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CarbonFix Standard Verification Audit Report (Initial Certification) Forest Finance's Tropical Mix Project in Darién Region, Panama

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1. INTRODUCTION

1.1 Objective

The purpose of this report is to document conformance with the requirements of the CarbonFix Standard v 2.1 by Forest Finance, hereafter referred to as “Project Proponent”. The report presents the findings of qualified Rainforest Alliance auditors who have evaluated the Project Proponent’s systems and performance during a ‘1st certification’ audit. The CarbonFix Procedures v2.1 state that, “A successful certification is the precondition for the issuance and confirmation of VER_{future}-. The timing of this 1st certification complies with Carbon Fix v2.1 Procedures documentation, which states it must occur within 12 months of the validation, which was completed on 15th December 2009. Section 2 below provides the audit conclusions. Rainforest Alliance carbon evaluation reports are made available following the guidance of CarbonFix Standard v 2.1. However, particular material in the report identified as confidential by the Project Proponent will be excluded from the database.

The Rainforest Alliance’s SmartWood program was founded in 1989 to certify forestry practices conforming to Forest Stewardship Council (FSC) standards and now focuses on providing a variety of forest auditing services. In addition to being a verification body with CarbonFix, the Rainforest Alliance’s SmartWood program is also a member of the Climate, Community, and Biodiversity Alliance (CCBA) standards, an accredited verifier with the Chicago Climate Exchange (CCX), and the Climate Action Reserve, a verifier with the Plan Vivo (PV) standard, and an ANSI ISO 14065:2007 accredited verifier and validator with the Voluntary Carbon Standard (VCS).

Dispute resolution: If Rainforest Alliance’s clients encounter organizations or individuals having concerns or comments about Rainforest Alliance / SmartWood and our services, these parties are strongly encouraged to contact the SmartWood program headquarters directly. Formal complaints or concerns should be sent in writing and may simultaneously be sent to the Reserve.

1.2 Scope and Criteria

Scope: The scope of the verification audit is to assess the conformance of Forest Finance’s reforestation project in the Darien region of Panama against the CarbonFix Standard v 2.1. The objectives of this audit included an assessment of the project’s conformance with CarbonFix Standard requirements. In addition, the audit assessed the project with respect to the baseline scenarios presented in the project design document. The project covers an area of 398.9 ha across nine management units. Of this area, 159.7 ha were planted and are eligible for CarbonFix crediting. However, due to the way the CarbonFix system rounds decimals, only 155 ha are recorded as eligible in the system. The land is privately owned. The project has a crediting period of 50 years. The audit will assess the GHG assertions and baseline estimates made by the project against agreed verification criteria of the CarbonFix Standard v 2.1.

Standard criteria: CarbonFix Standard v 2.1.

Audit: 1st Certification, Cert ID = 1.0

Level of assurance: The GHG assertion was verified to a reasonable level of assurance. Based on the audit findings, a positive verification opinion reasonably assures that the project GHG assertion is materially correct and is a fair representation of the GHG data and information.

1.3 CarbonFix Standard Project Description

Forest Finance's Tropical Mix Project is located in Darien Region, Panama. The eligible project area consists of forest plantations on 159.7 ha of degraded pastureland, with a mixture of native tree species and Teak (*Tectona grandis*). The main objective is to sequester carbon and produce fine tropical hardwoods. The project also has conservation areas where no harvesting will take place, and areas where rotation forestry will occur.

The estimated net (after subtraction of baseline, management emissions and leakage) CO₂ sequestration due to tree growth is between 235 t CO₂ ha⁻¹ and 261 t CO₂ ha⁻¹ over a 25 year rotation. The final carbon stock in the conservation areas is stated as being between 377 t CO₂ ha⁻¹ and 486 t CO₂ ha⁻¹ on average after 50 years.

Tropical Mix project is also been validated against CCBA standard 2nd. Edition.

2. AUDIT FINDINGS AND RESULTS

2.1 Audit conclusion

	Based on Project Proponent's conformance with the CarbonFix Standard v 2.1 requirements, the audit team makes the following recommendation:
<input checked="" type="checkbox"/>	<i>The ex-ante estimate of net GHG sequestration is verified</i>
<input type="checkbox"/>	<i>The ex-ante estimate of net GHG sequestration is not verified:</i> Conformance with major CARs required.
Additional comments:	One minor Corrective Action Requests remain open (following the review of additional evidence submitted by Forest Finance. This CAR must be addressed within 6 months.

2.2 Initial Certification Opinion

The Rainforest Alliance has verified that Forest Finance's Tropical Mix Project is in compliance with CarbonFix Standard v 2.1. This statement provides reasonable level of assurance. The verification was based on growth models that were projected. This initial certification covers the project area of 159.7 ha across nine management units (155 ha recorded in the CarbonFix system due to rounding).

The following tables, taken from the Certificates and Management Units document posted on CarbonFix's [climateprojects.info](http://www.climateprojects.info) website (http://www.climateprojects.info/chameleon/outbox//9049b4a5500376f5c8fd54113b5a857a/Management-Units_COI_CFS.pdf), and show the quantitative assertions that have been assessed:


All units				
Certificates				
Year	VERs (ex-post)		VERs (ex-ante)	
		Σ		Σ
2007	0	0	0 (-1 509)	0 (-1 509)
2008	0	0	0 (-1 506)	0 (-3 015)
2009	0	0	2 103	0 (-912)
2010	0	0	2 103	1 191
2011	0	0	2 103	3 293
2012	0	0	2 103	5 396
2013	0	0	2 103	7 499
2014	0	0	2 103	9 602
2015	0	0	2 103	11 704
2016	0	0	2 103	13 807
2017	0	0	2 103	15 910
2018	0	0	2 103	18 013
2019	0	0	2 103	20 115
2020	0	0	1 862	21 977
2021	0	0	1 133	23 110
2022	0	0	253	23 363
2023	0	0	253	23 616
2024	0	0	253	23 869
2025	0	0	253	24 122
2026	0	0	253	24 374
2027	0	0	253	24 627
2028	0	0	253	24 880
2029	0	0	253	25 133
2030	0	0	253	25 386
2031	0	0	253	25 639
2032	0	0	253	25 891
2033	0	0	253	26 144
2034	0	0	253	26 397
2035	0	0	253	26 650
2036	0	0	253	26 903
2037	0	0	253	27 156

2038	0	0	253	27 408
2039	0	0	253	27 661
2040	0	0	253	27 914
2041	0	0	253	28 167
2042	0	0	253	28 420
2043	0	0	253	28 673
2044	0	0	253	28 925
2045	0	0	253	29 178
2046	0	0	253	29 431
2047	0	0	253	29 684
2048	0	0	253	29 937
2049	0	0	253	30 189
2050	0	0	253	30 442
2051	0	0	253	30 695
2052	0	0	253	30 948
2053	0	0	253	31 201
2054	0	0	253	31 454
2055	0	0	204	31 658
2056	0	0	18	31 676

Management Units							
ID	Name of Unit	Planting time	Subunit	Biomass burned	Eligible Area	Net CO2 reduction per MU	
						ex-post	ex-ante
001	COI-0001	Oct 2008	1111 trees per ha	No	22 ha	0 t CO ₂	5 207 t CO ₂
002	COI-0002	Oct 2008	1111 trees per ha	No	11 ha	0 t CO ₂	2 592 t CO ₂
003	COI-0003	Oct 2007	1111 trees per ha	No	23 ha	0 t CO ₂	5 398 t CO ₂
004	COI-0004	Oct 2007	1111 trees per ha	No	18 ha	0 t CO ₂	4 439 t CO ₂
005	COI-0005	Oct 2008	1111 trees per ha	No	38 ha	0 t CO ₂	9 901 t CO ₂
006	COI-0006	Oct 2008	1111 trees per ha	No	10 ha	0 t CO ₂	2 426 t CO ₂
007	COI-0007	Oct 2008	600 trees per ha	No	11 ha	0 t CO ₂	5 351 t CO ₂
008	COI-0008	Oct 2008	600 trees per ha	No	15 ha	0 t CO ₂	7 296 t CO ₂
009	COI-0009	Oct 2007	600 trees per ha	No	7 ha	0 t CO ₂	2 642 t CO ₂
Sum total						0 t CO₂	45 251 t CO₂

Based on an evaluation of the Project Proponent’s management systems and performance in the field across the defined audit scope, the Rainforest Alliance verification audit team concludes that Project Proponent has:

- Demonstrated unqualified compliance/conformance with the standard
- Not demonstrated unqualified compliance/conformance with the standard.

Signature  Date **25 January 2011**
Name Adam Gibbon Technical Specialist, Climate Program

2.3 Summary of audit findings

Conclusion from 25 January 2011

In response to the audit report of 09 September 2010, the additionality argument was revised in the PDD and additional evidence was presented. The additionality tool was still found not to have been used to demonstrate additionality through the investment analysis. This was because, rather than using data from the time of investments, current data was used. When the data regarding the expected IRR at the time of investment is used, without carbon credits, the investment is still slightly more attractive than the bond the investment was compared to. The barrier analysis was also not used in the manner the tool intends. However, the project, through the barrier analysis has presented two barriers, lack of debt funding and the long return on investment of forestry projects, and demonstrated that carbon crediting will alleviate these barriers. As such the project is certified, but a minor CAR has been issued, which must be resolved in 6 months, to present the additionality tool assessment fully and correctly.

Conclusion from 09 September 2010

The changes made by Forest Finance were sufficient to all major corrective action requests, except one relating to additionality. The CFS additionality tool was found not to have been used fully and correctly. The project cannot be verified until additionality is demonstrated, and all CARs are closed. One minor CAR related to the provision of a statement regarding the non-mandatory nature of planting also remains open.

Conclusion from 01 July 2010

Overall, the project was found to be well presented and the information provided in the CarbonFix documentation correlated well with what was seen during the field audit. Forest Finance has taken a detailed, conservative approach to project management and CO₂ calculations. However, a number of corrective action requests have been issued. The most serious involves the additionality argument, which was found not to be adequate due to the absence of teak from the baseline scenarios, and an error in the carbon credit financial projections that led to an overstatement of the financial benefits of carbon credit generation.

2.4 Preconditions

Criteria	Checklist section	Conformance		
Eligibility	1.1	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Additionality	1.2	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	Required
Project start date	1.3	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Additional comments:				

2.5 Sustainable Forest Management

Criteria	Checklist section	Conformance		
Environmental Aspects	2.1	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Socioeconomic Aspects	2.2	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Forest Management	2.3	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Additional comments:				

2.6 CO₂-fixation

Criteria	Checklist section	Conformance		
Calculation of VER _{future}	3.1	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Future CO ₂ -fixation	3.2	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required

Project Emissions	3.3	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Baseline	3.4	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Leakage	3.5	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Additional comments:				

2.7 Permanence

Criteria	Checklist section	Conformance		
Management Capacity	4.1	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Financial Capacity	4.2	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Technical Capacity	4.3	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Protective Capacity	4.4	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Secured Land Tenure	4.5	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Buffer Fund	4.6	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Additional comments:				

2.8 Transparency

Criteria	Checklist section	Conformance		
Transparency	5.1	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Required
Additional comments:				

2.9 Corrective Action Requests

Note: A non-conformance is defined in this report as a deficiency, discrepancy or misrepresentation that in all probability materially affects carbon credit claims. Corrective Action Request (CAR) language uses “shall” to suggest its necessity, but is not prescriptive in terms of mechanisms to mitigate the CAR. Each CAR is brief and refers to a more detailed finding in the appendices.

Major CARs identified during draft verification reports must be successfully closed by the Project Proponents before Rainforest Alliance submits the final verification report and opinion to the Reserve. Any open major CARs will result in a negative verification opinion which lists: (a) all open corrective action requests, (b) rationale for each request, and (c) impact of each material finding on GHG assertion.

Minor CARs are those defined by CarbonFix v2.1 as being:

- Limited in the scale of their impact
- Correctable in a time span less than 6 months.

A project can achieve verification with outstanding minor CARs open.

MAJOR CAR: 01/10	Reference Standard & Requirement: 1.2.2 – 1.2.5
Nonconformance:	Teak plantations in the region were not considered in the additionality and baseline assessment.
Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>	
Corrective Action Request:	Forest Finance shall consider Teak plantations in their additionality and baseline assessments.
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	Teak plantations are now recognized as possible baseline scenarios in step 1. The PDD concludes that teak plantations are relatively likely and a probability of 10% is attached to this scenario. Teak plantations are not the most likely scenario, which remains the continuation of pasture.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

MAJOR CAR: 02/10	Reference Standard & Requirement: 1.2.2 – 1.2.5, 1.2.8
Nonconformance:	There was not an adequate consideration of those areas not eligible for carbon crediting in the assessment of additionality.
Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>	
Corrective Action Request: Forest Finance shall, when calculating the additionality of the project, transparently consider that only some of the areas planted are eligible for carbon credits.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	The calculation now correctly assumes that only part of the planted area is eligible for crediting.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

MAJOR CAR: 03/10	Reference Standard & Requirement: 1.2.2 – 1.2.5
Nonconformance:	There is no evidence of a sensitivity and barrier analysis being conducted in the additionality assessment.
Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>	
Corrective Action Request: Forest Finance shall document the sensitivity analysis and provide evidence for barriers in the barrier analysis.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	<p>Changes made in the additionality assessment have altered the requirements of the assessment. For example, a sensitivity analysis should not have been conducted given the new outcome of sub-step 2c in the revised additionality argument. However, one may be needed in future depending on the path taken through the additionality tool. It is important to note that changes within the application of the additionality tool may result in varying requirements, as outlined within the additionality tool.</p> <p>Whilst the PDD does present a sensitivity analysis, it was found not to meet the requirements of the tool. Rather it summarizes a qualitative argument about additionality. The qualitative assessment was not found to provide sufficient evidence to support the additionality argument. The Proponents also submitted a spreadsheet called, "Sensitivity Analysis" (not uploaded to the website). This also fails to perform the tests required by this step. The sensitivity analysis needs to demonstrate that in the without-crediting case, even when assumptions are varied, that it still remains <i>unattractive</i> relative to alternative investments. The spreadsheet presented assesses the sensitivity of the increase in IRR with carbon credit costs amongst other things.</p> <p>Regarding the barrier analysis; the PDD does not follow Step 3 or 4 of the tool. If the investment analysis fails, the project must demonstrate additionality through barrier analysis.</p> <p>Given the integrated nature of these issues it was decided to close this CAR and replace it with CAR 20/10.</p>
CAR Status:	CLOSED
Follow-up Actions:	N/A

CAR: 04/10	Reference Standard & Requirement: 1.2.6.
Nonconformance:	There is no evidence from a responsible authority that the plantation is not mandated by laws or regulations.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall provide evidence from a responsible state authority that afforestation of the planting area is not mandated by any enforced law or regulation.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	Findings from third assessment: A new document, 'nota de ANAM.tif' has been added to the supporting material. This is a letter from Maria Blanco of ANAM-Darien, dated 14 October 2010, which confirms the reforestation of private land is not mandated by any law.
CAR Status:	CLOSED
Follow-up Actions:	N/A.

