



**Verified Carbon
Standard**

VALIDATION REPORT

FAZENDA BOA VISTA AFFORESTATION PROJECT



Document Prepared by EcoLance Pvt. Ltd.

Project Title	Fazenda Boa Vista Afforestation Project
Version	04
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Report Title	Validation Report of Fazenda Boa Vista Afforestation Project
Client	Carbon Credits Consultoria Brasil Ltda.
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Summary:

A brief description of the validation and the project

EcoLance Private Limited (EPL) commissioned by CARBON CREDITS CONSULTING S.R.L. has performed validation of project activity “Fazenda Boa Vista Afforestation Project” in Brazil, against VCS Version 04 and all applicable requirements therein. The main objective of the proposed project is to mitigate climate change through carbon sequestration with eucalyptus forest plantations. The project aims to promote sustainable development of the forestry sector by recovering degraded land from traditional cattle breeding and remnants and conserving natural forest areas within the project region to enhance and protect the local biodiversity.

The project is implemented in an area of 293.12 ha which is developed in a private property called “The Fazenda Boa Vista II”. Fazenda Boa Vista II is located in a transition zone of Atlantic Rainforest and Cerrado Biome, in the municipality of Ponto dos Volantes in the north-eastern part of Minas Gerais state (Brazil).

The project utilizes AR-ACM0003 methodology: A/R Large-scale Consolidated Methodology. Afforestation and Reforestation of Lands Except Wetlands. Version 02.0 of 04th October 2013 along with the tools related to methodology are applied to quantify the GHG removals achieved in this project.

The Carbon Credits Consultoria Brasil Ltda has requested EPL to perform validation audit, for which a Project Description, a Non-permanence risk report and other supporting documents were provided. EPL acting as an independent third party, has assessed the documents and evidence provided, performed desk assessment and presential assessment, which included a desk review, inspection of project site, visit to sample plots and crosschecks, interviews with stakeholders, interviews with the top management of PP and interviews with the technical and field staff of the project activity.

The purpose and scope of validation

The objective/scope of the validation is to have an independent review of ex-ante determination in GHG emission reductions. Validation was conducted using EPL's procedures in line with the requirements in the VCS program guide version 4.3, VCS Standard version 4.4, VCS Validation & Verification manual version 3.2, ISO 14064-3:2019, and applying standard auditing techniques. The validation consists of desk review, on-site assessment and the resolution of outstanding issues and the issuance of the final validation report.

The method and criteria used for validation

The validation was conducted using EPL procedures in line with the requirements specified in the VCS requirements i.e., Program Guide, VCS Version 4.3 of 21/12/2022, and VCS Standard, VCS Version 4.4 of 21/12/2022. The GHG emission removals/reductions are on the basis of the applied methodology AR-ACM0003 methodology: A/R Large-scale Consolidated Methodology, Afforestation and Reforestation of Lands Except Wetlands Version 02.0 of 04 October 2013 along with the tools related to the methodology.

The number of findings raised during validation

During the validation, 02 Corrective Actions Requests, 11 Clarification Requests and 02 Forward Action Requests were raised related to operation, monitoring and GHG emission reduction calculation of the VCS project activity in relation to all relevant VCS requirements for the project activity and the applied baseline and monitoring methodology, these CARs and CLs are successfully closed after necessary corrections/clarifications by the client. The same has been discussed in Appendix 1 of this validation report.

Any uncertainties associated with the validation

As per the methodology, ex-ante estimation (projection) of carbon stock in tree biomass is not subjected to uncertainty control.

Summary of the validation conclusion

The Fazenda Boa Vista project generates a net emission removal potential of **22,655.90 tCO₂e/year with a total for the entire period of 453,118.03 tCO₂e**. The audit team concludes, with reasonable assurance, that the quantification of the net GHG emission removal, during the validation period, is free of material misstatement and complies with the validation criteria. In addition, the audit team concludes that social and environmental benefits will be achieved by the project implementation period and are net positive.

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1 INTRODUCTION

1.1 Objective

The objective of the Validation is to have an independent evaluation of a project activity by a VVB against the requirements of the VCS, on the basis of the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant VCS requirements and host Party criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Verified Carbon Units (VCUs).

1.2 Scope and Criteria

The scope of validation audit is to validate the emission reductions or removals of the project against the verified carbon standard, the identified methodology and associated tools for the project crediting period from 23 January 2020 to 22 January 2040 (20 years).

The objectives of this audit included a validation of the projects estimated ex ante removals with the Verified Carbon Standard requirements and any additional requirements of VCS AFOLU projects, besides the assessment of the additionality and the non-permanence risk assessment report.

The Scope was defined as follows:

- The project and its baseline scenarios
- The physical infrastructure, activities, technologies and processes of the project
- The GHG sources, sinks and/or reservoirs those are applicable to the project.
- The types of GHGs applicable to the project.
- The project crediting period.

Evaluation criteria:

- VCS Program Guide v4.3
- VCS Standard v4.4
- AFOLU Non-Permanence Risk Tool, v4.2
- VCS Validation and Verification Manual v3.2
- Registration and Issuance Process 2019, v4.0

- AR-ACM0003 methodology: A/R Large-scale Consolidated Methodology, Afforestation and Reforestation of Lands Except Wetlands. Version 02.0 of 04 October 2013 along with the tools related to methodology.

Validation is not meant to provide any consultancy towards the project participants. However, stated requests for clarifications and/or corrective actions may have provided input for improvement of the project description (PD).

1.3 Reasonableness of Assumptions

The validation has been carried out by reviewing the VCS-PD, emission reduction sheet and other supporting documents (refer below section 2.2) made available to the assessment team of EPL and information collected through onsite visits and document review. The assessment was carried out to offer a reasonable level of assurance of compliance against the defined audit criteria and materiality threshold (*defined as 5% as per VCS standard*) within the audit scope.

A positive evaluation statement, based on audit findings, fairly assures that the project GHG assertion is materially correct and is a fair representation of the GHG data and information.

