural history museum Senkenberg.  <b><u>Clarification Request 15.</u></b> Provide evidence for the collaboration with the named organization.	CR	<input checked="" type="checkbox"/>
4.1.7. Is it assured that the <i>management</i> of the <i>project</i> is able to continuously extend their knowledge and skills within their working field?	2	DR, FV	Staff members can participate in relevant meetings and conferences. Main training is “on the job” training for workers in the project. Considering the relatively small scale of the project staff no formal process is defined, which is considered adequate in the respective to the requirements of CarbonFix.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<b>4.2. Financial Capacity</b>					
4.2.1. Has the project owner given evidence with help of the cash-flow of the chapter 'Additionality' that sufficient financial means are and will be available to finance the establishment and maintenance of the <i>project</i> ?	2	DR, FV	A cash flow is provided as discussed in the section on additionality. (See respective comments in the section on additionality).	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.2.2. Has the project owner give evidence of his financial health by for example: a) financial reports from the past 3 years, or b) an official accountant's opinion	2	DR, FV	<p>The project owner has provided two financial reports. The financial audits is done by Amann &amp; Jörger Wirtschaftsprüfung und Steuerberatungsgesellschaft (Schönau, Germany).</p> <p>The total fund (BaumInvest) is 7.8 million Euro, which is already fully signed.</p> <p><b><u>Clarification Request 16.</u></b></p> <ul style="list-style-type: none"> <li>• Provide a financial statement from Amann &amp; Jörger Wirtschaftsprüfung und Steuerberatungsgesellschaft (Schönau) concerning the signed amount of the fund.</li> <li>• Provide a description on financial capacity in the project document</li> </ul>	CR	<input checked="" type="checkbox"/>
<b>4.3. Technical capacity</b>					
4.3.1. Does a list describe the equipment used for the following activities: a) Nursery b) and preparation (incl. lining out /spacing) c) Planting d) Beating up (replacing of dead seedlings) e) Maintenance f) Pruning g) Thinning h) Harvesting i) Security (fire, animals, etc.)	2	DR, FV	The required tools are listed in the PD.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
<b>4.4 Protective Capacity</b>					
4.4.1. Has the mitigation of pests (listed in chapter ‘Management of Planting Areas’) and other possible risks (such as fire, browsing of animals, etc.) been described?	2	DR, FV	Risks are described in the PD, in particular browsing (by domestic animals), storm damage, drought, floods and pests (tree diseases). All risks are rated as low; only tree diseases can be considered as a potential risk. Training of staff and potentially the use of pesticides are measures for potential mitigation.  See also FAR 01	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.4.2. If the <i>project</i> is situated in an area with a high fire risk is a ‘Fire Management Plan’ included to the document? This plan must consider the actions for: a) Fire awareness b) Fire prevention c) Fire equipment d) Fire detection e) Fire suppression f) Fire damage rehabilitation	2	DR, FV	Considering the climate and high precipitation in the project, the fire risk is rated relatively low.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Has the risk been calculated according to the “Fire risk” guidelines?	2	DR, FV	Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>4.5. Secured Land Tenure</b>					
4.5.1. Is it confirmed by official documentation that the <i>project owner</i> is the: a) land owner, or b) long-term lease holder, or c) owner of the timber and CO2-rights d) owner of the CO2-rights ...of the project area?	2, 18, 19	DR, FV	A digital extract from the National Registry is provided, stating that it belongs to the “Isla Bosques de Costa Rica Sociedad Anonima”. A separate document states that Isla Bosque S.A. is bought by BaumInvest GmbH & Co KG. This was cross-checked in the internet during the validation process.  <b><u>Clarification Request 17.</u></b>  Provide a copy of the cadastral register with a map identifying the project area	CR	<input checked="" type="checkbox"/>