CAR: 05/10	Reference Standard & Requirement: 2.1.3-2.1.5
Nonconformance:	The project documentation does not consider the possible negative impacts of harvesting.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall describe the actions taken to mitigate the potential negative impacts of harvesting on soil and biodiversity.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	The PDD now explains how harvesting will be conducted in a responsible way to minimize the negative impacts on soil and biodiversity. Low weight machines will be used in dry periods to minimize soil damage. Having 15% of the area as conservation areas, and using low impact harvesting techniques will minimize disturbance to biodiversity.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

CAR: 06/10	Reference Standard & Requirement: 2.1.7
Nonconformance:	During the field visit, chemicals were found to be in use that were not listed in the project documentation.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance must list, in the CarbonFix documentation, all chemical products used.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	A new appendix has been added, "05-01.1 Plaguicidas en el manejo de las plantaciones forestales". This explains the use of glifosato.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

CAR: 07/10	Reference Standard & Requirement: 2.1.14
Nonconformance:	The stands could be described as mixed, but would perhaps better be described as mixed blocks of single species (with no block being greater than 3 ha). The Proponent has GIS referenced stand maps that were verified during the field audit. These, however, were not presented as part of the project documentation originally.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall include the GIS referenced stand maps to improve the clarity in the description of the planting pattern.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	The PDD now includes maps that show the strata planted.

CAR Status:	CLOSED.
Follow-up Actions:	N/A

CAR: 08/10	Reference Standard & Requirement: 2.1.14
Nonconformance:	The harvesting method is not clearly described.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall describe the harvesting method, and if it is not selective harvesting, they shall justify the method.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	Appendix 05-03 explains in details the harvesting method.
CAR Status:	CLOSED.
Follow-up Actions:	N/A

MAJOR CAR: 09/10	Reference Standard & Requirement: 2.1.16
Nonconformance:	Forest Finance did not provide the two signed statements required to meet criteria 2.1.13.
Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>	
Corrective Action Request: Forest Finance shall provide two signed statements that meet the requirements of criteria 2.1.13. If the statement is part of a larger report, the parts of the report which address the particular requirements of the criteria shall be clearly referred to.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	In a new appendix, "05-15 Requirement 2.1.15_additional information.pdf" it is explained that whilst two signed statements per se have not been gathered, official documentation from ANAM and their FSC certification covers the requirements of this criterion.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

CAR: 10/10	Reference Standard & Requirement: 2.2.2
Nonconformance:	Capacity building is not well documented.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall document in more detail the capacity building carried out with the workers.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	A list of training sessions was submitted to the audit team. This list included dates, topics, trainers, location, and duration. The capacity building is under BARCA responsibility, rather than Forest Finance itself.
CAR Status:	CLOSED.
Follow-up Actions:	N/A

CAR: 11/10	Reference Standard & Requirement: 2.2.2, 2.2.3.
Nonconformance:	Workers were not found to have had sufficient training on rights and benefits topics.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall provide sufficient training on workers' rights and benefits.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	During 2008 and 2009, Forest Finance included training topics about

	workers' rights and benefits as it is stated in the Report of Educational Activities. BARCA has trained workers on these topics, and according to the trainer even the fact that the training is a right, some of the employees could not be present the exact day when the topic was addressed due to the rotation of areas. There is a calendar for 2010 where topics about workers; rights and benefits will be repeated for employees, and Human Resources as part of the induction, explains in general terms the rights and responsibilities. This calendar and other documents were submitted as new evidence to address the non conformance. See detailed information in 2.2.2 findings.
CAR Status:	CLOSED.
Follow-up Actions:	N/A

MAJOR CAR: 12/10	Reference Standard & Requirement: 2.3.3.
Nonconformance:	Project area numbers were not found to match the GIS data.
Major <input checked="" type="checkbox"/>	Minor <input type="checkbox"/>
Corrective Action Request: Forest Finance shall ensure the project area numbers are based on correct GIS data and revise any numbers and calculations to be based on the correct numbers.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	Forest Finance provided a spreadsheet called, "Change in area numbers CAR 12.xlsx" that transparently showed what changes were made to the project area. The changes to area of foreseen planting were between 1% and 30% of the areas. Several areas were increased, other decreased. The revised project areas have been used in subsequent emissions sequestration calculations, as evidenced on the climateprojects.info website.
CAR Status:	CLOSED.
Follow-up Actions:	N/A

MAJOR CAR: 13/10	Reference Standard & Requirement: 2.3.8
Nonconformance:	The spreadsheet, "06-12 - CO2_scientific_growthmodel_COI.xls" shows the percentages of tree species planted in each management unit. However, this information can also be gathered from looking at the GIS maps of the planted stands. When a sample of the two was compared, some discrepancies were found in management units 3 and 6.
Major <input checked="" type="checkbox"/>	Minor <input type="checkbox"/>
Corrective Action Request: Forest Finance shall present the percentage of tree species planted data consistently and correctly in their project documentation and maps.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	In the revised documentation, maps of the planted strata have been provided (see eligibility document). This allows comparison with the data in the spreadsheet, '06-12 - CO2_scientific_growthmodel_COI'. Comparisons confirmed that the data (including the percentage of tree species planted) had been correctly transferred from the maps into the spreadsheet.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

CAR: 14/10	Reference Standard & Requirement: 2.3.9-10
Nonconformance:	A map with project neighbors was not provided.
Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>
Corrective Action Request: Forest Finance shall produce a map to show the project neighbors.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	All maps, including ones showing neighbors have been uploaded to the CarbonFix system as supporting documents for 'Eligibility'.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

CAR: 15/10	Reference Standard & Requirement: 2.3.9-10
Nonconformance:	Maps were not uploaded to the CarbonFix website in JPG format.
Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>
Corrective Action Request: Forest Finance shall upload to the CarbonFix system all maps as JPGs.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	All maps, including ones showing neighbors have been uploaded to the CarbonFix system as supporting documents for 'Eligibility'. The maps now have JPG format.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

CAR: 16/10	Reference Standard & Requirement: 3.2.2.
Nonconformance:	The project documentation does not include a clear text description of the growth model that was used. However, the growth model itself is transparently presented in the spreadsheet "06-12 - CO2_scientific_growthmodel_COI".
Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>
Corrective Action Request: Forest Finance shall describe their growth model in the project documentation.	
Timeline for conformance:	Within 6 months.
Evidence to close CAR:	A new document, 06-18 provides an explanation of how the growth model was developed.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

MAJOR CAR: 17/10	Reference Standard & Requirement: 3.2.2.
Nonconformance:	The biomass expansion factor for teak was found to have been incorrectly constructed from literature data.
Major <input checked="" type="checkbox"/>	Minor <input type="checkbox"/>
Corrective Action Request: Forest Finance shall revise the biomass expansion factor for teak.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	The biomass expansion factor is now correctly derived from the literature. This can be seen in cell G18 of "06-12 - CO2_scientific_growthmodel_COI".
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

CAR: 18/10	Reference Standard & Requirement: 3.4.1.
Nonconformance:	The baseline document does not include the root:shoot ratio.
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall input the root:shoot ratio they used in the baseline scenario into the baseline document.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	A reference to the root to shoot ratio is now provided.
CAR Status:	CLOSED.
Follow-up Actions:	N/A

MAJOR CAR: 19/10	Reference Standard & Requirement: 4.5.1.
Nonconformance:	Land tenure and carbon rights are not explained.
Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>	
Corrective Action Request: Forest Finance shall clearly and thoroughly explain the land tenure and carbon rights for all the land within the project area.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	A new document, '13-03 Requirement 4.5.1_additional information_v2_mb' has been added which explains the land tenure fully as well as the relationship between the companies.
CAR Status:	CLOSED.
Follow-up Actions:	N/A.

MAJOR CAR: 20/10	Reference Standard & Requirement: 1.2.5
Nonconformance:	The additionality tool has not been followed fully and correctly. For more details please see findings related to CAR 03/10 .
Major <input checked="" type="checkbox"/> Minor <input type="checkbox"/>	
Corrective Action Request: Forest Finance shall follow the additionality tool fully and correctly.	
Timeline for conformance:	Prior to verification.
Evidence to close CAR:	The additionality tool is followed to a large extent. The investment analysis presented was not found to demonstrate additionality because, at the time the investments were made, the information available to the investors suggested that the investment (without carbon credits), was slightly more attractive than the benchmark chosen by the Proponents which was a Panamanian Government bond. However, a barrier analysis demonstrated that access to debt funding and the long repayment schedule of the project were barriers to investment that the CarbonFix registration will help to overcome. Since additionality was demonstrated, but the tool was not followed well a minor CAR (21/10) has been issued.
CAR Status:	CLOSED
Follow-up Actions:	N/A

MINOR CAR: 21/10	Reference Standard & Requirement: 1.2.5
Nonconformance:	The additionality tool has not been followed fully and correctly. For more details please see findings related to CAR 20/10 .
Major <input type="checkbox"/> Minor <input checked="" type="checkbox"/>	
Corrective Action Request: Forest Finance shall follow the additionality tool fully and correctly.	
Timeline for conformance:	6 months after closure of this report (10 August 2011)
Evidence to close CAR:	PENDING
CAR Status:	OPEN.

Follow-up Actions:	PENDING.
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2.10 Observations

Note: Observations are issued for areas that the auditor sees the potential for improvement in implementing standard requirements or in the quality system; observations may lead to direct non-conformances if not addressed.

No observations were issued.

2.11 Notes for Successive Audit

No notes for successive audits are provided.

3. AUDIT PROCESS

3.1 Audit Overview

Location/Facility	Date(s)	Length of Audit	Auditor(s)
Barca S.A. Office, Darién, Panama	March 1st, 2010	4 hours	Adam Gibbon, William Arreaga
Darien, Panama. Management Units 1-9	March 2 nd , 2010 – March 4 th , 2010	3 days	Adam Gibbon, William Arreaga
Forest Finance Main Office, Panama City, Panama	March 5 th , 2010	1 day	Adam Gibbon, William Arreaga
Desk based re-assessment of revised material	August 25 th 2010	3 days	Adam Gibbon, William Arreaga
Desk based re-assessment of revised material	December 20 th 2010	2 days	Adam Gibbon, Jeff Hayward, William Arreaga

3.2 Audit Team

Auditor(s)	Qualifications
Adam Gibbon	<p>Adam has led the technical carbon evaluation in ten CCBA validations, one VCS validation, six VCS methodology reviews, one CCX verification, and one Plan Vivo verification. Adam is a qualified lead auditor for the Climate Action Reserve and was a CCX forestry verifier committee participant.</p> <p>Adam has trained over 60 people in Spain, Bali and Vietnam in AFOLU project auditing and project development. Recipients of the training included Rainforest Alliance auditors, government officials, private consultants and NGO representatives. Adam was lead author of recent Rainforest Alliance publication entitled, “Guidance on coffee carbon project development using the (CDM) simplified agroforestry methodology” as well as two scientific articles currently in press.</p> <p>Before joining Rainforest Alliance, Adam worked at Oxford University as a researcher. His research emphasized the potential of carbon markets to finance sustainable management of forest resources. He led a team conducting a landscape scale assessment of carbon stocks in the Peruvian Andes’ cloud forests and montane grasslands.</p> <p>Adam earned a distinction on the Environmental Change and Management MSc. Program at Oxford University, winning prizes for his dissertation and overall performance. He was awarded the Sir Walter Raleigh Scholarship at Oriol College, Oxford. He graduated with a first class degree from Durham University, with a BSc in Natural Sciences, specializing in Geology, Chemistry & Geography.</p>
William Arreaga	<p>Guatemalan forester from San Carlos de Guatemala University, and M.Sc. from CATIE, Turrialba, Costa Rica. William serves as a lead auditor for FSC Forest Management, and Chain-of-Custody. Moreover, William had received formal training in Environmental Services, including Carbon issues; as well as he had developed a great experience with Carbon issues by his participation in the field for two CCB validations in Nicaragua and Costa Rica, VCS validation in</p>

	Honduras, and CCB validation and Carbon Fix verification in Panama.
Jeff Hayward	Jeff is based in Washington, DC, though his work has a worldwide focus, especially in Asia, Africa, Latin America, leading development of a cross-program initiative including carbon verification, best practices and standards for climate mitigation and adaptation, climate-oriented capacity building, and facilitation of carbon forestry and agroforestry projects. For nearly six years he managed the Rainforest Alliance forest certification programs in the Asia-Pacific region from Jakarta, Indonesia. In forest certification and carbon verification, he has conducted over 25 forest management assessments and/or audits and over 60 chain-of-custody assessments and/or audits. He has led forest certification awareness training courses in Malaysia, Indonesia, Japan, Fiji, and China. Prior to working for the Rainforest Alliance, he conducted silviculture and ecology research for the University of British Columbia's Alex Fraser Research Forest in Canada. In Oregon, he worked for the U.S. Bureau of Land Management in forest inventory and timber sale administration. For three years he was with the U.S. Peace Corps serving as a community forester in Guatemala in an agroforestry and conservation of natural resources program. Jeff earned an Msci in forestry, (Univ. of British Columbia, Canada); and a B.A. in Latin American development with a specialization on forestry (Univ. of Washington, USA).

3.3 Project document review methodology description

The latest version of the project documentation was downloaded from the CarbonFix website. In addition, some documents were not on the website but were reviewed during the field audit. Details of all documents seen are presented in the table below.

Documents Reviewed for Draft Report Dated 25 January 2011

All documents can be found uploaded on the CFS website.

Documents Reviewed for Draft Report Dated 09 September 2010

All documents can be found uploaded on the CFS website.