All the revisions of the validation report before being submitted to the client were subjected to an independent internal technical review (ITR) to confirm that all validation activities had been completed according to the pertinent EPL instructions required. The ITR was performed by a technical reviewer(s) qualified in accordance with EPL qualification scheme for VCS validation and verification.

Table 1: The validation team and the technical reviewers consist of the following personnels:

Role	Last Name	First Name	Country
Team leader/Validator	Menon	Rekha	India
Technical expert/ Trainee Auditor	Basumatary	Himolin	India
Host country expert	Stucchi	Guilherme Berwerth	Brazil
Technical Reviewer	Khensabab	Bouangeunh	Laos

1.4 Summary Description of the Project

Table 2: Project Summary

Title of the project activity	Fazenda Boa Vista Afforestation Project
Project Proponent	Carbon Credit Consulting SRL
Other Entities	-Brazilian Forestry Empreendimentos Florestais Ltda

	- Carbon Credits Consultoria Brasil Ltda
Baseline and monitoring methodology	AR-ACM0003 methodology: A/R Large-scale Consolidated Methodology, Afforestation and Reforestation of Lands Except Wetlands. Version 02.0 of 04 October 2013.
Location of the project activity	The project activity is developed in a private farm called Fazenda Boa Vista II. The farm is in Ponto dos Volantes Municipality, in a region known as Jequitinhonha Valley, in the State of Minas Gerais, part of Southeastern Brazil's macro-region.
Brief description of the project	The project plans to afforest Eucalyptus plantations in a total area of 293.12 ha of private property located in the farm called Fazenda Boa Vista II, in the municipality of Ponto dos Volantes in the north-eastern part of Minas Gerais state (Brazil). The main purpose of the project is to restore degraded lands with Eucalyptus forest plantation characterized by rapid growth and high CO₂ absorption potential. The land areas afforested are established on former degraded pasture lands and conserving natural forest areas within the project region to enhance and protect the local biodiversity. These lands have suffered deforestation and soil degradation due to land-use change process, mainly because of the extensive traditional cattle grazing. The proposed project Fazenda Boa Vista generates a net emission removal potential of 22,655.90 tCO₂e/year with a total of 453,118.03 tCO₂e for the entire crediting period.
Project crediting period	23 January 2020 to 22 January 2040

2 VALIDATION PROCESS

2.1 Method and Criteria

Validation was conducted using EPL's procedures in line with the requirements specified in the Rules for the Use of the VCS Standard version 4.4, Validation and Verification manual v3.2 /13/ and applying standard auditing techniques. As detailed in this report, findings were issued to ensure that

the project satisfied all VCS requirements completely. The validation consisted of the following three phases:

- Document review
- Follow-up actions (Physical audit: onsite assessment and interviews)
- Resolution of outstanding issues and the issuance of the final validation report.

EPL carried out this validation and reports a reasonable level of assurance that the project complies with all of the validation criteria and that the estimated emission reductions are free from material errors, omissions or misstatements.

Table 3: Validation process schedule

Audit process	Timeline
Opening meeting	26/07/2023
Desk review	13/07/2023 to 28/07/2023
Onsite visit	26/07/2023 to 28/07/2023
Preparation of draft finding report	28/01/2024
Preparation of final reports	08/02/2024
Technical Review	09/02/2024
Report submission	28/02/2024

A project specific sampling plan was developed to guide the validation auditing process to ensure efficiency and effectiveness. The purpose of the sampling plan was to present a risk assessment for determining the nature and extent of the validation procedures necessary to ensure the risk of auditing error was reduced to a reasonable level. The validation sampling plan methodology were derived from all items in our auditing process stated above. More detail on the sampling plan is provided in section 2.4 of the report.

Based on these analyses and considering the requirements of the GHG program used, the team analysed the following topics:

- Project proponent, management team, local team onsite.
- Baseline Scenario
- Project activities conducted during the monitoring period (reporting, results, concordance with plan as per PD, etc.)
- Monitoring procedures: Monitoring team and equipment
- Review of operation and measurement records: Controls established to detect and correct any error or omission in monitoring parameters.

- Carbon calculations: Estimates and assumptions for determining GHG data. Remote sensing.
- Project rights and legal requirements.
- Financial issues, financial sustainability.
- Stakeholders' consultation process
- Project conflicts, barriers, or difficulties.
- Project Communication & Grievance Mechanism

EPL decided to carry out an in-depth and meticulous review of the sheets due to the following reason: To validate the correct application of the methodology (formulae, equations) and check that the data required to calculate the GHG removals are appropriately provided.

Based on the assessment carried out, EPL confirms with a reasonable level of assurance that the claimed emission reductions are free from material errors, omissions or misstatements.

2.2 Document Review

The PD version 07 of 23/09/2024 /01/, in particular the applicability of the methodology, the baseline determination, emission reduction calculations provided in the form of a spreadsheet (EX-ANTE ERs_FBV_v03_15112023 dated 31/01/2024) /02/, Non-permanence risk report from VERRA project Hub (VCS_NPR_REP_ (1) version 1.0 dated 01/02/2024) /04/ and the documents listed in the table below, related to the project design, baseline, ownership, project start date were reviewed during the onsite audit.