CHECKLIST QUESTION	Ref.	MoV*	COMMENTS	Draft Concl	Final Concl
4.5.2. In case the <i>project owner</i> is the land owner or long-term leaseholder, is evidence given that he also owns the CO <sub>2</sub> -rights?	2, 5	DR, FV	A letter from the Ministry of Environment (MINAET) stating that Isla Bosque S.A. is the owner of the sequestered carbon	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.5.3. If the <i>project owner</i> is not the land owner, is evidence given that land owner agrees with the foreseen <i>project activities</i> ?	2, 18, 19	DR, FV	Not applicable, owner of the land is also project owner	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.5.4. If any relocation of people is required, has it been carried out on a voluntary basis or has it helped to resolve land tenure problems?	2	DR, FV	Not applicable	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
If there is encroachment or a possibility of it, has it been described and mitigated in a cooperative way?	2	DR, FV	No encroachment is likely.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>4.6. Compensation Activities</b>					
4.6.1. If an adaption of the growth-model or the destruction of forest lead to a shortage of calculated <i>VER<sub>futures</sub></i> within a management unit, have compensation activities been implemented?	2	DR	To be decided at first verification	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4.6.2. If compensation activities are necessary has the project owner done the compensation within 12 month and by the following options? a) Replanted the <i>management unit(s)</i> , and/or b) Allocating <i>VER<sub>futures</sub></i> from other <i>management units</i> , and/or c) Purchasing <i>VER<sub>futures</sub></i> from other CFS certified <i>projects</i> .	2	DR	n/a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Does the compensation lead to the initially calculated amount of <i>VER<sub>futures</sub></i> ?	2	DR	n/a	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

**Table 2: Responses to CAR and CR**

Draft report clarifications and corrective action requests by validation team	Ref. to PDD	Summary of project owner response	Validation team conclusion
<p><b><u>Clarification Request 1.</u></b></p> <p>Please submit the actual management units of the project (latest version as of validation).</p>	1.1	<p><u>Project Team:</u> The map of the management units of the project (latest version as of validation) has been submitted to the audit team.</p> <p><u>Audit Team:</u> Updated documents are submitted as pdf. Digital boundary files (shape) are submitted to audit team.</p>	☑
<p><b><u>Clarification Request 2.</u></b></p> <p>Provide a clear list of alternative scenarios, including cattle grazing and agriculture (pine apple plantations), and reforestation without finance from carbon credits.</p> <p>In the analysis it has to be clearly explained what would be the baseline scenario, and which barrier (or investment decision derived from the investment analysis) prohibits which land use alternative.</p>	1.2	<p><u>Project Team:</u> A clear list of the identified alternative scenarios has been included in the PDD, although the CarbonFix Standard v.2.1 does not require Step 0 and Step 1 of the UNFCCC tool for demonstration and assessment of additionality in A/R CDM project activities (see GUIDELINE Additionality: EB 21 Report Annex 16, modified by the CarbonFix Standard).</p> <p><u>Audit Team:</u> Step 2 point 1 of the CFS additionality tool is referring to “other alternatives”. Therefore these alternatives shall be included in the PDD. Three alternative scenarios are described in the PDD in sub-step 1a).</p>	☑
<p><b><u>Clarification Request 3.</u></b></p> <p>Provide the excel calculation how the benchmark of 7% was calculated. Provide reference/evidence for each input parameter that determines the benchmark</p>	1.2	<p><u>Project Team, 30/04/2010:</u> The calculation of the benchmark including references for the input parameter has been attached.</p> <p><u>Audit Team, 05 May 2010:</u> The calculation of the benchmark is revised and increased to 9.8%. As the benchmark at the time of investment decision (according to the original project documents and the catalog (“Beteiligungskatalog”). The figures for the 7% benchmark used in the initial calculations need to be sustained. Related to the individual factors:</p>	☑





		<p>1. Risk free investment was referred to in the original PDD as 3.5-4%. If no fixed value can be sustained, but only the range from the German Federal Bank is provided, a conservative approach shall be used.</p> <p>2. Risk surcharge of 4-12% is mentioned in the original PDD was mentioned. Sustain the figures with references / evidence.</p> <p><u>Project Team, 31/05/2010</u> The figures for the benchmark of 7% (equity IRR) have been sustained with references for the relevant factors.</p> <p><u>Audit Team:</u> Further refernces for the calculation of the benchmark have been provided to the audit team and assessed. The input values were accepted, as no similar activities could be found as appropriate input parameters. Further is was sustained that comparable timber funds are using higher benchmarks of 9-11%. Therefore the benchmark Of 7% can be considered conservative. Request closed.</p>	
<p><b><u>Clarification Request 4.</u></b> Provide Excel calculation for the IRR with and without carbon revenues. All calculations must be “active” (cells linked, plain numbers only for the input parameters) All input parameters must be sustained with evidence. The sensitivity analysis must be conducted in compliance with the UN tool (see UNFCCC CDM EB 51, Annex 58: <a href="http://cdm.unfccc.int/EB/051/eb51_repan58.pdf">http://cdm.unfccc.int/EB/051/eb51_repan58.pdf</a>)</p>	<p>1.2</p>	<p><u>Project Team, 30/04/2010:</u> Excel calculations for the IRR with and without revenues from sales of VER have been attached, as well as a table with the basic data and references for the input parameter. The sensitivity analysis is now conducted in compliance with the respective UN tool.</p> <p><u>Audit Team, 05 May 2010:</u></p> <ul style="list-style-type: none"> <li>• As requested, the sensitivity analysis should follow the respective tool, by increasing and decreasing each of the relevant costs and revenues (independently). See UNFCCC CDM EB 51, Annex 58: <a href="http://cdm.unfccc.int/EB/051/eb51_repan58.pdf">http://cdm.unfccc.int/EB/051/eb51_repan58.pdf</a>)</li> <li>• The IRR calculation without VERs shall include subsidies granted for reforestation by the Costa Rican government, and exclude costs for development of the carbon project.</li> <li>• Please justify the annual increase of costs by 2%. The annual increase of 2% of the revenues is conservative in the context of the additionality analysis.</li> </ul>	<p style="text-align: center;"><input checked="" type="checkbox"/></p>