Documents Reviewed for Draft Report Dated 01 July 2010

Title, Author(s), Version, Date	Electronic Filename
Main PDD Documents	
Secured Land Tenure, 08/05/2009	CFS_v20 - Template - Secured_Land_Tenure.pdf
Additionality, 26/01/2010	CFS_v21 - Template - Additionality.pdf
Eligibility, 25/02/2010	CFS_v21 - Template - Eligibility.pdf
Environmental Aspects, 12/11/2009	CFS_v21 - Template - Environmental_Aspects.pdf
Financial Capacity, 26/01/2010	CFS_v21 - Template - Financial_Capacity.pdf
Forest Management, 25/02/2010	CFS_v21 - Template - Forest_Management.pdf
Management Capacity, 25/02/2010	CFS_v21 - Template - Management_Capacity.pdf
Protective Capacity, 25/02/2010	CFS_v21 - Template - Protective_Capacity.pdf
Socio-economic aspects, 12/11/2009	CFS_v21 - Template - Socioeconomic_Aspects.pdf
Technical Capacity, 25/02/2010	CFS_v21 - Template - Technical_Capacity.pdf
Baseline, 30/11/2009	CFS-v21-Template-Baseline2-Template-Baseline.pdf
Future CO2 Fixation, 26/11/2009	CFS-v21-Template-Future-CO2-fixation-2.pdf
Leakage, 30/11/2009	CFS-v21-Template-Leakage.pdf
Additionality Supplemental Documents	
SGS FM Audit Report, Feb 2007	02-01

Forest Finance Terms and Conditions V1/2009	02-02
Futuro Forestal Promotional Document	02-03
Wood Stock Invest Promotional Document 27/11/08	02-04_WSI_kurz_engl_25.000_1108Print
Cashflow per Hectare Co2ol Tropical Mix	02-05
Cashflow per Hectare Co2ol Tropical Mix	Cashflow per Hectare Co2ol Tropical Mix
Magazine Article	02-06_Finanztest 10_2009
Environmental Aspects Supplemental Documents	
Panama Temperatures	05-01.3 temperture-panama.pdf
Pesticidas En El Manejo De Plantaciones Forestales, Barca	05-01.1 Plaguicidas en el manejo de las plantaciones forestalesx
Rain Maps	05-01.2 rain-year
Temperature Maps	05-01.3 temperture-panama
Environmental Aspects Supplemental Documents	
Report of Educational Activities For Employees of Forest Finance 2008	04-02-Fortbildungen-FoFi-08-09-1
CO2 Fixation Supplemental Documents	
Wood density information	06-01 - Terminalia amazonia en Costa Rica.pdf
Wood density information	06-02 - C storage of harvest-age T. grandis Panama.pdf
Wood density information	06-03 - Hyeronima alchorneoides.pdf
Wood density information	06-04 - Terminalia amazonia.pdf
Wood density information	06-05.1 - Anacardium excelsum - wooddensity.pdf
Wood density information	06-05.2 - Astronium graveolens - wooddensity.pdf
Wood density information	06-05.3 - Bombacopsis quinata - wooddensity.pdf
Wood density information	06-05.4 - Cedrela odorata - wooddensity.pdf
Wood density information	06-05.5. - Dalbergia retusa - wooddensity.pdf
Wood density information	06-05.6 - Hyeronima alchorneoides - wooddensity.pdf
Wood density information	06-05.7 - Swietenia macrophylla - wooddensity.pdf
Wood density information	06-05.8 - Tabebuia guayacan - wooddensity.pdf
Wood density information	06-05.9 - Tabebuia rosea - wooddensity.pdf
Wood density information	06-05.10 - Tectona grandis - wooddensity.pdf
Wood density information	06-05.11 - Terminalia amazonia - wooddensity.pdf
Wood density information	06-05.12. - Enterolobium cyclocarpum - wooddensity. - Enterolobium cyclocarpum - wooddensity.pdf
Wood density information	06-05.13. - Inga spp - wooddensity. - Inga spp - wooddensity.pdf
Wood density information	06-05.14. - Vochysia ferruginea - wooddensity. - Vochysia ferruginea - wooddensity.pdf
Wood density information	06-05.15 - Vochysia guatemalensis - wooddensity.pdf
Journal Article	06-06 - Stand growth scenarios B. quinata CR.pdf
Journal Article	06-07 - dipteryx panamensis-1.pdf
Journal Article	06-08 - Stand growth scenarios T. grandis CR.pdf
Journal Article	06-09 - dalbergia retusa.pdf
IPCC Data	06-10 - ipcc_Anx_3A_1_Data_Tables.pdf
CarbonFix Standard	06-11 - CFS_v21 - Criteria Methodology.pdf
Growth Model	06-12 - CO2_scientific_growthmodel_COI.xls
Journal Article	06-14 - co2_Secondary forests as temporary carbon sinks - The economic impacts of accounting methods on reforestation projects in the tropics.pdf
Journal Article	06-15 - Ecuador's Choco under siege, but hope remains - map of choco darien region.pdf
Journal Article	06-16 - WWF - Choco-Darien Moist Forest - A Global Ecoregion.pdf

CO2OL Biodiversity plantings - Additional Information	06-17 - COI-CO2OL Biodiversity - Additional Information_2009-11-26_SA.17 - COI-CO2OL Biodiversity - Additional Information_2009-11-26_SA.pdf
Wood density source	06.13 - wood density source.xls
Cashflow per Hectare Co2ol Tropical Mix	Cashflow per Hectare Co2ol Tropical Mix.xls
Leakage Supplemental Documents	
Leakage determination, October 2009	Leakage-Determination-Carbon-Project-2007-2008-Panama
Capacity Supplemental Documents	
Plan de prevención y control de incendios forestales, 2008	12-01 - Plan de prevención y control de incendios forestales de FoFi-2008_2_2_.pdf
Plan de prevención y control de plagas y enfermedades FoFi -2008	12-02 - Plan de prevención y control de plagas y enfermedades FoFi -2008.pdf
Accounts 2006	10-01 - COI - Jahresabschluss zum 31.12.2006
Accounts 2007	10-02 - COI - Jahresabschluss zum 31.12.2006
Accounts 2008	10-03 - COI - Jahresabschluss zum 31.12.2006
Land and CO2 Tenure Supplemental Documents	
Letter from landowner confirming that Forest Finance have right to trade carbon generated on their land.	Fr. Pracht.pdf
As above	Lau Anai S.A.pdf
As above	Mr. Adapa.pdf
As above	Mr. Perez.pdf
As above	Mr. Pontini.pdf
As above	Mr. Vos.pdf
secured land tenure owners overview table	secured land tenure owners overview table.xls
Secured Land Tenure Summary	13-01 COI CFS - Attachment - Secured Land Tenure.pdf
Procedure to purchase lands	Procedimiento para la compra de fincas.doc
Sales Database and Screen Shots	
Spreadsheet of Credit Sales	CO2Bilanzkartei_2
Database screen shot	DBscreen_CO2-33489_2010
Database screen shot	DBscreen_COB-32478_2009
Database screen shot	DBscreen_COB-32557_2009
Database screen shot	DBscreen_COB-33299_2010
Other Documents Seen	
CarbonFix info on Management units and carbon	Management-Units_COI_CFS
JPGs of maps generated from GIS software.	various names
Title deeds 2007, 2008	Online Consultation at www.registro-publico.gob.pa
Labour contracts	Random sample of contracts for men and women workers
Training records, 2008, 2009	File of records and future plans
Employee Benefits documents, and taxes	Exhibits of payments

3.4 Field audit methodology description

The audit involved a five day-field visit. Two of these days were spent in the Forest Finance offices in Panama City and BARCA S.A. (forest service provider) office in Darien; and three days were spent visiting sites in and around the project area. Interviews were conducted with local communities, neighbors and project staff / workers. Different documentation were reviewed and discussed with project proponents. The CFS audit was done along with a Climate Community and Biodiversity Alliance Standard validation audit of the same project.

Non-forest sites evaluated:

Date	Location & site description	Audit activities
March 1, 2010	Barca Regional Office, Darién	Opening meeting, review of documents, consultation.
March 3, 2010	Main office of Forest Finance in Panama City, Panama Main Office of BARCA S.A. in Panama City, Panama	Review of documents, consultation with employees.
March 3, 2010	Stakeholder office: Defensoría del Pueblo	Stakeholder consultation.
March 4,	Audit team transportation.	Audit team transportation.

Forest sites evaluated:

Date	Location & stand name	Area (ha)	Forest type/Age	Audit activities
March 2, 2010	Management Units Meteti I, Alabastros	137 ha	Plantations	Review of activities in project areas: maintenance and management.

Appendix A: PROJECT PROPONENT CONTACT AND SCOPE DETAILS

A.1 Contacts

Project name:	Tropical Mix Project
Project proponent:	Forest Finance
Type of organization:	Sociedad Anónima (LLC)
Contact person, Title:	Mr. Andreas Schnall
Address:	Eifelstraße 20 53119 Bonn Sitz der Gesellschaft: Bonn
Tel/Fax/Email:	Tel: +49 (0)228 - 94 37 78 – 0, andreas.schnall@ForestFinance.de
Billing contact (if applicable):	As above
Project carbon owner (if applicable):	As above
Type of organization:	Company
Contact person, Title:	As above
Address:	As above
Tel/Fax/Email:	As above
Project estimated amount of metric tons of CO₂e/yr.	c. 1500 t CO ₂ y ⁻¹

Appendix B: VERIFICATION CHECKLIST

Key to CarbonFix symbols for verification:



1. Preconditions

1.1 Eligibility

Sufficient evidence must be given to the verification body to be able to confirm that the planting area is eligible according to the requirements of the CarbonFix Standard.

1.1.2

A summary of the <i>project area's</i> history (including its past land-use) must be given.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The history of the project areas is explained in a general manner, not specifically for each management unit. The historical land use of clearance for pasture was clearly evidenced in all the surrounding lands, which were found to be mainly cattle pasture, punctuated with some teak monocultures. Tree stumps were seen in management units that were evidence of past clearance (although not recently).		
Findings from second assessment: Same as above.		

1.1.3

<i>Project areas</i> are only eligible: a. If the area had not been a <u>forest</u> * 10 years prior to the <i>project</i> start or since the 1 st of January 1990. b. If the area is not <u>wetland</u> * or protected area. The criteria mentioned above must be proven by <u>groundtruthed</u> * <u>satellite images</u> *, aerial photographs, official maps or land-use records.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The project has employed a specialist company to determine eligibility according to CarbonFix rules. A combination of Landsat images and aerial photography was used to define eligible project areas. The data is transparently presented. Uncertainty and data limitations (dates of available images) were always handled conservatively.		
Findings from second assessment: Same as above.		

* A **forest** is defined by the Designated National Authority (DNA) of the *projects* host-country: <http://cdm.unfccc.int/DNA>

** Definition of **wetland** according to the IPCC: 'This category includes land that is covered or saturated by water for all or part of the year (e.g. peatland) and that does not fall into the forest land, cropland, grassland or settlements categories.' Source: IPCC - GoodPracticeGuidance - Wetlands.


^a Satellite pictures shall be **groundtruthed** according to the methodology described in the 'Inventory' guideline.

^b Cost free **satellite images** are available from the Global Land Cover Facility webpage: <http://glcfapp.umiacs.umd.edu:8080/esdi/index.jsp>

1.1.4


The <i>projects</i> activities must lead to a forest according to its host-countries forest definition.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The project activities will result in two types of forest, both of which meet the Panamanian DNA's definition of a forest which has been correctly provided by the project. The first, the rotation forestry areas will be a forest that is harvested on a 25 year rotation. The second is a conservation forest that will never be harvested.		
Findings from second assessment: Same as above.		

1.1.5


 The <i>project</i> must establish its forests with <u>trees</u> *.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The species quoted in the documentation, and those seen in the management units were trees.		
Findings from second assessment: Same as above.		

* Definition of **trees**: Trees are perennial, woody plants with one dominant sprout that increases its circumference due to secondary growth.

1.1.6


 The <i>eligible planting area</i> must not have been deforested to generate <i>CO₂-certificates</i> at a later time.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: There is no evidence suggesting that there was a previous relationship between Forest Finance and the previous land owners (or whoever cut the primary forest). Clearance was for pasture expansion, as this is the common land use pattern in the area. This was ratified by land owners and neighbors during field visit through interviews.		
Findings from second assessment: Same as above.		

1.1.7

 A <i>project</i> is not eligible, if more than 10% of its foreseen <i>planting area</i> was agriculture farming land for <u>staple food production</u> * within 5 years prior to the <i>project</i> start.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The past land use was livestock production. Old cow dung was seen in the field, and the majority of management units were surrounded by pasture fields. According to interviews with neighbors and employees, the farms were not used for agriculture crops, but only livestock production in some farms, and in other farms only pasture. Moreover, in the surrounding areas the government has never implemented a regional agricultural project; the past land owners only cultivate basic agriculture for domestic use in small parts of the farms.		
Findings from second assessment: Same as above.		

* **Staple food production** does not include livestock production.

1.1.8

 In the case that agricultural or <u>silvopasture</u> * activities are implemented in addition to the forestry activities, proof must be given that these will not lead to a <u>long-term</u> * increase of emissions within the carbon pool 'soil'.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: This project does not involve agricultural or silvopasture activities.		
Findings from second assessment: Same as above.		


* **Silvopasture** is the practice of combining forestry and grazing of domesticated animals in a mutually beneficial way.

* **Long-term** is considered as a time-period of minimum 20 years.



1.1.9

Positive climatic effects from agriculture or silvopasture activities cannot be accounted for.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: N/A		
Findings from second assessment: Same as above.		




1.1.10

 Any agricultural or silvopasture activities must contribute to the aim of creating a forest.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: N/A		
Findings from second assessment: Same as above.		

1.1.11

 and  Areas must have an initial tree stock of at least 500 trees/ha.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The plans for planting were for planting at densities of 888 – 1666 trees per ha. This planting density was confirmed in every management unit visited.		
Findings from second assessment: Same as above.		




1.1.12

 and  or  The <i>project</i> start must be after the 11 th of December 1997.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: Visual evidence clearly indicated that the plantations were planted after December 1997. It was noted by the auditors that the template is missing this section.		
Findings from second assessment: Same as above.		

1.2 Additionality

Sufficient evidence must be given to the verification body to be able to confirm that the planting area is additional according to the requirements of the CarbonFix Standard.