Table 4: List of documents that were reviewed during the validation process:

/01/	Carbon Credit Consultoria Brasil Ltda: VCS Project description Fazenda Boa Vista Afforestation Project version 01 dated 04/11/2022; version 02 dated 05/10/2023; version 03 dated 13/11/2023; version 04 dated 11/12/2023, version 05 of 12/01/2024, version 06 of date 01/07/2024, and version 07 of 23/09/2024.
/02/	Carbon Credit Consultoria Brasil Ltda: Calculation Spreadsheet: EX-ANTE ERs_FBV_v04_01072024 , "EX-ANTE ERs_FBV_v03_15112023" version 03 dated 31/01/2024; "EX-ANTE ERs_FBV_v02_05102023" version 02 dated 05/10/2023 and "version 00" dated 26/06/2023.
/03/	VERRA VCS: AFOLU Non-Permanence Risk Tool v4.0 of 19/09/2019. AFOLU Non-Permanence Risk Tool v4.2 of 12/10/2023
/04/	Carbon Credit Consultoria Brasil Ltda: VCS-Non-Permanence-Risk-Report-ARR-BOA-VISTA_validation_ver. 1.0 dated 07/07/2023; VCS-Non-Permanence-Risk-Report-ARR-BOA-VISTA_validation_ver. 2.0 dated 05/10/2023; VCS-NPRR_ARR-BOA-

	VISTA_ver. 3.0_23112023 dated 23/11/2023, and VCS_NPR_REP_ (1) version 1.0 dated 01/02/2024 (From VERRA Project Hub).
/05/	CDM: AR-ACM0003 A/R Large Scale consolidated methodology - Afforestation and reforestation of lands except wetlands, version 02.0 of 04/10/2013.
/06/	CDM: A/R Methodological tool - Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities, version 01 of 19/10/2007.
/07/	CDM: A/R Methodological tool - Estimation of non-CO2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity, version 04.0.0. of 25/11/2011.
/08/	CDM: AR-TOOL12 Methodological tool - Estimation of carbon stock and change in carbon stocks in dead wood and litter in A/R CDM project activities, version 03.1 of 24/07/2015.
/09/	CDM: AR-TOOL14 Methodological tool - Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities, version 04.2 of 24/07/2015.
/10/	CDM: AR/TOOL15 Methodological tool - Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity, version 02.0
/11/	CDM: A/R Methodological Tool: "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" – Version 01.1.0 of 15 April 2011
/12/	VERRA: VCS Standard v 4.4 of 21/12/2022
/13/	VERRA: Validation and Verification Manual version 3.2 of 19/10/2016.
/14/	VCS project details web site: https://registry.terra.org/app/projectDetail/VCS/4072 , last accessed on 06/12/2023.
/15/	IPCC Good Practice guidance for LULUCF 2006
/16/	GS Project data base: https://www.goldstandard.org/resources/impact-registry , last accessed in December 2023. CDM Project data base: https://cdm.unfccc.int/Projects/projsearch.html , last accessed in December 2023
/17/	United Nations Sustainable Development Goals and Targets: https://sdgs.un.org/goals , English language, last accessed in December 2023.
/18/	Collaboration and Partnership agreement between Carbon Credits Consulting S.R.L and Brazilian Forestry Empreendimentos Floresais Ltda. Dated on 10/07/2019.

	"Addendum to the collaboration and partnership contract for obtaining VCUs" between Carbon Credits Consulting S.R.L and Brazilian Forestry Empreendimentos Floresais Ltda. Dated 12 January, 2023
/19/	Brazilian Forestry Empreendimentos Floresais Ltda: Evidence for project start date:Eucalyptus seedlings invoices, dated on 22/01/2020.
/20/	Brazilian Forestry: Nutritional Management in Eucalyptus report by Pedro Henrique Lopes Santana (Forestry Engineer), dated on 23/06/2022.
/21/	Presidency of the Republic Civil House Deputy Head for Legal Affairs: Law No 12,651 from May 25, 2012. https://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/l12651.htm
/22/	https://engemasp.submissao.com.br/23/anais/arquivos/413.pdf?v=1709116319
/23/	Carbon Credits Consulting Brazil: Occupational health and safety Report (SDG 8 Report) dated July 2023.
/24/	CCC SRL: Military Fire Department Minas Gerais: Technical Activities Directorate, Technical Instruction No 12. Also, available at https://www.bombeiros.mg.gov.br/
/25/	The Nature-based Solutions Brazil Alliance: Public Comments Summary dated 13/03/2023.
/26/	Certificate No. 928 Simplified Environmental Licensing issued by SEMAD-Secretary of State for Environment and Sustainable Development, Government Of The State Of Minas Gerais dated 03/12/2020.
/27/	Carbon Credits Consulting: Management team CV's (Felipe Góes, Vanessa Stamberg, Davide Rossi, Marcio Amaral)
/28/	Southern Forests: A Journal of Forest Science: Eucalypt plantation management in regions with water stress http://dx.doi.org/10.2989/20702620.2016.1255415 , last accessed in December 2023.
/29/	Technical Article: Hydrological Balance in a Eucalyptus Plantation Watershed in Minas Gerais (Brazil)
/30/	Land Degradation & Development: Changes in soil organic carbon Eucalyptus Plantations in Brazil: A comparative Analysis, dated 20 February 2012.
/31/	Forest Ecology and Management: Eucalyptus plantations as hybrid ecosystems: Implications for species conservation in the Brazilian Atlantic forest, https://doi.org/10.1016/j.foreco.2018.10.063 , last accessed in December 2023.
/32/	IBGE: Municipal livestock production (PPM), 2017
/33/	Centre for Strategic Studies and Management: Land degradation neutrality: Implications for Brazil.