		<p><u>Project Team, 31/05/2010</u></p> <ul style="list-style-type: none"> <li>- Each of the relevant costs and revenues of the project have been increased and decreased in compliance with the UNFCCC guideline for the sensitivity analysis.</li> <li>- Potential subsidies which could be granted for reforestation by the Costa Rican government have been included in the calculation of IRR without sales of VERs, while costs for the certification of the carbon project have been excluded.</li> <li>- The annual increase of costs by 2% is based on the increase of the</li> </ul> <p>Consumer Price Index and the increase of labour costs in Germany and Costa Rica. All of these figures exceed an increase of 2% per year in the relevant period of time. Therefore, the annual increase of costs by 2% can also be considered as conservative in the context of the additionality analysis. References have been attached.</p> <p><u>Audit Team:</u></p> <p>Sensitivity analysis is provided by the project team. In all cases the IRR is below the benchmark of 7%.</p> <p>The subsidies are included in the IRR calculation of project activity without finance of carbon credits.</p> <p>The IRR calculation and all input parameter were assessed and reviewed. The calculations are correct and in compliance with requirements of the CarbonFix Standard.</p> <p>Request closed</p>	
<p><b><u>Clarification Request 5.</u></b></p> <p>Provide explanation and evidence that sustain the prohibitive character of the barrier as per AR-CDM tool.</p> <p>If such evidence and explanation cannot be provide, exclude the barrier from the analysis. <i>(NB: a financial analysis is sufficient to support the additionality of a project).</i></p>	<p>1.2</p>	<p><u>Project Team, 30/04/2010:</u></p> <p>Financial analysis is applied to demonstrate the additionality of the project activity.</p> <p><u>Audit Team, 05 May 2010:</u></p> <p>Barriers are excluded from the additionality analysis.</p>	<p style="text-align: center;"><input checked="" type="checkbox"/></p>



<p><b><u>Clarification Request 6.</u></b>                  Clarify how it is ensured that sufficient training is ensured when chemicals are used; in particular since this is done by contractors.</p>	<p>2.1</p>	<p><u>Project Team, 19/04/2010:</u>                  If chemicals need to be used in the project, the application is being supervised by our own staff to ensure that chemicals are used according to regulations. In case of uncertainty, specialized service providers will be contracted to ensure the safe use of chemicals.</p> <p><u>Audit Team, 05 May 2010:</u>                  Clarify how it is ensured that the project staff is sufficiently trained</p> <p><u>Project Team, 31/05/2010</u>                  Project staff will receive appropriate training prior to the application of chemicals. Training is provided by the respective sales agencies in the region where chemical herbicides and insecticides can be obtained.</p> <p><u>Audit Team:</u>                  Explanation on training of staff is provided.</p> <p><b><u>Forward Action Request 01:</u></b>                  Standard Operational Procedures regarding use and application of chemicals and waste disposal shall be elaborated.</p> <p><b><u>Forward Action Request 02:</u></b>                  Standard Operational Procedures regarding workers safety shall be elaborated.</p>	<p>FAR</p>
<p><b><u>Clarification Request 7.</u></b>                  It shall be clarified with the Carbon Fix Standard if this is considered as “area wide ploughing”</p>	<p>2.1</p>	<p><u>Project Team, 15/04/2010:</u>                  Because of the undulated topography of the project area, mechanized ploughing was only executed on flattish areas, comprising roughly 40% of the eligible planting area, which cannot be considered as “area-wide ploughing”. Furthermore, ploughing was strictly limited to the purpose of planting, which is in accordance with the criteria of the CarbonFix Standard. This aspect has also been clarified with the technical board of the CarbonFix Standard.</p> <p><u>Audit Team, 05 May 2010:</u>                  Ploughing is limited to the establishment of the plantation and only conducted on 40% of the area. As per CFS clarification the respective criteria are met. Request closed.</p>	<p><input checked="" type="checkbox"/></p>