1.2.2 – 1.2.5

<p>To prove the additionality of the project, the <i>project</i> can choose between the following options:</p> <p> Option 1 - An official statement of a <u>bank</u> which gives evidence that the <i>project</i> would not be feasible without the additional financial means from the sale of <i>VER_{futures}</i>. The statement must be based on realistic cash-flows which are attachments of this document.</p> <p> and  Option 2 - An analysis of 'Additionality' according to the UNFCCC guideline. <small>GUIDELINE: Additionality</small></p> <p>In case of a non-profit project, Option 2 must be applied.</p>	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
<p>Findings from first assessment: The version of the additionality template used for the audit was dated 26/01/10. The project attempts to demonstrate additionality by using option 2.</p> <p>Forest Finance purchased pasture land (from sellers who are subject to leakage measurement) and plant two types of systems;</p> <p>(1) Conservation areas with no harvest From type (1) areas Forest Finance fund activities 100% through high priced ex-ante carbon credit sales. Additionality is clear here, since the only revenues received from this land use are carbon credits. They are not discussed further here. (Management units 007, 008 and 009)</p> <p>(2) Mixed species native and teak stands -Type (2) areas have an average of 40% teak and are planted in blocks of no more than 3 ha of one species types. (Management units (001-006)</p> <p>Type (2) areas are financed by investors who invest EUR 23,000 to receive: Land title. 25 years forest management. Profits from the sales of; ex-ante carbon credits (equal to average carbon stock on land over 1 year rotation), thinning timber, final harvest timber. At the end of the 25 year rotation they have the option to pay extra for another rotation, or have the forest</p>		

planted as a conservation forest. They are contractually obliged to keep the land under forest cover, which assures permanence of reductions.

Forest Finance assesses additionality using the CarbonFix additionality tool, which is an edited version of the CDM's, 'Tool for the demonstration and assessment of additionality in A/R CDM project activities.'

Below is a summary of Forest Finance's additionality arguments and the auditor's assessment of them.

Argument 1:

The baseline options are; (a) continuing pasture, (b) abandonment – leading to pasture use, (c) hotels/buildings, (d) agriculture. The most likely is said to be (a) or (b).

The auditors agree with this assessment based on observations in the field. Around 90% of surrounding land is pasture. However, a number of pure teak plantations were seen in the area. A Swedish company called Forwood had prominent signage for its teak plantation. The auditors found that it was incorrect not to consider teak plantations as a possible baseline scenario.

Argument 2:

Technical capacity for the project did not exist in the area, evidenced by plantations in the area which are poorly managed.

The auditors agree that the capacity for mixed native species planting was not available in the area. However, BARCA, whose services Forest Finance is using to manage their plantations do have the technical experience to manage teak successfully, but not native species as was confirmed by interviews with managers. No evidence of poor management of Teak plantations in the area was presented.

Argument 3:

Additionality is demonstrated because the carbon credit sale revenue is a determining factor in attracting investors for two reasons; (a) it increases the internal rate of return from c.8% to c.9% (b) the early return of some money attracts people otherwise put off by the long (25 year) investment period, that will not yield returns from wood sales until year 10.

During the audit, the team found an error in the financial calculations that appears to result in the expected carbon credit revenue being overestimated by a factor of two. This error was in the spreadsheet called, "Cashflow per Hectare Co2ol Tropical Mix" and was discussed with the project proponents. The calculation assumed 100% of the area planted was eligible for carbon credits, when the actual proportion is less. When this is corrected the increase in IRR due to carbon credits would be less.

The project documentation states that, "official legal and corporate documents clearly demonstrate that the additional revenues provided by the sale of GHG emissions were a determinant factor in triggering a decision favorable to the financing of the project activity." The documents presented were sales materials that showed potential revenue from carbon credits as a benefit of the investment.

The potential accounting error weakens the argument around increase in IRR and an early return of a proportion of the investment.

Sub step 2d of the CarbonFix additionality tool, "sensitivity analysis" is not documented in the additionality document.

Sub-step 3a.5 requires that "transparent and documented evidence" is provided to support the barrier analysis, but this has not been provided.

CAR 01/10 (Major)

CAR 02/10 (Major)

CAR 03/10 (Major)

Findings from second assessment:

The additionality demonstration has been expanded in response to the CARs issued.

The PDD roughly follows the CFS Additionality tool (note that it must follow it exactly). Below each step of tools application is assessed:

Step 0 and Step 1 are not required by the CFS tool. However the Proponent has executed these steps. Therefore a detailed assessment is not presented here.

Teak plantations are now recognized as a possible baseline scenario in step 1. The PDD concludes that teak plantations are relatively likely and a probability of 10% is attached to this scenario. Teak plantations are not the most likely scenario, which remains the continuation of pasture. This closes **CAR 01/10**.

Step 2 – Investment Analysis

1. The Proponents decided to use the investment analysis as a stand alone approach; however, they do attempt to also do a barrier analysis after.

Sub-step 2a. Determine appropriate analysis method

2. The Proponents decided to use the investment comparison analysis (Option II), this is acceptable.

Sub-step 2b. – Option II. Apply investment comparison analysis

4. The Proponents select IRR as the investment financial indicator most suitable for the project type and decision-making context. This was found to be appropriate indicator given that it is easy to compare to rates available to investors from other investments.

Sub-step 2c. Calculation and comparison of financial indicators (only applicable to options II and III):

6. The Proponents calculate the without-crediting IRR in the spreadsheet 02-05. However, the numbers presented in this spreadsheet for IRR do not match those in the PDD. The alternative investment provided is that of a German Government Bond. Given the significant difference in risk between these two investment options, it is not clear why German Bonds were chosen.
7. The without-crediting IRR was not found to be calculated transparently. As mentioned above, the spreadsheet and PDD values did not line up. In addition, it is not clear how the species mixes were gathered from the plantation data spreadsheet (06-12). The IRR calculation does not appear to include any costs such as overheads. The cashflow values are just numbers in excel, they are not calculated via any formulas, so it is not possible to see how they are derived. No explanation is given. Risk is not included in the analysis. The calculation now correctly assumes that only part of the planted area is eligible for crediting. This closes **CAR 02/10**.
8. Given the nature of the comparison being made (to Government Bonds), there is no requirement to calculate the IRR the same way (since IRR is simply stated, not calculated for the Bonds). This step was executed successfully.
9. The PDD does present a comparison between the without-crediting IRR and the alternative (Government Bonds). However, what this shows is that the without-crediting scenario is more attractive than Government Bonds. As such, the investment test has failed, since it is still more attractive to invest in the project without crediting than to invest in the alternative. The PDD comes to the wrong conclusion when doing this assessment and proceeds to the sensitivity analysis.

Sub-step 2d. Sensitivity analysis

10. A sensitivity analysis should not have been conducted given the outcome of sub-step 2c. Whilst the PDD does present one anyway, it was found not to meet the requirements of the tool. Rather it summarizes a qualitative argument about additionality. The Proponents also submitted a spreadsheet called, "Sensitivity Analysis" (not uploaded to the website). This also fails to perform the tests required by this step. The sensitivity analysis needs to demonstrate that in the without-crediting case, even when assumptions are varied, that it still remains *unattractive* relative to alternative investments. The spreadsheet presented assesses the sensitivity of the increase in IRR with carbon credit costs amongst other things. **MAJOR CAR 03/10** has been closed and replaced by a more general **CAR 20/10** due to the integrated issues related to the additionality argument.

Step 3. Barrier analysis and Step 4. Impact of CDM registration

The PDD does not follow Step 3 or 4 of the tool. If the investment analysis fails, the project must demonstrate additionality through barrier analysis.

CAR 20/10 (Major)

Findings from third assessment:

Step 2 – Investment Analysis

1. The Proponents decided to use the investment analysis as a standalone approach; however, they do attempt to also do a barrier analysis after. This is acceptable to build a full picture of the additionality argument.

Sub-step 2a. Determine appropriate analysis method

2. The Proponents decided to use the investment comparison analysis Option II), “*an equity based benchmark analysis*”. This is acceptable, however, the heading, “*Sub-step 2c. Option II. Apply investment comparison analysis*” used in the PDD is not accurate as this analysis was not used.

Sub-step 2b. – Option III. Apply benchmark analysis

5. The Proponents select IRR as the investment financial indicator most suitable for the project type and decision-making context. This was found to be appropriate indicator given that it is easy to compare to rates available to investors from other investments.

The Proponents are then required to select an appropriate benchmark, based on the following criteria,

“The benchmark is to represent standard returns in the market, considering the specific risk of the project type, but not linked to the subjective profitability expectation or risk profile of a particular project developer. Benchmarks can be derived from:

- *Government bond rates, increased by a suitable risk premium to reflect private investment and/or the project type, as substantiated by an independent (financial) expert;*
- *Estimates of the cost of financing and required return on capital (e.g. commercial lending rates and guarantees required for the country and the type of project activity concerned), based on bankers views and private equity investors/funds’ required return on comparable projects;*
- *A company internal benchmark (weighted average capital cost of the company) if there is only one potential project developer (e.g. when the project activity upgrades an existing activity). The project developers shall demonstrate that this benchmark has been consistently used in the past, i.e. that project activities under similar conditions developed by the same company used the same benchmark.”* (CarbonFix Additionality Guidelines)

A Government bond rate from Panama was used¹. The bond was selected to be representative as an alternative investment option at the time when investors invested in the project. It is considered to be representative because;

- It is issued by the Government of Panama, and so encompasses similar country risks to investing the projects.
- It was issued in 2006, and investments were made in the project in early 2007 and 2006.
- The bond matures in 30 years, which is analogous to the project length of 25 years.

Other bonds were issued in the years before and after by the Panamanian Government, but all have higher rates of interest, and as such this represents a conservative choice, as well as being a logical one.

The bond has a value of 6.7% over 30 years, which is a similar length of time to the project length of 25 years. An adjustment was made based on the bonds increase in value at the time when it would have been purchased so the rate used for comparison was 6.38%.

¹ <http://www.baadermarkets.de/DEU/anleihen/bondboard/US698299AW45/>; <http://www.cbonds.info/em/eng/emissions/emission.phtml/params/id/10513>

The Project Proponents did not choose to include a 'suitable risk premium to reflect private investment'. This step is optional and not required. The decision not to make the adjustment was justified by comparing the risk in an emerging economy to the natural risks that timber plantations face. This argument was found to be reasonable, and it is unlikely that investors would view the bond as more risky than a forest plantation, and in many situations the plantation would be viewed as a more risky investment.

Sub-step 2c. Calculation and comparison of financial indicators (only applicable to options II and III):

6. The Proponents calculate the without-crediting IRR in the spreadsheet 02-05. All assumptions are transparently presented.
7. The without-crediting IRR was found to be calculated transparently. The spreadsheet, "02-05-1 cash flow model_v3" shows detailed cost and revenue assumptions/calculations. The PD explains that risk included in the analysis, through the cost of the fire insurance premium. The calculation correctly assumes that only part of the planted area is eligible for crediting.
8. This step was conducted the same way as during the second assessment of the additionality argument which was found to be acceptable. The calculations of the with- and without-credits scenario IRR are calculated in exactly the same way as evidenced in the spreadsheet.
9. The PDD does present a comparison between the without-crediting IRR and the alternative (Panamanian Government Bonds). The without crediting scenario is shown to be less attractive than a government bond. The IRR of the project without crediting is 5.88%, whilst the bond is 6.38%.

The auditors also reviewed marketing material from the between 2007 and 2008 when investors made their decision (02-04_WSI_kurz_engl_25.000_1108Print). There were three scenarios; 'worst', 'realistic' and 'best' advertised as having IRRs of "up to" 5%, 8% and 11% respectively. These estimated returns were based on a spreadsheet that investors who wanted to know the breakdown of costs and revenues could have accessed. These IRRs were inclusive of profits from carbon credit sales. The audit team evaluated the realistic scenario with an 8% IRR and a credit price of EUR3.79 (US\$5) and by using the underlying 2007 spreadsheet, we calculated that the contribution to the IRR from carbon credits would be 0.43 percentage points. We then subtracted this amount from the 8% in the realistic scenario to arrive at a 'without credit' case, which resulted in an IRR of 7.56%. We concluded that at the time investors made their decision the realistic scenario without crediting IRR of 7.56% was more than the IRR from a government bond.

As calculated by the proponents, and without performing a risk correction, this step of the additionality test was not passed, because investing in the project without-crediting had a slightly higher rate of return than the alternative chosen for comparison.

Sub-step 2d. Sensitivity analysis

10. A sensitivity analysis was conducted. The sensitivity analysis considers potential variation in management cost increases, log prices, certificate process and non-timber forest products revenues. In all cases, the conclusion is that even in the best case scenario the IRR from the without-project case does not exceed the Government Bond benchmark. The management costs, when considered not to rise in price (vs 2% in the original model) only increase IRR to 6.18%. The starting log prices are varied plus or minus 5% based on an assumption that log prices are relatively stable. This was supported by evidence from the World Bank (02-11-2-2_Global commodity price prospects appendix2 and 02-11-2-4_sfm). It was not found necessary to vary the certificate price, because this has no impact on the without project scenario. The assumptions related to the potential revenues from non-timber forest products were found to be acceptable.

Step 3. Barrier analysis

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

The aim of the barrier analysis is to,

“determine whether the proposed project activity faces barriers that: Prevent the implementation of this type of proposed project activity; and Do not prevent the implementation of at least one of the alternatives.” (Point 1)

The tool does not require an explanation, at this stage, of how the crediting of the project overcomes the barriers identified, this is required at step 4. However, the PD does present an explanation here of how the barriers are overcome.

The PDD identifies two investment barriers. Firstly, the long time taken to receive a payback on investment (barrier 1), and secondly lack of access to capital for long term investments such as plantations (2). Two technical barriers are identified. Firstly the site conditions (3), and secondly the lack of technical expertise for executing the project (4). None of these barriers apply to the baseline scenario of continued pasture. Thus point 1 of substep 3a is satisfied.

Investment barrier 1 is supported by a presentation from McKinsey which shows long return intervals to dissuade forestry (02-09 McKinsey AR_Slides). No evidence is provided to explain investment barrier 2, although observations around the project area suggest that farmers who have land in pasture are not converting to forestry.

Regarding technical barrier 3, evidence is provided (Summary soil conditions Darien.pdf) of the high clay content of the soil, which makes teak monocultures undesirable. Regarding barrier 4, it is agreed that it is unlikely that there exists the local expertise to conduct a carbon project, as no other projects are known to exist in the area.

Step 4. Impact of CDM registration

Barrier 1: Considering the information available to investors when they made their decision (02-04-2_cash flow model_2007_processed_timber), the cash flows presented to investors do show earlier returns from carbon credit generation. Therefore, it can be concluded that investors were aware of realistic early returns from the project based on a realistic scenario of credit generation, and thus it will have impacted their decision to some extent.