/34/	DIAS, Bruna Aparecida Silva. Proposta para mapeamento dos riscos de queimadas e incêndios em Minas Gerais. 2023. 167f. Tese (Doutorado em Geografia) - Universidade Federal de Uberlândia, Uberlândia, 2023. DOI http://doi.org/10.14393/ufu.te.2023.8066 Federal Public Service Ministry of Education Federal University of Uberlandia Postgraduate Program in Geography: Proposal for mapping the risks of burning in Minas Gerais.
/35/	IEA Bioenergy: Short Rotation Eucalypt Plantations for Energy in Brazil.
/36/	GIS files provided by Carbon Credits Consulting S.R.L: LULC; Project Area; Communities
/37/	Carbon Credits Consulting S.R.L: Cash flow of the project: Cashflow_FB; NPV Opportunity Cost_FBV Travel Expenses; Financial Statement
/38/	SILVA, Gustavo Laporinê Baêso e. Seleção de híbridos multi-espécies de eucalyptus tolerantes ao deficit hídrico, insetos e fungos. 2020. 117 f. Dissertação (Mestrado em Ciência Florestal) - Universidade Federal de Viçosa, Viçosa. 2020. https://www.locus.ufv.br/handle/123456789/30088.
/39/	Ownership Documents: • Certidão de Inteiro Teor dated 04/07/2023 • Certidão de Cadeia Dominal • Federative Republic of Brazil: State of Minas Gerais Property Registry office of the district of Aracuai/MG: Full content certificate, dated on 4th July, 2023. • Ministry of Finance: Debt certificate relating to federal taxes and the active debt of the rural property union, dated 28/06/2023. • INCRA: CCIR (999.946.289.868-1), issued FY 2023 • INCRA: Descriptive Memorial, generated on 03/07/2023 • INCRA: Geodesic Survey Descriptive Memorial, certificate date 26/08/2015 • INCRA: Geodesic Survey_Map certificate dated 26/08/2015 • CAR:(MG-3152170-7509.C048.CC9D.41B4.B789.6D0B.24C1.BDD3): Proof of enrolment of the property with the Rural Environmental Registry, dated 17/10/2018

	• MMA and IBAMA: Embargo Negative Certificate, certificate number: WRGXML1612678CQM, issued on 28/06/2023. • Federal Public Prosecution Office: Citizen Public Room Certificate, dated 28/06/2023. • Public Prosecution Office of the state of Minas Gerais: Negative Certificate, dated 30/06/2023. • Court of Justice of the state of Minas Gerais: Negative Certificate, dated on 30/06/2023. • Federative Republic of Brazil: Proof of Registration and Registration Status, dated 18/10/2021.
/40/	Influence of vegetation type on bird populations in an implanted forest of Pinus spp, in the Agudos region. SP.
/41/	University of Sao Paulo “Luiz de Queiroz” Higher school of Agriculture: Medium and large mammals in Eucalyptus spp forests with different understory densities in the municipality of Itatinga, SP.
/42/	BNDES Magazine, Rio de Janeiro, V. 14, N. 28, P. 235-276, Dec. 2007: Environmental Impact of Eucalyptus Forests
/43/	Proceedings. Regional expert consultation on eucalyptus. Volume I: The Ecological, Economic and Social Effects of Eucalyptus.
/44/	EMBRAPA: Soil Collection for Analysis
/45/	Agriculture and Environmental Technology Centre: Soil Analysis Certificate
/46/	Carbon Credits Consulting: General Management Plan – Fazenda Boa Vista Afforestation Project, 2023.
/47/	Institute of Forestry Research and Studies: Potential for eucalyptus invasion by seeds produced in commercial plantations
/48/	Carbon Credits Consulting: Minutes of Meeting – Local Stakeholder Consultation and attendance list.
/49/	Carbon Credits Consulting: Presentation of the Fazenda Boa Vista Afforestation Project
/50/	Canal Rural: Planted area in Minas Gerais reaches 2.3 million hectares
/51/	Presidency of the Republic Civil House Deputy Director for Legal Affairs: Law No. 12,805 of April 29, 2013.
/52/	Presidency of the Republic Chief of Staff for Legal Affairs: Law No. 11,443 of January 5, 2007.

/53/	Brazilian Forestry Empreendimentos Florestais Ltda: Fire Brigade Certificates, dated 30 July, 2021.
/54/	Rural Science: The burning of natural pastures – effects on soil and vegetation, dated February, 2003.
/55/	Green Climate Fund: Brazil REDD+ Results Based Payments Use of Proceeds towards Floresta+ Pilot Program and ENREDD+ Implementation
/56/	Space Science, Applications and Technology Foundation (Funcate) and National Institute of Space Research (Inpe): Environmental Monitoring of Brazilian Biomes
/57/	SNIF-National Forest Information System: Planted Forests.
/58/	Catchment Conservation, Ecosystem Integrity and Threats to River Systems: Assessing the Hydrological Effects of Forest Plantations in Brazil.
/59/	Soil Science: Analysis of a Watershed with Eucalyptus, Volume 181, Number 7, July 2016.
/60/	Technical Report (Laudo Técnico): Análise E Diagnóstico Da Vegetação Por Meio De Sensoriamento Remoto (Translated to English “As Analysis And Diagnosis Of Vegetation By Means Of Remote Sensing”) dated 22-April-2022
/61/	Satellite Images: Landsat imageries from 2010 to 2020 provided by Carbon Credit Consultoria Brasil Ltda
/62/	Land use Land Cover (LULC) Maps from 2010 to 2019, provided by Carbon Credit Consultoria Brasil Ltda
/63/	MapBiomass: https://mapbiomas.org/colecoes-mapbiomas-1?cama_set_language=pt-BR
/64/	Google Earth Pro: https://www.google.com/intl/en_in/earth/about/versions/
/65/	Soil Analysis Report: “Test Report of Soil Fertility Analysis” dated 28/05/2022 conducted by Centro De Tecnologia Agrícola E Ambiental
/66/	FAO (1998): Organic soil material, World reference base for soil resources, Food And Agriculture Organization Of The United Nations, Rome, 1998, World Soil Resources Reports, International Society of Soil Science
/67/	Organic Soils: Annex A Glossary IPCC Good Practice Guidance for LULUCF (2003) (Page G.14)
/68/	GIS files of land property, provided by PP.
/69/	Brazilian Forest Code (2012): Federal Law n° 12,651 Source: http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/l12651.htm .
/70/	Law n° 12,727 of 17/10/2012. Source: http://www.planalto.gov.br/ccivil_03/_Ato2011-2014/2012/Lei/L12727.htm .