<p><b><u>Clarification Request 8.</u></b> Provide respective contracts for the employees.</p>	<p>2.2</p>	<p><u>Project Team, 15/04/2010:</u> A model contract for employees of Puro Verde Paraiso Forestal S.A., responsible for the reforestation and maintenance of the BaumInvest Reforestation Project in Costa Rica, has been attached.</p> <p><u>Audit Team, 05 May 2010:</u> Sample contracts are provided to the audit team. Please clarify if item 6 d) of the contract for employees covers health insurance as requested by the Carbon Fix Standard. Clarify how modalities on termination of the contract are fulfilled. Provide a written confirmation that all workers in the project are in possession of such a contract.</p> <p><u>Project Team, 31/05/2010</u> The health insurance for employees is obligatory law in Costa Rica and therefore covered by our contracts. If no specific modalities on termination of the contract are mentioned, the legal period of notice by costarican law has to be applied. A written confirmation has been attached as requested.</p> <p><u>Audit Team, 21 June 2010:</u> A confirmation signed by Stefan Pröstler from Puro Verde states that all employees have a contract with similar conditions to the one that was submitted to the audit team. Termination of contract and health insurance is regulated by Costa Rican law and therefore not explicitly mentioned in the contract.</p> <p><b><u>Forward Action Request 03:</u></b> Standard Operational Procedures regarding management and employment shall be elaborated.</p>	<p><b>FAR</b></p>
<p><b><u>Clarification Request 9.</u></b> Provide respective contracts for contractors.</p>	<p>2.2</p>	<p><u>Project Team, DD/MM/YY:</u> A model contract for employees of Puro Verde Paraiso Forestal S.A., responsible for the reforestation and maintenance of the BaumInvest Reforestation Project in Costa Rica, has been attached.</p>	<p><input checked="" type="checkbox"/></p>



		<p><u>Audit Team, 05 May 2010:</u> Sample contracts are provided to the audit team. Provide a written confirmation that all contractors in the project are in possession of such a contract.</p> <p><u>Project Team, 31/05/2010</u> A written confirmation has been attached as requested.</p> <p><u>Audit Team, 21 June 2010:</u> A confirmation signed by Stefan Pröstler from Puro Verde states that all contractors have a contract with similar conditions to the one that was submitted to the audit team. See FAR 03</p>	
<p><b><u>Clarification Request 10.</u></b> Include the forest management plan (planting schedule) and maps of planting units (with tree species/ strata) in the project design document.  (see also CR 1)</p>	<p>2.3</p>	<p><u>Project Team, 15/04/2010:</u> The map of the management units (latest version as of validation) with description of the planting schedule has been included in the project document.</p> <p><u>Audit Team, 05 May 2010:</u> The planting schedule and a map is included in the section on forest management.</p>	<p><input checked="" type="checkbox"/></p>
<p><b><u>Clarification Request 11.</u></b> Clarify if local or national studies on BEF are available for Swietenia m., use conservative value for Teak.</p>	<p>3.2</p>	<p><u>Project Team, 10/04/2010:</u> For <i>Swietenia macrophylla</i>, local or national studies on BEF were not detected. The value for Teak (obtained from a study in Panama) of 1.53 was reduced to a more conservative value of 1.33</p> <p><u>Audit Team, 05 May 2010:</u> BEF values as presented in the PDD and calculation are considered to be in compliance with Carbon Fix requirements</p>	<p><input checked="" type="checkbox"/></p>
<p><b><u>Corrective Action Request No 1.</u></b> Considering the conservative approach lower values with in average shall be used in case of uncertainties.</p>	<p>3.2</p>	<p><u>Project Team, 10/04/2010:</u> In case of uncertainties, we excluded the range of data where values were considered as “high” from calculating average values. Our calculated values thus represent only the lower range of the raw data available.</p>	<p><input checked="" type="checkbox"/></p>