Barrier 2 The project's registration as a CarbonFix project increases the ability to source debt funding because the IRR of the project is increased and investors will receive earlier returns (see Barrier 1).

Barrier 3: The text related to barrier 3 in the PDD does not explain how CarbonFix registration will overcome the barriers the project would face in the absence of crediting. Instead, it compares the project scenario to a baseline scenario of pure teak plantations which is not what the tool requires.

Barrier 4: The text related to barrier 4 states, *“Most of the stakeholders in the region do not have the knowledge and access to institutions providing support for carbon projects. For this reason it is unlikely that there would emerge carbon oriented projects spontaneously out of the region.”* It is not clear how this demonstrates that crediting overcomes lack of technical experience. The project is bringing in technical expertise (at additional cost) that overcomes this issue.

Conclusion:



As performed, the investment test was not passed, because, at the time of investment a 'realistic scenario' without-crediting was more financially attractive than the bond chosen as a comparative investment. The barrier analysis resulted in four barriers being identified. Of these four, the difficulty in securing debt funding and the long term payback schedule of an investment in a mixed species forestry plantation were found to be the most defensible barriers. These barriers are overcome by credits through an increased IRR and early return on some of the investment.

CAR 20/10 (Major) (CLOSED)



CAR 21/10 (Minor)

* The **bank** must be one of the 50 biggest banks worldwide: www.gfmag.com/c_aw/0510_03.php



1.2.6

  A responsible state authority must approve that the forestation on the <i>planting area</i> is not mandatory by any law or regulation or if it is mandatory evidence must be given that these laws or regulations are not systematically enforced.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: An FSC audit report from SGS was presented as evidence for this criterion (document 02-01); however, this was not considered to be evidence that meets this criterion as the reports authors are not a 'responsible state authority'. However, during the consultation period the audit team interviewed ANAM Regional Coordinator (Ing. Carlos Melgarejo) and mentioned that Forest Finance planted trees voluntarily.</p> <p>CAR 04/10 (Minor)</p>		
<p>Findings from second assessment:</p> <p>The findings from the previous report have not changed. However, in an email the Project Proponents have referenced the zip file, "attachment_G5.2_Tropical_Mix" as evidence to close this CAR. There is also a letter from ANAM dated June 2010 to Forest Finance Panama S.A. None of the documents referenced (ANAM - official document.pdf, Annex 14_Host Country letter of support.pdf, Vertrag FUFO FOFI.pdf) mentions that the plantation projects are not mandatory or enforced. Instead, letters only state that Forest Finance manages forest plantations in Darien, and that copies of some technical documents were sent to ANAM.</p> <p>The file contains letters of support from ANAM (dated 2004) regarding Futuro Forestal's work in planting trees for offsets. It is not likely such approvals would be achieved if the planting was mandatory (as there would be no additionality).</p> <p>Therefore, this CAR remains open until a responsible state authority states the planting area is not mandatory. However, since there is no evidence to state it is mandatory, this is only a minor CAR.</p> <p>CAR 04/10 (Minor)</p>		
<p>Findings from third assessment: Findings from third assessment: A new document, 'nota de ANAM.tif' has been added to the supporting material. This is a letter from Maria Blanco of ANAM-Darien, dated 14 October 2010, which confirms the reforestation of private land is not mandated by any law. This closes CAR 04/10.</p>		

1.2.7

  Without the <i>project activities</i> , a forest must not be able to establish itself on the <i>planting area</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: No evidence was seen in the surrounding areas of any natural regeneration due to the pressure on land for pasture.</p>		
<p>Findings from second assessment: Same as above.</p>		

1.2.8

  If parts of the <i>project</i> are planted without generating $VER_{futures}$ (e.g. because the land is not eligible), it must be assured that the additionality of the entire project remains valid.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: The project Tropical Mix has 57% non eligible area and 43% eligible area. All the land is part of one harvesting community, which means that the carbon credits although only generated on the eligible areas, contribute to the additionality of all planting.</p> <p>However, in the spreadsheet, "Cashflow per Hectare Co2oI Tropical Mix", when the case for additional revenues from carbon credits was made, there was an assumption that all areas generate carbon credits. This is not correct because all areas are not eligible. Hence, the financial benefits of generating carbon credits for the whole area were overstated. The spreadsheet lacked transparency in the sources of</p>		

numbers, which made this issue difficult to detect.

See **CAR 02/10 (Major)**.

Findings from second assessment:


Please see findings from section 1.2.2 -1.2.5 above. **CAR 02/10** is now closed.

2. Sustainable Forest Management

2.1 Environmental Aspects



Sufficient evidence must be given to the verification body to be able to confirm the long-term net positive environmental impact of the project.

2.1.2

 A description, including pictures, of the different <u>ecosystems</u> * of the <i>project area</i> must be given. In case significantly different ecosystems are bordering the <i>project area</i> , these must also be described.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The environmental aspects template used for the audit was the version dated 12/11/09.		
Pure grassland, shrub land and forest were well described and photographed in the documentation. The descriptions match what was seen during the field audit.		
Findings from second assessment: Same as above.		


* **Ecosystems** differentiate themselves by the type of vegetation, animals and non-living components (soil, water, etc.).

2.1.3-2.1.5


 The following characteristics of the <i>project</i> must be described: a. Soil <ul style="list-style-type: none"> • Nutrients • Erosion b. Water <ul style="list-style-type: none"> • Quality • Quantity c. Biodiversity <ul style="list-style-type: none"> • Flora • Fauna d. Climate <small>GUIDELINE: Climate diagram</small> <ul style="list-style-type: none"> • Temperatures • Rain  The <i>project</i> must ensure that positive impacts are enhanced and negative impacts are mitigated - respectively avoided, if they are not essential for the <i>project</i> activities.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
For point 'd. Climate' no description of impacts must be given.		
Findings from first assessment: The soil, water, biodiversity and climate characteristics of the project are described and there were no serious negative impacts that required avoiding. At the visits to the management units it was confirmed that most of the project area for rotation forestry was not on steep slopes to minimize erosion risk. Tree planting will, in the long run, lead to soil stabilization, which would not have occurred with continued pasture use.		
The documentation states that no fertilization was used and none were seen during the visit to the nurseries or the management units. Buffers around watercourses were respected and most of the areas around the watercourses were designated as 'wetlands' and the existing vegetation was left.		
The harvesting that will occur at the end of the first rotation (25 years) was not considered as a potential negative impact on soil or biodiversity in the projects documentation. It is only mentioned that to mitigate the impacts, the forest cover will be replaced right after harvesting the commercial trees, and that the branches will be left in the place to keep the biomass in the ecosystem.		
CAR 05/10 (Minor)		
Findings from second assessment: The PDD now explains how harvesting will be conducted in a responsible way to minimize the negative impacts on soil and biodiversity. Low weight machines will be used in dry periods to minimize soil damage.		

Having 15% of the area as conservation areas, and using low impact harvesting techniques will minimize disturbance to biodiversity. This closes **CAR 05/10**.


2.1.6

 Pests must be managed in an environmentally friendly way and preferably without the use of chemical products.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: During the field visit, the audit team reviewed how BARCA (the forest service provider) controls pests. No evidence was found of pest presence or impacts on the plantation projects. BARCA employees explained that, according to the objective of the plantations, prevention activities are implemented as it is explained in the forest management plan. BARCA has trained its employees to recognize the symptoms, aware the responsible (<i>capataz</i>). No chemical products have been needed to control pests.</p>		
<p>Findings from second assessment: Same as above.</p>		


2.1.7

 The use of herbicides and insecticides must be documented. A list of applied products must be given.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: BARCA, who are contracted by Forest Finance to manage the plantations are FSC certified, and follow FSC practices in herbicide and insecticide use and documentation. These were observed at the nursery by the auditors. A list of chemical products applied is presented in the environmental aspects document. However, at the nursery Helosafe (active ingredient = glifosato), was seen, but this was not on the list presented.</p>		
<p>CAR 06/10 (Minor)</p>		
<p>Findings from second assessment:</p> <p>A new appendix has been added, "05-01.1 Plaguicidas en el manejo de las plantaciones forestalesx". This explains the use of glifosato. This closes CAR 06/10.</p>		


2.1.8

 When chemicals are used there must be sufficient training and proper equipment to minimize environmental impacts.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: According to some interviews at nursery and plantation field, it is common to use herbicides (<i>glifosate</i>) and no other chemical products as part of the pest control. BARCA has properly trained specific employees to make sure they can implement best practices when preparing, storing, and using the herbicides.</p>		
<p>Findings from second assessment: Same as above.</p>		


2.1.9a

 Waste must be disposed of in an environmentally appropriate way.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: The environmental aspects document states that the project separates organic and non-organic waste and disposes of them appropriately. BARCA has designed a specific plan for waste, and also has trained specific personnel to make sure it is implemented well. Some employees work and at the same time live in the plantation projects, accommodations had been installed and a coordinator (a woman) is in charge of keeping good practices about waste. Within the plantation projects, the audit team did not find evidence of mismanagement of wastes.</p>		
<p>Findings from second assessment: Same as above.</p>		


2.1.9b

 15 meter wide buffer strips along permanent or temporary watercourses (streams, rivers, wetlands, etc.) shall be implemented. These buffer strips become <ul style="list-style-type: none"> part of the <i>nature conservation area</i>, or must be managed according to 'Future CO₂-fixation - Option 1b (Conservation Forest)'. If they are managed by 'Option 1b' only native trees species are allowed to be planted. 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: During the site visits it was found that watercourses, and their surrounding vegetation, were designated as 'watercourse' and as such they are managed for conservation only, and no clearance, planting, or harvesting was occurring.		
Findings from second assessment: Same as above.		


2.1.11

 No flooding irrigation, regular irrigation or drainage shall be executed.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: No irrigation of any kind is occurring on the management units. Drainage has been executed on management units 6 and 8. An area of 40 m each side of the drainage canals has been excluded from the eligible areas.		
Findings from second assessment: Same as above.		

2.1.12


 No area-wide ploughing is allowed. Mechanized ploughing must be limited to the purpose of planting.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: No mechanized ploughing was done.		
Findings from second assessment: Same as above.		

2.1.13

 <u>Genetically modified</u> * tree species are not allowed to be used.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: Genetically modified species are not used. BARCA, the service provider, keeps all the documentation about the origin and precedence of the seeds (Teak), mainly Centro Cantonal Hoja Ancha, Costa Rica. Native species are not obviously genetically modified.		
Findings from second assessment: Same as above.		

* **Genetically modified** trees species are defined according to the FSC guideline: FSC-POL-30-602

2.1.14

 Native species in mixed stands managed with a selective harvesting method are preferable.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Otherwise, the <i>project</i> must justify its</p> <ul style="list-style-type: none"> choice of tree species, and/or silvicultural system, and/or harvesting method. 		
<p>Findings from first assessment: Teak, a non native species, comprises 40% of the species planted, all the others are native. The justification given for planting teak is that it is necessary in order to remain competitive because of the good price for teak and client demand. The risks associated with teak (propagation beyond the project site, soil erosion, etc.) are said to be due to poor management and will thus be avoided.</p> <p>The stands could be described as mixed, but would perhaps better be described as mixed blocks of single species (with no block being greater than 3 ha). The Proponent has GIS referenced stand maps that were verified during the field audit. These however, were not presented as part of the project documentation originally.</p> <p>The project documentation does not clearly describe the harvesting method. A general description is written in the forest management document. The project proponent explained that after the commercial</p>		

period of native species, they will cut the trees but it is not specific about the method, total cut or selective.

CAR 07/10 (Minor)


CAR 08/10 (Minor)

Findings from second assessment:

The PDD now includes maps that show the strata planted. This closes **CAR 07/10**. In addition, the appendix, '05-02 Stripe-Mixedforest-Concept' shows in detail the pattern used and the rationale behind it.

Appendix 05-03 explains in details the harvesting method. This closes **CAR 08/10**.

2.1.15


 All species must be site-adapted, also under changing climate conditions – considering the latest <u>IPCC report</u> *.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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Findings from first assessment: By planting a mix of species, the risk of some species not being well adapted to changes that may occur is reduced. Data on the site or region specific climatic changes that can be expected is not available for the Darien region.

Findings from second assessment: Same as above.

* Latest **IPCC report**: www.grida.no/climate/ipcc_tar - Report 'The Scientific Basis' - Chapter 10

2.1.16

 Two signed statements from <ul style="list-style-type: none"> a. a responsible forestry, wildlife or environmental authority, and b. a registered NGO in the environmental sector, which is acting independently from the <i>project</i>, must confirm: <ul style="list-style-type: none"> • that the <i>project</i> operates according to national environmental laws, • that the existence of a native <u>endangered</u>* species is not threatened due to the <i>project</i> activities, and • that the <i>project</i> has a net positive impact on the environment. 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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Findings from first assessment: The project documentation references a SmartWood FSC report. This was not found to meet the criteria, as it is only one document. In addition, there was no explanation of how this document met the criteria above.

CAR 09/10 (Major)

Findings from second assessment:


In a new appendix, "05-15 Requirement 2.1.15_additional information.pdf" it is explained that whilst two signed statements per se have not been gathered, official documentation from ANAM and their FSC certification covers the requirements of this criteria. This closes **CAR 09/10**.

Endangered is defined by the categories endangered (EN) and critically endangered (CR) according to the 'IUCN Red list' - www.iucnredlist.org/search/search-expert

2.2 Socioeconomic Aspects

Sufficient evidence must be given to the verification body to be able to confirm the long-term net positive socioeconomic impact of the project.

2.2.2

 The current situation of the following aspects, together with the possible impacts caused by the <i>project</i> must be described: <ul style="list-style-type: none"> a. Creation of employment <ul style="list-style-type: none"> • <i>management</i> • <i>employees</i> • <i>contractors</i> • <i>workers</i> b. Capacity building <ul style="list-style-type: none"> • <i>management</i> • <i>employees</i> • <i>contractors</i> • <i>workers</i> c. Neighbourhood <ul style="list-style-type: none"> • displacement of people • welfare activities 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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Findings from first assessment:

The socioeconomic aspects template used for the audit was the version dated 12/11/09.

Creation of employment:

The socioeconomic aspects document states that the project currently employs 200 people (2 management, 40 employees, and 158 workers. BARCA, as the forest service provider, hires around 30 people annually.

Capacity Building:

The capacity building for employees is described in the socioeconomic document as being conducted by BARCA and by Forest Finance. A list of workshops conducted was provided (document 04-02). Interviews with Forest Finance staff members confirmed training was available and useful.