/71/	Plantation Record: Machine tracking sheet and Plantation Registration “5_Registro Plantio Boa Vista II.xls”
/72/	GIS files for Project Area: Climate profile, Soil Profile, Vegetation Type from IBGE source
/73/	SRTM GIS files of the Elevation Profile of the Project Area
/74/	Temperature and Rainfall data from Agriempo EMBRAPA. Source: Agriempo – Embrapa: Dados Meteorológicos – http://www.agriempo.gov.br/agriempo/produtos.jsp?siglaUF=MG
/75/	Souza, J. V. A.; Nogueira, M. D. Apresentação. In: Souza, J. V. A.; Nogueira, M. D. Vale do Jequitinhonha: desenvolvimento e sustentabilidade. BELO HORIZONTE: UFMG/PROEX, 2011. Access: https://livrosabertos.fae.ufmg.br/index.php/produto/vale-do-jequitinhonha-desenvolvimento-e-sustentabilidade/
/76/	Law n° 20,922 of 16/10/2013 – SIAM: Sistema Integrado de Informação Ambiental de Minas Gerais. Source http://www.siam.mg.gov.br/sla
/77/	Ordinance of the State Institute of Forestry – IEF -N° 28, of 13/02/2020. Sistema Integrado de Informação Ambiental de Minas Gerais. Source: http://www.siam.mg.gov.br/sla/download.pdf?idNorma=51046
/78/	Law n° 21,972 of 21/01/2016 – SEMAD. Source: https://www.legisweb.com.br/legislacao/?id=126274
/79/	Decree n° 47,787, of 13/12/2019. Source: http://www.siam.mg.gov.br/sla/download.pdf?idNorma=50263 .
/80/	JOINT RESOLUTION SEMAD/IEF No. 3,132, dated April 7, 2022. Source: http://www.siam.mg.gov.br/sla/download.pdf?idNorma=55724
/81/	Regulatory Standard No. 31 (NR-31). Source: https://www.gov.br/trabalho-e-emprego/pt-br/acesso-a-informacao/participacao-social/conselhos-e-orgaos-colegiados/comissao-tripartite-partitaria-permanente/normas-regulamentadora/normas-regulamentadoras-vigentes/nr-31-atualizada-2022.pdf
/82/	COPAM Normative Deliberation No. 217, of December 6, 2017. Source: http://www.siam.mg.gov.br/sla/download.pdf?idNorma=45558 .
/83/	Decree n° 47,749 of November 11, 2019. Source: https://www.legisweb.com.br/legislacao/?id=384701
/84/	EPL: Field notes and photographs of the site visit, and interview with the stakeholders
/85/	Brazilian Sustainable Development Priority Goals. Available at https://odsbrasil.gov.br/
/86/	GIS files provided by PP: Location of Communities within 20 km from the Project Area

/87/	VITAL, Marcos Henrique Figueiredo. Impacto ambiental de florestas de eucalipto. Revista do BNDES, Rio de Janeiro, 2007. Available in: https://web.bndes.gov.br/bib/jspui/handle/1408/12554 .
/88/	Brundu G, et al. Global guidelines for the sustainable use of non-native trees to prevent tree invasions and mitigate their negative impacts. NeoBiota. 2020. Available in: https://doi.org/10.3897/neobiota.61.58380
/89/	SILVA, Paulo Henrique Müller da et al. Potencial de invasão de eucalipto pelas sementes produzidas nos plantios comerciais. Circular Técnica IPEF, n. 203, p. 9 , 2011. Available in: http://www.ipef.br/publicacoes/ctecnica/nr203.pdf .
/90/	Brazilian Forestry Empreendimentos Florestais Ltda: Training Course for Employees (Forest Fire Combat)
/91/	CCC SRL: SOP – Standard Operating Procedure: Forest Inventory For Aboveground Biomass In Homogeneous Forests Stands
/92/	EPL: Participants (presence) list of the interviewed stakeholders
/93/	Municipal Livestock Production 2017. Available in: https://biblioteca.ibge.gov.br/visualizacao/periodicos/84/ppm_2017_v45_br_informativo.pdf .
/94/	Deforestation statistics for Brazil. Available in: https://rainforests.mongabay.com/deforestation/archive/Brazil.htm
/95/	CENTRO DE GESTÃO E ESTUDOS ESTRATÉGICOS - CGEE. Desertificação, degradação da terra e secas no Brasil. Brasília: Centro de Gestão e Estudos Estratégicos, 2016. 252 p. ISBN (9788555691126). https://www.cgee.org.br/documents/10195/11009772/land-degradation-neutrality.pdf .
/96/	Couto, Laércio & Nicholas, Ian & Wright, Lynn. (2011). Short Rotation Eucalypt Plantations for Energy in Brazil.
/97/	Simioni, F. J., Buschinelli, C. C. de A., Deboni, T. L., & Passos, B. M. dos. (2018). CADEIA PRODUTIVA DE ENERGIA DE BIOMASSA FLORESTAL: O CASO DA LENHA DE EUCALIPTO NO POLO PRODUTIVO DE ITAPEVA - SP. Ciência Florestal, 28(1), 310–323. Available in: https://periodicos.ufsm.br/cienciaflorestal/article/view/31602
/98/	https://umsoplaneta.globo.com/opiniao/colunas-e-blogs/o-mundo-que-queremos/post/2023/08/como-salvar-nascentes-e-o-clima-do-planeta-ao-mesmo-tempo.ghtml
/99/	https://jornalistaslivres.org/recuperacao-ambiental-confira-experiencias-agroecologicas-do-mst-na-regiao-sudeste/
/100/	https://www.ecycle.com.br/unidades-demonstrativas-ajudam-a-difundir-e-ampliar-a-restauracao-na-zona-da-mata-mineira/