		<p><u>Audit Team, 05 May 2010:</u> A conservative approach is chosen for all species for the determination of the wood density. The source is the World Agro-forestry database. Average values for Wood Density of the lower and medium values are used for the GHG removal calculations. Request closed.</p>	
<p><b><u>Clarification Request 12.</u></b> Clarify if local or national studies on R-t-S are available. Figures for Teak are provided in the references mentioned and shall be applied.</p>	3.2	<p><u>Project Team, 10/04/2010:</u> Local or national studies on the R-t-S were not detected, except for Teak. Figures for Teak were applied.</p>	<input checked="" type="checkbox"/>
		<p><u>Audit Team, 05 May 2010:</u> R-t-S values as presented in the PDD and calculation are considered to be in compliance with Carbon Fix requirements. R-t-S for Teak is included from the study provided. Request closed.</p>	
<p><b><u>Corrective Action Request No 2.</u></b> Conservative values for increments shall be used. Provide further explanation on increment data to the audit team.</p>	3.2	<p><u>Project Team, 10/04/2010:</u> Detailed explanation on increment data described in the document “06-101 Growth model description_1.4” was provided to the audit team in a conversation btw. Mr. Sebastian Hetsch (TÜV SÜD) and Mr. Tobias Mathow (BaumInvest). Conservative values for increments are used.</p>	<input checked="" type="checkbox"/>
		<p><u>Audit Team, 05 May 2010:</u> Conservative increment values are used for the calculations.</p>	
<p><b><u>Clarification Request 13.</u></b> Provide a description on leakage from grazing in the project document</p>	3.6	<p><u>Project Team, 16/04/2010:</u> A description (comment) on leakage from livestock-grazing has been included in the project document.</p>	<input checked="" type="checkbox"/>
		<p><u>Audit Team, 05 May 2010:</u> Leakage is further discussed and presented in the project document. No leakage from grazing is expected to occur in the project. Request closed.</p>	



<p><b><u>Clarification Request 14.</u></b> Provide information on the management system in the PD as required by CFS.</p>	<p>4.1</p>	<p><u>Project Team, 16/04/2010:</u> Information on the management system (description) has been included in the project document.</p> <p><u>Audit Team, 05 May 2010:</u> The management system is described in the PDD. Request closed.</p>	<p><input checked="" type="checkbox"/></p>
<p><b><u>Clarification Request 15.</u></b> Provide evidence for the collaboration with the named organization.</p>	<p>4.1</p>	<p><u>Project Team, 14/04/2010:</u> A letter of intent concerning the collaboration with the Senckenberg Research Institute and Natural History Museum together with Globetrotter Ausrüstung has been submitted to the audit. For the collaboration with the other organizations, no formal or written agreement exists so far. Of course, contact details of our contact persons can be provided on request.</p> <p><u>Audit Team, 05 May 2010:</u> Evidence was provided to the audit team. Request closed</p>	<p><input checked="" type="checkbox"/></p>
<p><b><u>Clarification Request 16.</u></b></p> <ul style="list-style-type: none"> <li>• Provide a financial statement from Amann &amp; Jörger Wirtschaftsprüfung und Steuerberatungsgesellschaft (Schönau) concerning the signed amount of the fund.</li> <li>• Provide a description on financial capacity in the project document</li> </ul>	<p>4.2</p>	<p><u>Project Team, 14/04/2010:</u></p> <ul style="list-style-type: none"> <li>• A financial statement concerning the signed amount of the fund has been attached, as well as the financial report 2009.</li> <li>• A description on the financial capacity has been included in the project document.</li> </ul> <p><u>Audit Team, 05 May 2010:</u> A statement from the financial auditor “Amman &amp; Jörger” was provided to the audit team. The financial capacity is also described in the PDD. Request closed.</p>	<p><input checked="" type="checkbox"/></p>
<p><b><u>Clarification Request 17.</u></b> Provide a copy of the cadastral register with a map identifying the project area</p>	<p>4.5</p>	<p><u>Project Team, 14/04/2010:</u> Copies of the cadastral register with maps identifying the project area have been attached.</p> <p><u>Audit Team, 05 May 2010:</u> Copies of cadastral register of the project area (including maps with geo-coordinates) have been submitted to the audit team. Request closed.</p>	<p><input checked="" type="checkbox"/></p>



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**Table 3: Unresolved CAR / CR / FAR**

<b>Forward Action Requests</b>
<p><b><u>Forward Action Request 01:</u></b> Standard Operational Procedures regarding use and application of chemicals and waste disposal shall be elaborated.</p>
<p><b><u>Forward Action Request 02:</u></b> Standard Operational Procedures regarding workers safety shall be elaborated.</p>
<p><b><u>Forward Action Request 03:</u></b> Standard Operational Procedures regarding management and employment shall be elaborated.</p>
<p><b><u>Forward Action Request 04:</u></b> Standard Operational Procedures regarding complaints and grievance procedures shall be elaborated.</p>