Very limited information is presented with regard to the capacity building provided to the workers, although no details about what types of training were provided. No details of the numbers of workers trained in various topics were provided. The workers who were asked about training said they needed more training on workers rights and benefits. Lack of training to complete the jobs in the field was not an issue.

CAR 10/10 (Minor)
CAR 11/10 (Minor)

Neighbors:

The previous owners have sold the land voluntarily; this was confirmed by an interview with the father of one land owner, and through the interview with a government office (*Defensoría del Pueblo*). Some neighbors and past land owners were interviewed also via phone and answered that they offered to sell the land to the project proponent. The relatively high prices paid compared to average incomes in the area make it likely that sales were voluntary. A survey of past land owners signed by Martin Bole (FF, Head of Forest Department) documents legitimate reasons why farmers sold their land voluntarily.


No welfare activities have been conducted in the communities.

Findings from second assessment:


Forest Finance provided a table of training sessions named "Report of educational activities for employees of forest finance 2008 and 2009". These sessions were imparted through chats, seminars, workshops, other, by same people from Forest Finance or BARCA, the forest service provider. Some other documents like informe S S O 2009.pdf, and Calendario S S O 2010.pdf also mention the topics, trainer, location and duration of the sessions. As part of FSC activities, BARCA has provided most of the training sessions to different employees (permanent/temporal, male/female public, etc.) as the main responsible of the capacity building program.

Most of the training sessions included topics related with risks at work, children labor, Labor Law, correct use of equipment, added value, occupational health and safety. This closes **CAR 10/10** and **CAR 11/10**.


2.2.3

 The <i>project</i> must ensure that positive impacts are enhanced and negative impacts are mitigated - respectively avoided, if they are not essential for the <i>project</i> activities.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: See CAR 11/10 above; the positive benefits of the project were not found to have been maximized, as there was still a request from workers for more training/information.		
Findings from second assessment: See findings at 2.2.2.		


2.2.4

 A first aid kit must be reasonably accessible for all <i>workers</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: First Aid kits were seen in the BARCA office and in the nursery, and at the workers' house near management unit; 5 of them were well stocked.		
Findings from second assessment: Same as above.		


2.2.5

 <i>Workers</i> must be able to organize themselves and voluntarily negotiate with their employers.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: A group interview with 15 workers revealed that the common practice for communicating with employees was to communicate directly to the supervisor. There was no evidence for the suppression of the ability of workers to organize themselves, but there has not been any major issues that have required a union to address.		
Findings from second assessment: Same as above.		


2.2.6

 All equipment (tools, machines, etc.), including those of the <i>contractors</i> , shall be in safe working mode.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: All equipment seen was in safe working order. This criterion is also covered by BARCA's FSC certificate.		
Findings from second assessment: Same as above.		

2.2.7

 Proper protective equipment and training of the <i>workers</i> must be enforced - especially when chemicals are used.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: This criterion is also covered by BARCA's FSC certificate. BARCA enforces policies for its employees to wear appropriate equipment in two ways: one, through the signing of the labor contracts, and then by training and supervision prior to starting activities in the morning. According to some interviews with employees, they agree to wear the equipment since it can make the difference during a potential accident.		
Findings from second assessment: Same as above.		

2.2.8

 Children under the age of 16 are not allowed to work for the <i>project</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: No children were seen to be working for the project. BARCA has a policy of not employing workers under 18 years old.		
Findings from second assessment: Same as above.		


2.2.9

 Contracts must clearly define the following aspects: For employees a. working hours and leave of absence (holiday, sickness and pregnancy) b. duties c. salary d. modalities on health insurance e. modalities on the termination of the contract For contractors a. tasks (quantity, quality, time) b. payment c. modalities on the termination of the contract	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The management agreement signed between Forest Finance and BARCA is for provision of the forest management services. The contract was signed in April 2008. The contract demands BARCA makes a reasonable effort to achieve FSC certification. Audit team reviewed a random sample of contracts between BARCA and its employees. These contracts are approved by the National Labor Ministry, since they meet the national law including the aspects of the		

2.2.9 criterion. Employees interviewed mentioned that the contracts are signed prior to start date and that BARCA explains the content of the labor contracts during the induction, so the parties understand their rights and responsibilities.

Findings from second assessment: Same as above.

2.2.10


 Workers shall preferably be from the area around the <i>project</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
---	---	-----------------------------

Findings from first assessment: The project documentation states that the majority of workers are from the surrounding villages. In interviews with workers, it was found that some of them are from other parts of the country (Chiriquí, Panama). The reason for this is mainly because in the surrounding areas, young people prefer other kind of activities to earn money. This was also ratified by a government employee (*Defensoría del pueblo*), who added that, according to statistics, there has been an increment of illegal activities in the region where people prefer to earn some money.

In an interview with human resources of BARCA, they explained that there are some activities in which they need certain level of experience to assure the goal will be achieved, so they have to hire people from Chiriquí, where other forest projects are.

Findings from second assessment: Same as above.


2.2.11

 Spiritual, religious, or other socially important places within the <i>project area</i> must be treated in consensus with the concerned people.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
---	---	-----------------------------

Findings from first assessment: There were not thought to be any such areas in the project area (all ex-pasture lands). Among the workers of BARCA, there is at least one representative of indigenous community of the region. He mentioned that they have their own forest project, which is located far away from Forest Finance project. They have religious places there, but they are not within the project area.

Findings from second assessment: Same as above.


2.2.12

 Neighbours must be able to address their concerns to the <i>management</i> of the <i>project</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
--	---	-----------------------------

Findings from first assessment: One neighbor interviewed said that he could talk directly to the project about any concerns, and was happy with this arrangement. Other neighbors interviewed by audit team mentioned that they hold very good communication and relation with Forest Finance and BARCA. Neighbors, and also employees, know that they are able to inquire Forest Finance or BARCA and, if applicable, recommend solutions to solve a problem or avoid it.

Findings from second assessment: Same as above.

2.2.13

 The decision-making process for concerns of <i>neighbours</i> must be described. Results must be implemented in a cooperative way.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
--	---	-----------------------------


Findings from first assessment: The process of neighbors discussing things with the project is described in the project documentation. It is also explained that concerns are raised through the projects hierarchy. There had not been any neighbor concerns at the time of the visit that the auditors were aware of.

Findings from second assessment: Same as above.



2.3 Forest Management

Sufficient evidence must be given to the verification body to be able to confirm that the project bases itself on the principles of sustainable forest management.


2.3.2

 The objectives of the <i>project</i> must be described.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The objectives of the project were clearly described. Everyone interviewed during the audit had a clear understanding of the project and its goals. The objectives were also presented in marketing material and the terms and conditions of those who invest in the project.		
Findings from second assessment: Same as above.		


2.3.3

 and  The following key figures must be given: 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>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: These figures are presented. Field verification of the sites confirmed their location and relative size. It was brought to the attention of the auditors that there is a suspected issue in the GIS data which may cause these numbers to need revising.		
CAR 12/10 Major		
Findings from second assessment: Forest Finance provided a spreadsheet called “Change in area numbers CAR 12.xlsx” that transparently shows what changes were made to the project area. The changes to area of foreseen planting were between 1% and 30% of the areas. Some were increases, and other decreases. The new numbers have been used in subsequent emissions sequestration calculations. This closes MAJOR CAR 12/10 .		



2.3.4


 The borders of the <i>project area</i> , <i>planting area(s)</i> , <i>management units</i> and <i>nature conservation area(s)</i> must be clearly visible in the field.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: A GPS system linked to a laptop allowed the auditors to verify the locations of the areas. The management units are signposted and fenced.		
Findings from second assessment: Same as above.		

2.3.5



Management of Nature Conservation Area  For the <i>nature conservation area(s)</i> a description of the selected IUCN management category(ies) and its (their) implementation must be given. One or several of the following categories can be selected: I, II, III, IV or V - see guideline ‘IUCN categories’ <small>GUIDELINE: IUCNcategories</small>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
The <i>nature conservation area</i> can consist of different ecosystems (wetland, grassland, etc.).		
Findings from first assessment: The category, “I – Strict Nature Reserve / Wilderness Area” is identified in the project documentation. The management is explained and is consistent with the category.		
Findings from second assessment: Same as above.		













2.3.6-7

Management of Planting Area  and  The following characteristics of the tree species planted must be described: a. Origin and distribution of the tree species (indicate if the species are native or not) 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	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
--	---	-----------------------------

 The following steps of the <i>projects</i> technical implementation must be described: <ul style="list-style-type: none"> a. Nursery b. Land preparation (incl. lining out / spacing) c. Planting d. Beating up (replacing of the seedlings) e. Maintenance f. Pruning g. Thinning h. Harvesting 		
<p>Findings from first assessment: The project documentation provides a table with all the required information.</p>		
<p>The data in the tables conformed with what was found in the field visits.</p>		
<p>The projects implementation was clearly described and matched what was found in the management plans and witnessed on site.</p>		
<p>Findings from second assessment: Same as above.</p>		

2.3.8

<p>Management Units</p>   The following information must be submitted for each <i>management unit</i> . The information is partly derived from other chapters: <ul style="list-style-type: none"> • Start of the planting / protection activities • Tree species (including their %) • Area (ha) • Foreseen <i>eligible planting area</i> (ha) • GPS coordinates of a point within the <i>management unit</i> • Future CO₂-fixation <i>Chapter 'Future CO₂-fixation'</i> • Fertilizer application <i>Chapter 'Project Emissions'</i> • Baseline <i>Chapter 'Baseline'</i> • Leakage <i>Chapter 'Leakage'</i> 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment:</p>		
<p>This information is distributed throughout a number of documents.</p>		
<p>Start of the planting / protection activities: On the CarbonFix website the interactive map shows the age of each plantation.</p>		
<p>Tree species (including their %). The spreadsheet, "06-12 - CO₂_scientific_growthmodel_COI.xls" shows the percentages of tree species planted in each management unit. However, this information can also be gathered from looking at the GIS maps of the planted stands. When a sample of the two was compared, some discrepancies were found in management units 3 and 6.</p>		
<p>Area (ha), Foreseen eligible planting area (ha), GPS coordinates: The project has clear GIS maps of the project areas which show the eligible area and have a grid showing the location.</p>		
<p>Future CO₂-fixation, Fertilizer application, Baseline and Leakage are discussed in the sections below.</p>		
<p>CAR 13/10 (Major)</p>		
<p>Findings from second assessment:</p>		
<p>In the revised documentation, maps of the planted strata have been provided (see eligibility document). This allows comparison with the data in the spreadsheet, '06-12 - CO₂_scientific_growthmodel_COI'. Comparisons confirmed that the data had been correctly brought from the maps into the spreadsheet. This closes CAR 13/10.</p>		

Maps & Locations	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>The following maps must be uploaded as JPG. They must show:</p> <p>a.  The location of the <i>project's</i> country.</p> <p>b.  and  The location of the <i>project area(s)</i> within the country.</p> <p>c.  and  The <i>management units</i>. (eligible and non-eligible areas must be differentiated)</p> <p>d.  and  The <i>project</i> with its</p> <ul style="list-style-type: none"> • boundaries • <i>nature conservation areas</i> • <i>foreseen planting areas (eligible and non-eligible)</i> <p>e.  and  The <i>neighbours</i> around the <i>project area</i>.</p> <p>f.  and  The soil properties of the <i>project area</i>. (optional)</p> <p> Except for a. and b., all maps must be based on <u>GIS</u>*. Therefore, they must be:</p> <ul style="list-style-type: none"> • Georeferenced, and • Visibly include the following information: <ul style="list-style-type: none"> ○ Name of the <i>project</i> ○ Printing date ○ Scale ○ Direction of North ○ Legend ○ Clear GPS-grid ○ Used GPS coordinate system ○ Infrastructure (roads, houses, etc.), and rivers <p>If required, the GIS-shapefiles must be made available to the <i>certification body</i>.</p>		
<p>Findings from first assessment:</p> <p>The CarbonFix website has maps of central America showing Panama, and of Panama showing the project locations. The maps are based on GIS data and are well presented, meeting the criteria above.</p> <p>In the document, “CFS_v21_-_Template_-_Eligibility” maps are presented that meet the criteria b-d above. JPG copies of the maps were given to the auditors, but are not uploaded to the CarbonFix system.</p> <p>There is no map of the projects neighbors.</p> <p>CAR 14/10 (Minor) CAR 15/10 (Minor)</p>		
<p>Findings from second assessment:</p> <p>All maps, including ones showing neighbors have been uploaded to the CarbonFix system as supporting documents for ‘Eligibility’. This closes CAR 14/10 and CAR 15/10.</p>		

* GIS-maps are digitally generated maps, produced by programs such as ArcGIS or FreeGIS.

3. CO₂-fixation

3.1 Calculation of VER_{future}

Sufficient evidence must be given to the verification body to be able to confirm that the variables used for calculation follow a conservative approach; and that the amount of VER_{future} has been accurately calculated according to the CarbonFix formulas.

For detailed information on the background of the CFS methodology, the document 'CFS methodology' can be downloaded from the CarbonFix website.

3.1.1

<p>To determine the amount of VER_{future} the following formula will be used:</p> <div style="text-align: center; margin: 10px 0;"> </div>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The CarbonFix system was used correctly by the Project Proponent.		
Findings from second assessment: Same as above.		

3.1.1

The formula must be applied individually for every <i>management unit</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The future CO ₂ fixation document shows the details of the calculations for each management unit. These were checked by the auditors and found to be correct.		
Findings from second assessment: Same as above.		

3.1.2

The CFS online system will automatically multiply the foreseen <i>eligible planting area</i> times the 'Net CO ₂ -fixation'.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: This is a function of the CarbonFix system.		
Findings from second assessment: Same as above.		