/101/	https://www.cemig.com.br/programa-sustentabilidade/conservacao-flora/
/102/	https://www.agenciaminas.mg.gov.br/noticia/fazenda-em-barra-longa-passa-por-reflorestamento-e-se-torna-referencia-na-implantacao-do-programa-de-regularizacao-ambiental
/103/	https://www.saopaulo.sp.gov.br/ultimas-noticias/tratado-da-mata-atlantica-estados-do-cosud-miram-plantio-de-100-milhoes-de-mudas/
/104/	MINAS GERAIS. Integrated Development Plan - PMDI 2011 - 2030. Available in: https://www.mg.gov.br/planejamento/documento/plano-mineiro-de-desenvolvimento-integrado-pmdi-2011-2030
/105/	FAO (2020) Global Forest Resources Assessment 2020. FAO, Rome, 16 pp. https://doi.org/10.4060/ca8753en
/106/	Ouro Verde and Ouro Preto: Salary receipts (2020 and 2023) for Henrique Souza, Joao Batista, and Junio Antunes List of employees of Ouro Preto Reflorestamentos Ltda
/107/	The World Bank (2017). The Potential role of enhanced bond structures in Forest Climate Finance, 06/2017. Available at https://documents.worldbank.org/en/publication/documents-reports/documentdetail/551601508180348166/the-potential-role-of-enhanced-bond-
/108/	Teixeira, Georgia. A expansão da eucaliptocultura no estado de Minas Gerais e a configuração de novos usos do território - Uberlândia. 2018. 125 f. Dissertação (Mestrado em Geografia) - Universidade Federal de Uberlândia, Uberlândia, 2018. Available in: https://repositorio.ufu.br/handle/123456789/21998 .
/109/	http://www.ipef.br/silvicultura/manejo.asp
/110/	Poyry: Brazilian forest-based market reports , 2018 and 2019
/111/	Federal Institute of Minas Gerais Campus Sao Joao :Forest moment: Compay x producer relationship in the Municipality of Pecanha-MG , 2018
/112/	Oliveira :2019_OLIVEIRA_Commodities_ será que vale a pena_ Saiba aqui!
/113/	https://data.worldbank.org/indicator/FR.INR.LEND?locations=BR
/114/	https://g1.globo.com/economia/noticia/2020/05/05/fitch-mantem-nota-de-credito-do-brasil-mas-coloca-perspectiva-como-negativa.ghtml
/115/	https://g1.globo.com/economia/noticia/2020/05/05/fitch-mantem-nota-de-credito-do-brasil-mas-coloca-perspectiva-como-negativa.ghtml
/116/	ABC Plan: Evidence of 2010-2020 period and proposals for a new phase 2021-2030
/117/	https://www.ieabioenergy.com/wp-content/uploads/2018/01/IEA_Bioenergy_Task43_PR2011-02.pdf

/118/	CCC SRL: GIS files of the tree crown cover of the baseline isolated trees
/119/	Zanne, Amy E. et al. (2009). Data from: Towards a worldwide wood economics spectrum [Dataset]. Dryad. https://doi.org/10.5061/dryad.234
/120/	Vieilledent G. et al. (2017). The Cirad wood density database (v0.1) [Data set]. Zenodo. https://doi.org/10.5281/zenodo.1095454 .
/121/	IPCC Good Practice Guidance for LULUCF - Biomass Default Tables, table 3A.1.7, Average annual above ground net increment in volume in plantations by species. Available at https://www.ipcc.ch/site/assets/uploads/2018/03/GPG_LULUCF_FULLEN.pdf
/122/	IPCC – TABLE 3A.1.10 of ANNEX 3A.1 “Biomass Default Tables for Section 3.2 Forest Land” of IPCC Good Practice Guidance for LULUCF (Tropical > Broadleaf > Equation 3.2.5. Available at https://www.ipcc.ch/site/assets/uploads/2018/03/GPG_LULUCF_FULLEN.pdf
/123/	IPCC – TABLE 3A.1.8 of ANNEX 3A.1 “Biomass Default Tables for Section 3.2 Forest Land” of IPCC Good Practice Guidance for LULUCF. Available at https://www.ipcc.ch/site/assets/uploads/2018/03/GPG_LULUCF_FULLEN.pdf
/124/	http://info.worldbank.org/governance/wgi/index.aspx#home
/125/	Candido, Daniel Henrique. Tornados e trombas-d'água no Brasil: modelo de risco e proposta de escala de avaliação de danos. 2012. 236 p. Tese (doutorado) - Universidade Estadual de Campinas, Instituto de Geociências, Campinas, SP. Available in: https://hdl.handle.net/20.500.12733/1619415 .
/126/	Renaud Camargo, D., & Sánchez, C. (2021). Ciência popular do sertão mineiro e educação ambiental de base comunitária : saberes locais como pontos de partida para a contextualização de propostas educativas no Vale do Jequitinhonha. Ambiente & Educação: Revista De Educação Ambiental, 26(1), 217–250. https://periodicos.furg.br/ambeduc/article/view/13240/9056
/127/	University of São Paulo Seismology Center / USP 2015 (Data search: https://www.moho.iag.usp.br/rq/metadata).
/128/	IBA – Indústria Brasileira de Árvores; Relatório 2019, ano base: 2018. Brasília – DF; 2019. Access: https://iba.org/datafiles/publicacoes/relatorios/iba-relatorioanual2019.pdf
/129/	T&M consultoria Agroflorestal S/C Ltda: “Estimativa Do Incremento De Biomassa em Plantios Clonais de Eucalipto”
/130/	IBGE (2018): INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTATÍSTICA (IBGE). Monitoramento da Cobertura e Uso da Terra do Brasil. Rio de Janeiro: IBGE, 2018. Available in: https://www.ibge.gov.br/apps/monitoramento_cobertura_uso_terra/v1/#/home