## Annex 2: Information Reference List

Ref. No.	Author/Editor/ Issuer	Title, Type of Document	Date	Additional Information															
1.		<p>Interviews at onsite visit, Validation Team: Martin Schröder (Auditor), Sebastian Hetsch (Auditor)</p> <p>Interviewed Persons:</p> <table border="1"> <thead> <tr> <th></th> <th>Name</th> <th>Position, Organisation</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>Leo Pröstler</td> <td>Geschäftsführer, BaumInvest GmbH &amp; Co KG</td> </tr> <tr> <td>2.</td> <td>Michael Metz</td> <td>Projektentwicklung, BaumInvest GmbH &amp; Co KG</td> </tr> <tr> <td>3.</td> <td>Frank Amann</td> <td>Wirtschaftsprüfer, Amann und Jörgen Wirtschaftsprüfung und Steuerberatung</td> </tr> <tr> <td>4.</td> <td colspan="2">field worker were interviewed during the onsite visit of the project</td> </tr> </tbody> </table>		Name	Position, Organisation	1.	Leo Pröstler	Geschäftsführer, BaumInvest GmbH & Co KG	2.	Michael Metz	Projektentwicklung, BaumInvest GmbH & Co KG	3.	Frank Amann	Wirtschaftsprüfer, Amann und Jörgen Wirtschaftsprüfung und Steuerberatung	4.	field worker were interviewed during the onsite visit of the project			
	Name	Position, Organisation																	
1.	Leo Pröstler	Geschäftsführer, BaumInvest GmbH & Co KG																	
2.	Michael Metz	Projektentwicklung, BaumInvest GmbH & Co KG																	
3.	Frank Amann	Wirtschaftsprüfer, Amann und Jörgen Wirtschaftsprüfung und Steuerberatung																	
4.	field worker were interviewed during the onsite visit of the project																		
2.	BaumInvest	PDD initial and final version: BaumInvest Reforestation Project	Initial version: Feb 2010 Final version: June 2010																
3.	Instituto Geografico Nacional de Costa Rica	Arial Image of the project area	05 Feb 1992	Eligibility															
4.	BaumInvest	GIS files of project boundary and stratification (Management Units and Nature conservation areas)	Feb 2010																
5.	Ministerio del Ambiente y Energia (MINAE)	Statement on protected area of the project area, environmental impacts of the project activity, legality and ownership	13 Nov 2009																
6.	MINAE	Costa Rica Forest Definition: <a href="http://cdm.unfccc.int/DNA/ARDNA.html?CID=53">http://cdm.unfccc.int/DNA/ARDNA.html?CID=53</a>																	
7.	Corredor Biologico San Juan – La Selva	Satement from NGO on environmental impact of the project	Nov 2009																



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Ref. No.	Author/Editor/ Issuer	Title, Type of Document	Date	Additional Information
8.	IPCC	Good Practice Guidance for Land Use, Land-Use Change and Forestry	2003	
9.	World Agroforestry Centre	Wood density database - <a href="http://www.worldagroforestry.org/Sea/Products/AFDbases/wd/">http://www.worldagroforestry.org/Sea/Products/AFDbases/wd/</a>	2010	
10.	Kraenzel M., Castillo A., Moore T., Potvin C.	Carbon storage of harvest-age teak ( <i>Tectona grandis</i> ) plantations, Panama. Forest Ecology and Management. 173. 213-225.	2003	
11.	Kanninen M., Montero M. M	Terminalia amazonia; ecología y silvicultura. CATIE Serie Técnica Informe Técnico no. 339	2005	
12.	RNGR	Dipteryx panamensis. Downloaded from <a href="http://www.rngr.net/Publications/ttsm/Folder.2003-07-11.4726/PDF.2004-01-12.2247/view">http://www.rngr.net/Publications/ttsm/Folder.2003-07-11.4726/PDF.2004-01-12.2247/view</a> Vochysia guatemalensis. Downloaded from <a href="http://www.nrem.iastate.edu/ECOS/docs/Vochysia-guatemalensis.pdf">http://www.nrem.iastate.edu/ECOS/docs/Vochysia-guatemalensis.pdf</a>	July 15, 2009	
13.	Redondo-Brenes A, Montagnini F	Growth, productivity, aboveground biomass, and carbon sequestration of pure and mixed native tree plantations in the Caribbean lowlands of Costa Rica. For Ecol Mngmt. 232. 168-178.	2006	
14.	Perèz D.	Stand growth scenarios for <i>Tectona grandis</i> plantations in Costa Rica. Academic dissertation at the University of Helsinki, Faculty of Agriculture and Forestry, Department of Forest Ecology. Online at <a href="http://ethesis.helsinki.fi/julkaisut/maa/mekol/vk/perez/">http://ethesis.helsinki.fi/julkaisut/maa/mekol/vk/perez/</a>	2007	
15.	Montagnini F, Piotto D.	Mixed plantations with native trees on abandoned pasture lands: restoring productivity, ecosystem properties and services in a humid tropical site. In: S.Günter, B. Stimm, M. Weber, R. Mosandl (eds.). Silviculture in the Tropics. Springer, Berlin-New York.	April 2009	
16.	BaumInvest GmbH & Co KG	Gewinn und Verlustrechnung 23 Juli – 31 Dec 2007	30 June 2008	
17.	BaumInvest GmbH & Co KG	Financial Report (Bilanz) 2007 and 2008	31 Dec 2007	
18.	Dr. Arnoldo Andre	Kaufvertrag Isla Bosque S.A. durch BaumInvest GmbH & Co KG	10 Sept 2007	Land Tenure
19.	Costa Rican Nation Land Registry: Registro Nacional	Extract from National Land Registry: <a href="http://www.rnp.go.cr">http://www.rnp.go.cr</a>	14 Aug 2009	Land Tenure
20.	Corredor Biologico Mesoamericano,	Ficha técnica binacional Corredor Biológico El Castillo - San Juan - La Selva, Nicaragua - Costa Rica	2006	