3.1.3

For the calculation of the different parameters (Future CO ₂ -fixation, Baseline and Leakage) the following of carbon pools are selected:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>																																														
<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2">Carbon Pools</th> <th>Examples</th> <th>Future CO₂ fixation</th> <th>Baseline</th> <th>Leakage</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Woody</td> <td>Aboveground</td> <td><i>Stem, branches and bark</i></td> <td style="background-color: #d9ead3;">Selected</td> <td style="background-color: #d9ead3;">Selected</td> <td style="background-color: #d9ead3;">Selected</td> </tr> <tr> <td>Belowground</td> <td><i>Tree roots</i></td> <td style="background-color: #d9ead3;">Selected</td> <td style="background-color: #d9ead3;">Selected</td> <td></td> </tr> <tr> <td rowspan="2">Non-woody</td> <td>Aboveground</td> <td><i>Grass</i></td> <td style="background-color: #d9ead3;">Selected</td> <td style="background-color: #d9ead3;">Selected</td> <td></td> </tr> <tr> <td>Belowground</td> <td><i>Grassroots</i></td> <td></td> <td style="background-color: #d9ead3;">Selected</td> <td></td> </tr> <tr> <td colspan="2">Dead biomass</td> <td><i>Dead branches, trees and litter</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Soil</td> <td><i>Organic soil</i></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Harvested wood (timber and energy wood)</td> <td><i>Furniture, construction material, etc.</i></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			Carbon Pools		Examples	Future CO ₂ fixation	Baseline	Leakage	Woody	Aboveground	<i>Stem, branches and bark</i>	Selected	Selected	Selected	Belowground	<i>Tree roots</i>	Selected	Selected		Non-woody	Aboveground	<i>Grass</i>	Selected	Selected		Belowground	<i>Grassroots</i>		Selected		Dead biomass		<i>Dead branches, trees and litter</i>				Soil		<i>Organic soil</i>				Harvested wood (timber and energy wood)		<i>Furniture, construction material, etc.</i>			
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Findings from first assessment: The correct carbon pools were used as evidence in the project documentation.																																																

Findings from second assessment: Same as above.

See the CarbonFix Standard v 2.1 section 3.2 for additional information on conversion procedures.



3.2 Future CO₂ fixation

$$VER_{\text{futures}} = \text{Eligible planting area} * \left(\begin{matrix} + \\ \text{Future} \\ \text{CO}_2\text{-fixation} \end{matrix} - \begin{matrix} - \\ \text{Project} \\ \text{emissions} \end{matrix} - \begin{matrix} - \\ \text{Baseline} \end{matrix} - \begin{matrix} - \\ \text{Leakage} \end{matrix} \right)$$

3.2.1

For the calculation of the Future CO ₂ -fixation the following carbon pool must be determined:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>								
<table border="1"> <thead> <tr> <th colspan="2">Carbon Pool</th> <th>Examples</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Woody</td> <td>Aboveground</td> <td>Stem, branches and bark</td> </tr> <tr> <td>Belowground</td> <td>Tree roots</td> </tr> </tbody> </table>	Carbon Pool		Examples	Woody	Aboveground	Stem, branches and bark	Belowground	Tree roots		
Carbon Pool		Examples								
Woody	Aboveground	Stem, branches and bark								
	Belowground	Tree roots								
Findings from first assessment: The correct carbon pools were used as evidence in the project documentation.										
Findings from second assessment: Same as above.										

3.2.2

 and  To determine the Future CO ₂ -fixation, a <i>management unit</i> specific and scientifically based growth-model must be used. A description of this growth-model must be given.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: The project documentation does not include a clear text description of the growth model that was used. However, the growth model itself is transparently presented in the spreadsheet, "06-12 - CO2_scientific_growthmodel_COI". The project uses the CarbonFix formula to convert stem volume to tonnes of CO₂. A conservative method was derived to estimate mean annual increments from literature data.</p> <p>All sources of data were made available to the auditors for checking.</p> <p>In most cases the data selections the project proponents had made from the literature values were correct and conservative. However, an error was found in the way a biomass expansion factor was derived from the reference for Teak and requires revising.</p> <p>In addition, as reported in the findings above there were discrepancies found in the percentages of species assigned to each management unit when these were compared to the GIS maps.</p> <p>CAR 16/10 (Minor) CAR 17/10 (Major)</p>		
<p>Findings from second assessment:</p> <p>A new document, 06-18 provides an explanation of how the growth model was developed. This closes CAR 16/10.</p> <p>The biomass expansion factor is now correctly derived from the literature. This can be seen in cell G18 of "06-12 - CO2_scientific_growthmodel_COI". This closes CAR 17/10.</p> <p>As mentioned in a previous section, the species percentages have now been correctly assigned from the maps.</p>		


3.2.3


Depending on the silvicultural method to be applied, one of the two calculative options must be used to determine the Future CO₂-fixation:

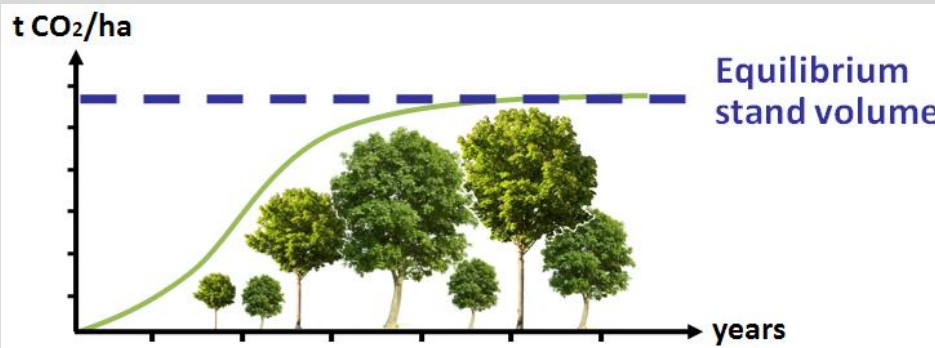
Yes

No

Option 1 – a) *Selective harvesting or b) *Conservation forest***


 By applying this option, the *project* must give evidence with all of its characteristics (tree species, CV of the *project developer*, etc.) that the silvicultural aim of the *project* is to use the forest with a selective harvesting regime or to conserve it.

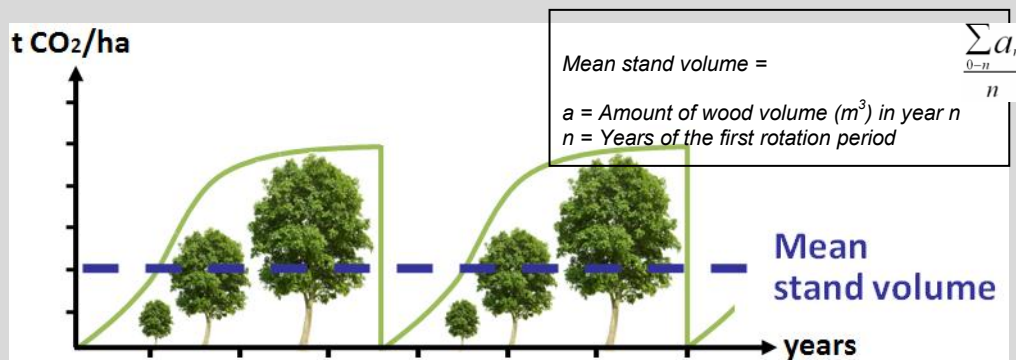
 In both cases, Selective harvesting and Conservation forest, the Future CO₂-fixation of the *management unit* is determined by the Equilibrium stand volume of the *management unit*. If the Equilibrium stand volume of the forest is not reached by year 50, the Future CO₂-fixation is determined by the maximum stand volume at year 50.



Calculation of the Future CO₂-fixation in case of Selective harvesting or Conservation forest.

Option 2 - *Rotation Forestry*

 In case of Rotation forestry, the Future CO₂-fixation is determined by the Mean stand volume during the first rotation period. If the first rotation period takes longer than 50 years, the Future CO₂-fixation is determined by the Mean stand volume within this first 50 years.

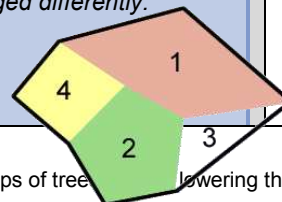


Calculation of the Future CO₂-fixation in case of Rotation forestry.

Note that the graph above only shows the rotation system within one management unit. Projects normally consist of multiple management units.

Furthermore, it is possible that different management units are managed differently. Example:


Manag. Unit	Silvicultural method	Planting year
1	Conservation forest	2008



* **Selective harvesting** is done by the continuous harvest of single trees or groups of trees, lowering the forest stock significantly.

2	Selective logging	2008		
3	Rotation forestry	2009		
4	Conservation forest	2010		
Findings from first assessment: The project has both conservation forest and rotation forestry. The CarbonFix software performs the appropriate calculations.				
Findings from second assessment: Same as above.				

3.2.4


 As soon as the trees are tall enough, forest inventories must be conducted to adapt the growth-models. These inventories must be executed before every regular <i>certification</i> process and shall follow the 'Inventory' guideline. <small>GUIDELINE: Inventory</small>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: This has not yet been done, but is not yet required.		
Findings from second assessment: Same as above.		

3.3 Project emissions

$$VER_{\text{futures}} = \text{Eligible planting area} * \left(\begin{matrix} (+) \text{ Future CO}_2\text{-fixation} \\ (-) \text{ Project emissions} \\ (-) \text{ Baseline} \\ (-) \text{ Leakage} \end{matrix} \right)$$

To account for *project* emissions, 0.5% of the *Future CO₂-fixation* will be deducted due to the use of fossil energy within the *project* (e.g. by machines, flights, etc.).

3.3.1

 In case fertilizer is used, 0.4 tCO ₂ per kg of nitrogen (N) must be deducted.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: In the document, "Management-Units_COI_CFS" it is shown that 0.5% was correctly deducted in the CarbonFix system. No fertilizer is being used; therefore, no deductions are being made.		
Findings from second assessment: Same as above.		

3.4 Baseline

$$VER_{\text{futures}} = \text{Eligible planting area} * \left(\begin{matrix} (+) \text{ Future CO}_2\text{-fixation} \\ (-) \text{ Project emissions} \\ (-) \text{ Baseline} \\ (-) \text{ Leakage} \end{matrix} \right)$$



3.4.1

For the calculation of the Baseline the following carbon pools must be determined:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>													
<table border="1"> <thead> <tr> <th colspan="2">Carbon Pools</th> <th>Examples</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Woody</td> <td>Aboveground</td> <td>Stem, branches and bark</td> </tr> <tr> <td>Belowground</td> <td>Tree roots</td> </tr> <tr> <td rowspan="2">Non-woody</td> <td>Aboveground</td> <td>Grass</td> </tr> <tr> <td>Belowground</td> <td>Grassroots</td> </tr> </tbody> </table>	Carbon Pools		Examples	Woody	Aboveground	Stem, branches and bark	Belowground	Tree roots	Non-woody	Aboveground	Grass	Belowground	Grassroots		
Carbon Pools		Examples													
Woody	Aboveground	Stem, branches and bark													
	Belowground	Tree roots													
Non-woody	Aboveground	Grass													
	Belowground	Grassroots													
Findings from first assessment: The baseline has been calculated conservatively, but the baseline document does not show what the root:shoot ratio used was. CAR 18/10 (Minor)															
Findings from second assessment: A reference to the root to shoot ratio is now provided.															

3.4.2

<p>The sum of baseline emissions is determined by the amount of CO₂ stored on the foreseen and <i>eligible planting area</i> at the <i>project start</i>.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>Baseline emissions are determined by the following formula:</i></p> $\text{Baseline}_{\text{tCO}_2/\text{ha}} = \frac{(\text{Baseline}_{\text{woody}} + \text{Baseline}_{\text{non-woody}})}{(\text{tCO}_2 + \text{tCO}_2)} / \text{Foreseen and eligible planting area} / \text{ha}$ </div>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: This calculation was done correctly and shown in the baseline document.</p> <p>Findings from second assessment: Same as above.</p>		



3.4.3

<p> and  The carbon pools Woody and Non-woody must be determined by the best available scientific references.</p> <ul style="list-style-type: none"> • Preferably, <u>local default values</u>* shall be used. • <u>National default values</u>* shall only be used if local default values are not available. • The same approach counts for international default values*. 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: The project has a clear and transparent way of conservatively selecting the best available data sources.</p> <p>Findings from second assessment: Same as above.</p>		

* **Local default values** are generated by an inventory of the carbon pools Woody and Non-woody according to the 'Inventory' guideline. GUIDELINE: Inventory

* The IPCC Good Practice Guide and FAO provide many different **national and international default values**:
www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_contents.htm - Chapter 3, Annex 3A.1
www.fao.org/docrep/W4095E/w4095e00.htm

3.4.4

<p> and  In case the baseline biomass is burned on the field for the purpose of land preparation, an increase of 10% of the baseline emissions must be calculated.</p> <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <p><i>CFS does not require a business-as-usual scenario as the additionality test confirms that no natural regeneration of a forest is possible.</i></p> <p><i>Therefore, the most likely business-as-usual scenario is that biomass on the planting area will continue to be reduced or stay the same. Consequently, considering the CO₂ stored in the existing biomass at the time of project start as baseline emissions leads to a conservative approach.</i></p> </div>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: No biomass was burnt.</p> <p>Findings from second assessment: Same as above.</p>		

3.5 Leakage

$$\text{VER}_{\text{futures}} = \text{Eligible planting area} * \left(\begin{matrix} (+) & \text{Future CO}_2\text{-fixation} \\ (-) & \text{Project emissions} \\ (-) & \text{Baseline} \\ (-) & \text{Leakage} \end{matrix} \right)$$

3.5.1

<p>For the calculation of the Leakage the following carbon pool must be determined:</p> <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="width: 20%;">Carbon Pools</th> <th style="width: 30%;">Examples</th> </tr> </thead> <tbody> <tr> <td>Woody</td> <td>Aboveground</td> </tr> <tr> <td></td> <td>Stem, branches and bark</td> </tr> </tbody> </table>	Carbon Pools	Examples	Woody	Aboveground		Stem, branches and bark	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Carbon Pools	Examples							
Woody	Aboveground							
	Stem, branches and bark							
<p>Findings from first assessment: The CarbonFix leakage system has been used correctly. To gather data on potential leakage a survey of past land owners was conducted, and the results presented as a signed statement.</p> <p>Findings from second assessment: Same as above.</p>								


3.5.2

<p>The sum of leakage emissions is determined by the amount of CO₂ which</p> <ul style="list-style-type: none"> occurs after the <i>project</i> start, and is due to the displacement of activities from the <i>project area</i> to other areas, and is caused by the <i>project</i> activities. 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: This is how the CarbonFix system operates, and it was followed.		
Findings from second assessment: Same as above.		

3.5.3

<p>Positive climatic effects from leakage activities cannot be accounted for.</p> <div style="border: 1px solid #add8e6; padding: 5px; margin-top: 10px;"> <p><i>Leakage emissions are determined by using the following formula:</i></p> <p>Leakage = Leakage_(a, b, c, d, e, f) / Foreseen and eligible planting area</p> <p>tCO₂/ha = tCO₂ / ha</p> </div>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: No attempt was made to claim credits for positive leakage.		
Findings from second assessment: Same as above.		