/131/	https://wwfbrnew.awsassets.panda.org/downloads/areasdegradadas_estudo02_a_groicone_eng_final_v3.pdf
/132/	Photographs of pasture lands within project area prior to project start date
/133/	Stan, Kayla, Arturo Sanchez-Azofeifa, Mário Espírito-Santo, and Carlos Portillo-Quintero. "Simulating deforestation in Minas Gerais, Brazil, under changing government policies and socioeconomic conditions." PLoS One 10, no. 9 (2015): e0137911.
/134/	https://www.citego.org/bdf_fiche-document-1898_en.html
/135/	Sondermann, Marcey, Sin Chan Chou, André Lyra, Dragan Latinovic, Gracielle Chagas Siqueira, Wellington Cruz Junior, Elisa Giornes, and Fernando Palha Leite. "Climate change projections and impacts on the eucalyptus plantation around the Doce River basin, in Minas Gerais, Brazil." Climate Services 28 (2022): 100327. Available at https://www.sciencedirect.com/science/article/pii/S2405880722000450
/136/	CCC SRL: Sample plot number calculation sheet
/137/	https://www.climatepolicyinitiative.org/publication/finance-landscape-of-highways-and-railroads-elements-for-strengthening-the-governance-of-infrastructure-investments-in-the-brazilian-amazon/
/138/	http://www.cpatas.embrapa.br:8080/sistema_producao/spmanga/irrigacao.htm
/139/	https://revistacampoenegocios.com.br/irrigacao-e-fundamental-para-a-producao-de-mangas/
/140/	GIS files of the pasture quality maps of the project area from 2010 to 2019; derived from Mapbiomas v8.0. https://plataforma.brasil.mapbiomas.org/ . Last accessed on 11-07-2024
/141/	Curriculum vitae and experience of the team (Hugo Henrique Cardoso De Salis and Marcos Aurélio) that conducted the Vegetation analysis titled "Technical Report (Laudo Técnico): Análise E Diagnóstico Da Vegetação Por Meio De Sensoriamento Remoto".
/142/	PEREIRA, A.A.; BARROS, D.A.; PEREIRA, J.A.A.; ACERBI JUNIOR, F.W.; MORELLI, F.; SCOLFORO, J.R.S. Spatiotemporal frequency of active fire points in Minas Gerais during the period from 1999 to 2009. Cerne, v. 20, n. 3, p. 459-469, 2014.
/143/	JACQUES, A.V.A. The burning of natural pastures: effects on soil and vegetation. Ciência Rural, Santa Maria, v. 33, p. 177-181, 2003.
/144/	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

/145/	BLF studio Legale : Legal opinion (validity and term of the agreement dated 10/06/2019 and modified through addendum dated 12/01/2023), dated 03/09/2024
/146/	Email invitations sent to neighbouring farms for interview with the VVB (i) FW Consulta_Chaves.pdf dated 9 September 2024 (ii) FW Consulta_Gomes.pdf dated 9 September 2024 (iii) FW Consulta_Lavica_Response.pdf dated 9 September 2024 (both invitation and response) (iv) FW Consulta_Lemes.pdf dated 9 September 2024
/147/	CARBON CREDITS CONSULTORIA BRASIL LTDA: FBV Soil Erodibility Report.docx (Title: Fazenda Boa Vista Soil Erodibility Report)
/148/	EMBRAPA (Empresa Brasileira de Pesquisa Agropecuária or Brazilian Agricultural Research Corporation) Map of Soil Erodibility to Water Erosion in Brazil. Available at: https://geoinfo.dados.embrapa.br/catalogue/#/dataset/1708 . Last accessed on 27 th September 2024. WMS layers for QGIS application. Available at: https://geoinfo.dados.embrapa.br/geoserver/ows . Last accessed on 27 th September 2024.
/149/	Sistema Brasileiro de Classificação de Solos (SiBCS), 5 th edition, EMBRAPA, 2018; page 296 (Fase Erodida). File name: "SiBCS-2018-ISBN-9788570358004.pdf"
/150/	EMBRAPA (Empresa Brasileira de Pesquisa Agropecuária or Brazilian Agricultural Research Corporation) Map of Soil Vulnerability to Water Erosion in Brazil. Available at: https://geoinfo.dados.embrapa.br/catalogue/#/document/5251 . Last accessed on 27 th September 2024. Map of Soil Susceptibility to Water Erosion in Brazil. Available at: https://geoinfo.dados.embrapa.br/catalogue/#/document/5252 . Last accessed on 27 th September 2024. WMS layers for QGIS application. Available at: https://geoinfo.dados.embrapa.br/geoserver/ows . Last accessed on 27 th September 2024.

2.3 Interviews

A complete desk review of the Project description (PD) and supporting evidences have been checked by the validation team. Validation team conducted on-site audit for the Fazenda Boa Vista Afforestation project during 26/07/2023 to 28/07/2023 and performed interviews with project proponent's staff, farm employees, and the project owners. Understanding the Government policies

is also vital for project implementation, labour laws and land-use activities, therefore, VVB also interviewed the personnel of Governmental institutions including City Hall, INCRA and IEF, as detailed below. The project activities, i.e., the plantation of eucalyptus trees, are carried out in a private property owned by the Brazilian Forestry Empreendimentos Florestais Ltda. The property is owned by the farm owner in compliance with the host country requirements. Therefore, it can be assured that there is no conflict regarding the property rights.

Regarding the six neighbouring farms, it is important to note that the farm owners do not live in the property; only the farm workers (in the case of productive farms) or “Caseiros” (in the case of non-productive farms) reside within the farms. As the interview with the neighbouring farms could not be carried out by VVB team during the site visit, VVB tried to conduct an online interview with the farm workers/owner of the neighbouring farms. Email invitations were sent on the 9th Sept 2024 to requesting an online/virtual interview to be scheduled on 16th Sept 2024. Emails were sent to the four farms– Lavica Empr. Florestais, Roberlandio Andre' Lemes, Estate of Genesio Rodrigues Gomes, and Estate of Edson de Oliveira Chaves. The other two farms could not be reached; it is to be noted that the invitation for stakeholder consultation was done physically and verbally, as mentioned in the PD. However, out of the 4 farms that were invited, only one farm– Lavica Empr. Florestais responded, and expressed positive opinion on the project, but did not mention anything on the requested interview conversation. The other three farms did not respond to the email. Thus, concluding their non-availability for the call. Since there were no other inputs received, the validation team is of the opinion that the stakeholders do not have any comment or negative opinion on the project. However, to ensure that the neighbouring stakeholders are consulted, the validation team has raised a FAR, which needs to be checked during the second verification. As the first verification was a combined site visit with the validation, and being conducted by the same VVB, thus FAR is raised for the second verification.