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Ref. No.	Author/Editor/ Issuer	Title, Type of Document	Date	Additional Information
	Comison Centroamericana de Ambiente y Desarrollo			
21.	BaumInvest	Caudation files of Emission reduction in MS Excel: 06-100_summary_CO2_Fix_v1.3.xls	Feb 2010	
22.	BaumInvest	Certificates and management Units. Pdf-file summarizing VERs (ex-post and ex-ante)	Feb 2010	
23.	BaumInvest	Excel calculations for financial analysis: <u>Benchmark:</u> CR-BRP_-_Additionality_benchmark_calculation.xls <u>IRR:</u> CR-BRP_-_Additionality_general_assumption_with_sales_of_VER.xls CR-BRP_-_Additionality_general_assumption_without_sales_of_VER.xls	Feb 2010	Additionality
24.	Marlon Salazar C.	Evaluación Ecológica Rápida, Finca San Rafael, BaumInvest, Pocosol, San Carlos, Costa Rica	July 2009	
25.	Johannes Köhler & Arne Schulze, Senckenberg For- schungsinstitut und Naturmuseum, Frankfurt	Forschungsaufenthalt BaumInvest August 2009	August 2009	
26.	BaumInvest	Amphibien- und Reptilienarten auf der Finca San Rafael	August 2009	
27.	L.A. FOURNIER, Escuela de Biología, Universidad de Costa Rica	Dipteryx panamensis (Pittier) Record & Mell		
28.	JOHN K. FRANCIS, International Insti- tute of Tropical For- estry, USDA Forest Service	Swietenia mahogani C. DC.		



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Ref. No.	Author/Editor/ Issuer	Title, Type of Document	Date	Additional Information
29.	E.M. FLORES, Academia Nacional de Ciencias de Costa Rica, Costa Rica	Terminalia amazonia (J.F. Gmel. ) Excell		
30.	JOHN K. FRANCIS, International Institute of Tropical Forestry, USDA Forest Service	Tectona grandis L.f.		
31.	L.A. FOURNIER, Escuela de Biología, Universidad de Costa Rica	Vochysia guatemalensis Donn. Sm.		
32.	Isla Bosque de Costa Rica SA	Statement on leakage		
33.	Carbon Fix Standard	Pre-Validation Report: BaumInvest Reforestation Project	03 Feb 2010	
34.	TÜV SÜD	Field notes from the onsite audit	30 Aug 2008	
35.	Deutsche Bundesbank	Aktuelle Konditionen der Daueremissionen des Bundes		
36.	Deutscher Industrie und Handelskammertag	Kurzbewertung des Entwurfes der Rechtsverordnung zur Bewertung von Betriebsvermögen	15 Feb 2008	
37.	San José State University, Department of Economics	Country Risk Premiums. <a href="http://www.sjsu.edu/faculty/watkins/countryrisk.htm">http://www.sjsu.edu/faculty/watkins/countryrisk.htm</a>	27 Apr 2010	
38.	Bundesministeriums der Justiz	Einkommensteuergesetz (EStG)	8.10.2009	
39.	Deutsche Bundesbank	Euro reference exchange rate of the ECB. <a href="http://www.bundesbank.de/statistik/statistik_zeitreihen.en.php?func=row&amp;open=devisen&amp;tr=WJ5636">http://www.bundesbank.de/statistik/statistik_zeitreihen.en.php?func=row&amp;open=devisen&amp;tr=WJ5636</a>	29.04.2010	
40.	Banco Central de	Indice de salarios mínimos nominales	26.05.2010	Additionality:



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Ref. No.	Author/Editor/ Issuer	Title, Type of Document	Date	Additional Information
	Costa Rica			Increase in prices and costs
41.	Banco Central de Costa Rica	IPC: Variación interanual	26.05.2010	Additionality: Increase in prices and costs
42.	Oficinas Ministerio de Agricultura y Ganadería. Regional, Ciudad Quesada	PROGRAMA NACIONAL SECTORIAL DE PIÑA	08.12.2009	Additionality: Pineapple plantations
43.	Ministerio de Agricultura y Ganadería Dirección Regional Huetar Norte	Caracterización y plan de acción para el desarrollo de la agrocadena de Piña en la región Huetar Norte	Sept 2007	Additionality: Pineapple plantations
44.	Guillermo A. Navarro. , Gerardo Bermúdez.	Análisis económico del impacto de las restricciones técnicas y legales sobre la rentabilidad del manejo bosques naturales y su competitividad respecto a otros usos de la tierra en Costa Rica. Proyecto Fortalecimiento Institucional para la Ejecución de la Estrategia Nacional de Control de la Tala Ilegal de Recursos Forestales en Costa Rica. SINAC-FAO- TCP/COS/3003. SEGUNDO INFORME	Nov 2006	Additionality: Pineapple plantations
45.	Ronald Arce, Ericka Chacón, Guisella Chaves, Arianna Tristán	Estadísticas de Comercio Exterior de Costa Rica 2008	May 2009	Additionality: Pineapple plantations
46.	ITTO	Tropical Timber Market Report. Volume 12 Number 19, 1-15 October 2007	Oct 2007	Additionality: Prices for teak
47.	El Presidente de la República y el Ministerio del Ambiente y Energía	Refernce for subsidies for reforestation activities in Costa Rica: DECRETO 34371-MINAE 01/02/2008. La Gaceta 53 – Viernes 14 de marzo del 2008	Mar 2008	Additionality: subsidies for plantations
48.	BaumInvest	Costos de plantación forestal para 2007-2008.xls		Additionality:



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Ref. No.	Author/Editor/ Issuer	Title, Type of Document	Date	Additional Information
				costs for plantation establishment
49.	BaumInvest / Amann	BaumInvestII_Gegenüberstellung_juli2009.xls		Additionality: Benchmark of Forest projects
50.	avenTOURa	avenTOURa Weihnachts-Newsletter	07/2008	
51.	Schrot&Korn	Schrot&Korn: CO2-neutralisiert	13. Jul 2009	
52.	VAUDE	VAUDE Website: <a href="http://www.vaude.com/de_AT/ueber-uns/umweltschutz-bei-entwicklung-und-produktion.html">http://www.vaude.com/de_AT/ueber-uns/umweltschutz-bei-entwicklung-und-produktion.html</a>	Accessed: May 2010	
53.	BaumInvest	BaumInvest Beteiligungskatalog	Sept 2007	
54.	Marlon Salazar C.	Evaluación Ecológica Rápida, Finca San Rafael, BaumInvest, Pocosal, San Carlos, Costa Rica	July 2009	
55.	Johannes Köhler & Arne Schulze, Senckenberg Forschungsinstitut und Naturmuseum	Monitoring of Amphibians and Reptiles. Interim report 2009.	2009	
56.	BaumInvest	Amphibien- und Reptilienarten auf der Finca San Rafael	Aug 2009	
57.	Carbon Fix	Certificates and Management Units	13 Jul 2010	
58.	IPCC	2006 IPCC Guidelines for National Greenhouse Gas Inventories	2006	
59.	Amann & Jörger	Statement on Financial Capacity of BaumInvest by Amann & Jörger.	12 Apr 2010	
60.	Puro Verde Paraiso Forestal SA	Sample contract for employees	26 Apr 2010	
61.	Puro Verde Paraiso Forestal SA	Sample contract for contractors	26 Apr 2010	
62.	Puro Verde Paraiso Forestal SA	Statement on working condition of employees and contractors by Stefan Pröstler	31 May 2010	