3.5.4

<p> The <i>project</i> must justify its selection of leakage categories:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">a. fuelwood use</td> <td style="width: 50%;">d. agricultural farming</td> </tr> <tr> <td>b. charcoal burning</td> <td>e. resettlement</td> </tr> <tr> <td>c. timber harvesting</td> <td>f. livestock grazing</td> </tr> </table>	a. fuelwood use	d. agricultural farming	b. charcoal burning	e. resettlement	c. timber harvesting	f. livestock grazing	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
a. fuelwood use	d. agricultural farming							
b. charcoal burning	e. resettlement							
c. timber harvesting	f. livestock grazing							
Findings from first assessment: Only livestock grazing was chosen. This was considered to be correct by the auditors since it was the only baseline activity.								
Findings from second assessment: Same as above.								

Leakage formulas are available in the CarbonFix Standard v 2.1 section 3.6


4. Permanence

4.1 Management Capacity


Sufficient evidence must be given to the verification body to be able to confirm that:

- adequate resources and capacities are available to implement and maintain the project,
- that secured land tenure is given for the project's long-term implementation, and
- that necessary compensations have been executed.

4.1.1

<p> A list of the <i>management</i> staff must include the following information:</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;"> <ul style="list-style-type: none"> Education level Work experience Duties </td> <td style="width: 50%;"> <ul style="list-style-type: none"> Type of employment Title GPS and GIS know-how </td> </tr> </table>	<ul style="list-style-type: none"> Education level Work experience Duties 	<ul style="list-style-type: none"> Type of employment Title GPS and GIS know-how 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<ul style="list-style-type: none"> Education level Work experience Duties 	<ul style="list-style-type: none"> Type of employment Title GPS and GIS know-how 			
Findings from first assessment: This has been done, and the details were confirmed via interview with staff members.				
Findings from second assessment: Same as above.				


4.1.2

<p> The <i>management</i> structure must be sufficient to the extent of the work. The description must include an organizational chart.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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Findings from first assessment: An organization chart is presented in the project documentation, and the auditors judged the management capacity sufficient to operate the project. This includes the capacity of BARCA to carry out the field work. This judgment was made based on the number of experience of the people and organizations involved.

Findings from second assessment: Same as above.


4.1.3

 The general decision-making process must be described. Decisions shall be implemented in a cooperative way.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The decision making process is described and is co-operative. The staff interviewed in the Panama office was all happy with how decisions were taken.		
Findings from second assessment: Same as above.		

4.1.4



 Within this <i>management</i> structure, work shall be executed according to the four-eye-principle. This means that two people should always check the quality of the work.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: Forest Finance has an eye for detail and rigorous check on all their work. This was evidenced in the small number of mistakes that have been found in documentation and calculations.		
Findings from second assessment: Same as above.		

4.1.5


 Adapted to the extent of the work, the <i>management</i> shall work with <u>Standard Operational Procedures</u> *.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: Standard operational procedures are followed in this well established company.		
Findings from second assessment: Same as above.		

* **Standard Optional Procedures** are a step-by-step 'best current practice' guideline. They aim to reduce the variability of the technical implementation.

4.1.6

  The <i>project</i> shall collaboratively cooperate with other organizations or individuals to expand the capacities of the <i>management</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The project documentation describes collaborations that improve the operations of the business. The relationship with BARCA was seen to be sound, and the in-house lawyer was well integrated into the business.		
Findings from second assessment: Same as above.		


4.1.7

 The <i>management</i> of the <i>project</i> shall be able to continuously extend their knowledge and skills within their field of work.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The management undergoes regular training as evidenced by the sheet provided on past training and staff interviews.		
Findings from second assessment: Same as above.		

4.2 Financial Capacity


4.2.1

With the cash-flow of the chapter 'Additionality' the <i>project</i> must give evidence that sufficient financial means are and will be available to finance the establishment and maintenance of the <i>project</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
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 The <i>project</i> must give evidence of its financial health by the provision of: <ul style="list-style-type: none"> financial reports from the past 3 years, or a statement of an independent accountant. 		
<p>Findings from first assessment: Three years of financial statements have been provided in English and in German. Through basic analysis of these financial statements (conformed by Balance Sheet, Income Statement, and Receivables and Payables), the audit team determines that for the last three years, the project seems to be financially healthy. According to the balance sheet, the project has had enough earnings to invest to establish and maintain the project.</p> <p>Besides, documents show cash flow per hectare of the Tropical Mix project, considering an inflation rate of 3%, 13.8 Euros as price per t CO2. Results seem to reflect financial health: a total return of around 140,000 and 4,000 Euros discounted for the 25 and 50 years of project life time.</p>		
<p>Findings from second assessment: Same as above.</p>		


4.3 Technical Capacity

4.3.1


 A list must describe the equipment used for the following activities: <ul style="list-style-type: none"> a. Nursery b. Land 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.) 	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: A list of equipment was provided. BARCA is FSC certified, and all equipment seen was in good working order.</p>		
<p>Findings from second assessment: Same as above.</p>		

4.4 Protective Capacity

4.4.1

 Describe the different risks, their likelihood and the ways of mitigation.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: The project documentation identifies the following risks; drought disease (fungus, insect, virus and bacteria), browsing, wind. The mitigation plans were found to be appropriate and adequate.</p> <p>The following documents describe in more detail some of the mitigation plans:</p> <p>12-01 - Plan de prevención y control de incendios forestales de FoFi-2008 _2_ _2_.pdf 12-02 - Plan de prevención y control de plagas y enfermedades FoFi -2008.pdf</p>		
<p>Findings from second assessment: Same as above.</p>		


4.4.2

 Projects that are situated in areas with a high fire risk must have a 'Fire Management Plan'. This plan must consider the actions for: <ul style="list-style-type: none"> a. Fire awareness b. Fire prevention c. Fire equipment d. Fire detection e. Fire suppression f. Fire damage rehabilitation <p>The fire risk can be calculated according to the 'Fire risk' guideline <small>GUIDELINE: ... (still under development)</small></p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: A forest fire management plan exists; 12-01 - Plan de prevención y control de incendios forestales de FoFi-2008 _2_ _2_.pdf</p>		


Findings from second assessment: Same as above.

4.5 Secured Land Tenure

4.5.1


 A description of the <i>project area</i> 's land tenure must be given.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<p>Findings from first assessment: The land tenure situation for the project areas is not simple. The business model of Forest Finance means that investors in their products (investment products based on wood sales and carbon credits) are given land tenure over the land (in some cases). The evidence provided indicates that the investors sign terms and conditions that give Forest Finance permission to sell carbon credits on their behalf from their land. Older terms and conditions did not contain this clause, so a separate letter was required to demonstrate that the owner gave permission for Forest Finance to sell the carbon credits. Forest Finance also does own some of the land themselves; this was confirmed by the audit team through revisions of land tenure titles and during an interview with the Legal Department of Forest Finance. Whilst no issues were detected by the auditors with this system, it was found that the information provided in the project documentation (secured land tenure) and the associated supplemental documents did not adequately explain these complex situations. For example, one land owner did not give Forest Finance the rights to sell carbon credits, but this is not discussed.</p> <p>The responsible Legal Department mentioned that Forest Finance and BARCA have designed and implemented a protocol to select and purchase lands. Grievances are considered, and when any problem about the land tenure comes up after purchasing, the former owner is expected to solve the problem. In the other hand, the land has to pass a technical test to be purchased.</p> <p>In addition, there is a relatively complex relationship among several sister companies that, as a whole, comprise Forest Finance. The separate companies are Forest Finance GmbH, Forest Finance S.A., Forest Finance Panama S.A., and Forest Finance 2007. The relationship between these companies and where exactly the land rights and carbon right lay was not clear in the project documentation.</p> <p>It should be noted that the contracts that investors sign mandate that, after the rotation, the land must be returned to a forest and no other land uses are allowed. This gives a strong assurance of permanence.</p>		
CAR 19/10 (Major)		
Findings from second assessment:		
A new document, '13-03 Requirement 4.5.1_additional information_v2_mb' has been added which explains the land tenure fully as well as the relationship between the companies. There is one parcel that Forest Finance have not yet received approval to generate credits from. This situation will need to be monitored and resolved in the future. This closes MAJOR CAR 19/10 .		

4.5.2


 Official documentations must confirm that the <i>project owner</i> is the <ul style="list-style-type: none">land owner,owner of the timber, andowner of the CO₂-rights of the <i>project area</i>. <p>If the <i>project owner</i> is not all or none of the above, evidence must be given that the respective land owner, owner of timber, or owner of CO₂-rights of the <i>project area</i> agrees with the foreseen <i>project</i> activities under the CFS.</p>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: Documents showing landowners giving permission to Forest Finance to sell carbon credits on their behalf have been uploaded to the CarbonFix system. Legal documentation presented by Legal Department confirms the name of the finca, number, holder of license (biomass rights purposes), date of purchase and evidence of consultation at <i>Registro Público de</i>		

Panamá (www.registro-publico.gob.pa).
 Findings from second assessment: Same as above.

4.5.3


 If any relocation of people is required, it must be done on a voluntary basis or help to resolve land tenure problems.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: All sales were voluntary and there was no relocation. Moreover, some of the past owners mentioned that they offer to sell the land to the project proponent.		
Findings from second assessment: Same as above.		

4.5.4

 If there are encroachment activities or a possibility of it, it must be described and mitigated in a cooperative way.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The project area is marked and fenced. There was not thought to be any serious risk of encroachment from surrounding pasture managers.		
Findings from second assessment: Same as above.		

4.6 Compensation Activities

4.6.1

 Compensation activities must be implemented, if a. an adaptation * of the growth-model, or b. the destruction of forest * led to a shortage of calculated $VER_{futures}$ within a <i>management unit</i> . The shortage must be compensated within 12 months. It must be compensated by: a. Replanting the <i>management unit</i> , and/or b. Allocating $VER_{futures}$ from another <i>management unit</i> , and/or c. Purchasing $VER_{futures}$ from other CFS certified <i>projects</i> . All possibilities of compensation must lead to the initially calculated amount of $VER_{futures}$.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: There has not been any need for compensation activities.		
Findings from second assessment: Same as above.		

4.7 Buffer Fund

4.7.1

The CFS buffer fund provides additional security for CO_2 -buyers in case a <i>project</i> is excluded.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.2

- * An **adaptation** of the growth-model can have several reasons. Amongst others,
- due to new information of the growth rate (assessed by inventories), or
 - due to a change of forest management (e.g. prolonged rotation periods, or different thinning regimes)
- * The **destruction of forest** can be a result of:
- Natural catastrophes (wind, droughts, flooding, erosion, earthquakes, etc.)
 - Diseases
 - Mismanagement (poor establishment, maintenance, etc.)
 - Force majeure (condemnation, war, etc.)
 - Lack of protection (browsing, encroachment, fires, etc.)

Together with the <i>certification</i> of a <i>project</i> 30% of its $VER_{futures}$ are allocated to the CFS buffer fund.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.3

The CFS buffer fund guarantees a disbursement worth 75% of the amount of $VER_{futures}$ available in the fund. 25% of the initial deposit is used by CarbonFix to build up a counterinsurance.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.4

The fund disburses $VER_{futures}$ in case a <i>project</i> is excluded. 1. Hereby, it firstly uses the $VER_{futures}$ of the fund to compensate possible deficits within <i>management units</i> of other <i>projects</i> that have purchased $VER_{futures}$ from the excluded <i>project</i> in order to compensate their own shortfalls. 2. Secondly, it compensates the CO_2 -buyers who have purchased $VER_{futures}$ from the excluded <i>project</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.5

The order of compensation depends on the date of purchase. First purchases are served first.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.6

The counterinsurance shall provide the security to compensate all purchases from this <i>project</i> .	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.7

The compensation is limited to 20 years after the date of purchase.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<div style="border: 1px solid black; padding: 5px; background-color: #e6f2ff;"> <i>The percentage of $VER_{futures}$ that are allocated by the buffer fund will be adapted over time. In case of a decrease, the surplus of $VER_{futures}$ will be given back to the project. In case of an increase, already certified projects must not upgrade their amount of $VER_{futures}$.</i> </div>		
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.8

If an adaptation of the CFS leads to a decrease of the initially calculated amount of $VER_{futures}$, the difference will be compensated by the buffer fund.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

4.7.9











CO ₂ -rights of CFS certified <i>project</i> that have not been sold as VER _{future} s or with the intention of becoming VER _{future} s will not be compensated by the buffer fund.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: The buffer is applied automatically in the CarbonFix software.		
Findings from second assessment: Same as above.		

5. Transparency


5.1 Transparency

Sufficient evidence must be given to the verification body to be able to confirm that the project's transparency is according to the requirements of the CarbonFix Standard.


5.1.1

To provide transparency, the following information must be made available through the CarbonFix websystem:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<ul style="list-style-type: none"> a.  A short description of the <i>project</i>. b.  A longer description of the <i>project</i>. c.  and  Pictures of the <i>project</i> (minimum 10 pictures). d.  and  The logo of the <i>project owner</i> and a link to the website. e.  and  The CV and a picture of the <i>project owner's</i> responsible person. g.  A description of how the <i>project</i> can be visited. h.  An executive summary which gives an overview on the <i>project</i>. 		
Findings from first assessment: The project details listed above are available from the CarbonFix website.		
Findings from second assessment: Same as above.		

5.1.2

 All sales of VER _{future} s must be registered.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<i>Names of CO₂-buyers as well as sales prices are not published - unless the CO₂-buyers choose to.</i>		
Findings from first assessment: This will happen after the verification. Advance sales of credits have already occurred and the auditors interrogated the database (Via spreadsheet print-out; 'CO2Bilanzkartei_2') to determine that they were being correctly accounted for. This data will require migration into the CarbonFix system, following verification.		
Findings from second assessment: Same as above.		

5.1.3

 All comments, published and unpublished must be assessed by the <i>certification body</i> and are part of the certification process.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
<i>Comments submitted through the projects specific website are forwarded to the project owner and technical board. The project owner is free to decide about the publication of the comment. In case a comment includes information which indicates any non-compliance to the criteria of CFS, the technical board will take appropriate actions.</i>		

Findings from first assessment: No comments were received.
Findings from second assessment: Same as above.

5.1.4

The status of <i>validation, certification, or exclusion of a project</i> will be published on the projects specific website.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Findings from first assessment: This is an internal process for CarbonFix.		
Findings from second assessment: Same as above.		

--End--