Table 5: Key personnel interviewed and the main topics of the interviews:

Sl. No.	Name	Role	Organization	Topics covered
1	Carlo Rovegno	Land Owner	Brazilian Forestry Empreendimentos Florestais Ltda & Fazenda Boa Vista	VCS consideration, funding of the project, start date of the project; Land tenure rights; Pre-project conditions; Implementation status and financial viability of the project; Baseline and additionality; Forest management plan and QA/QC procedures; Land titles; Laws and policies necessary approvals and permits from different authorities; Socio-Environmental Impact Assessment; Sustainability development; Community involvement; Stakeholder identification; Stakeholder consultation; Ongoing communication with stakeholders; Stakeholder grievance mechanism; Employee hiring policy.
2	Marilalia Rodrigues	Land Owner's wife	Brazilian Forestry Empreendimentos Florestais Ltda & Fazenda Boa Vista	
3	Rita Valoroso	Head of Project Development	Carbon Credits Consulting S.R.L.	Project description/activity; Land ownership; Spatial and temporal boundaries; Project Area; LULC analysis; Agents and drivers of deforestation; Forest inventory plots; Applicability of the methodology; ex-ante emission reduction/removal calculations;
4	Davide Rossi	Partner	Carbon Credits Consulting S.R.L.	

5	Vanessa A. Stamberg	Project Analyst	CARBON CREDITS CONSULTORIA BRASIL LTDA	Data recording and archiving; Monitoring plan; Non-permanence risk report.
6	Felipe Goes de Moraes	Project Analyst	CARBON CREDITS CONSULTORIA BRASIL LTDA	
7	Marcelo R. dos Santos	Employee	Fazenda Boa Vista	Project awareness and consultation; Project benefits; Workers' rights; employee hiring policy; Forest plantation and management experiences and competency; Grievance mechanism
8	João Batista da Silva	Employee	Fazenda Boa Vista	
9	Junio Antunes Costantino	Employee	Fazenda Boa Vista	
10	Luiz Claudia Pena Ferreira	Regional Supervisor	Instituto Estadual de Florestas (IEF)	Land tenure; Applicable laws and regulations related to the project; Jurisdictional laws and regulations; Land-use patterns; Rights regarding land-use; Project awareness, communication, and consultation; Forest plantation requirements and regulations; State and Federal government policy and measures.
11	Lariane C. Junker	Coordinator of Land Regulation	Instituto Estadual de Florestas (IEF)	
12	Landerson Gomes Galvao	Bio-diversity Co-ordinator	Instituto Estadual de Florestas (IEF)	
13	Thelles Victor Lopes de Souza	Director	INCRA	
14	Antonio Mario	Advisor	City Hall, Pontos dos Volantes Municipality	
15	F.R. Brags Marta	Secretary	City Hall, Pontos dos Volantes Municipality	
16	I. Ramos Santana	Secretary of Planning	City Hall, Pontos dos Volantes Municipality	
17	Moises R. Lima	Municipal Secretary	City Hall, Pontos dos Volantes Municipality	
18	Fucimana de Lima C.S.	Chief of Staff	PMPV	

2.4 Site Visits

The objectives of the inspections performed were mainly to cross check the description provided in the PD related to the environmental and social conditions of the project area, but also to:

- Ensure that the geographic area of the project, as reported in the PD and the accompanying KML file, is in conformance with Section 3.11.2 of the VCS Standard v4.4.
- Perform a risk-based review of the project area to ensure that the project conforms to all other requirements of the VCS rules and the methodology.
- Observe the PP's evidence, and collect and record data in order to assess whether data collection techniques conform to the monitoring plan and related documentation and to evaluate data quality control systems.
- Select samples of data and information for validation and verification in order to meet a reasonable level of assurance and to meet the materiality requirements of the project, as required by Section 4.1.2 of the VCS Standard.
- Perform a risk-based review of the project area to ensure that the project is in conformance with the eligibility requirements of the VCS rules and the applicability conditions of the methodology.

A site visit to the project area, located within the municipality of Ponto dos Volantes, state of Minas Gerais, Brazil, was conducted from 26/07/2023 to 28/07/2023 during which time the following activities took place:

- Observational assessment of the proposed project activities through physical examination and interviews with project personnel and community members/stakeholders (as per detailed in the section 2.3 above).
- Observational assessment of the implementation and execution of monitoring activities to ensure that they were carried out according to their description and were in accordance with the applicable methodology.
- Perform risk-based review of the project area to cover the project boundary.
- Confirm that the described quality assurance and quality control procedures were applied.

During the site visit, the validation team assessed the implementation and operation of the proposed project activity, project area, selection of sample plots, SOPs in place for measurement, silviculture operations, field measurement procedures, interviewed key personnel of the plantation to crosscheck the procedure adopted in field measurements, crosschecked the 13 sample plots (out of the total 15 plots) and GPS co-ordinates. Also, checked the quality control and quality assurance procedures in place to prevent or identify and correct any errors or omissions in the reported monitoring parameters.

During the site visit, the validation team visited the field and inspected 13 permanent sample plots. The details of the same are provided in Table 6.

Table 6: Detail of the sample plots visited by the validation team during site visit

Plot ID	Block ID	Stratum	Latitude	Longitude	Sampling Date
14	66	1	16.63836°S	41.316866°W	26-07-2023
11	66	1	16.637644°S	41.318344°W	26-07-2023
8	73	2	16.646463°S	41.327825°W	26-07-2023
4	73	2	16.64915°S	41.326472°W	26-07-2023
1	75	2	16.654024°S	41.329827°W	27-07-2023

9	74	2	16.649075°S	41.337764°W	27-07-2023
5	72	2	16.64507°S	41.334601°W	27-07-2023
6	74	2	16.645219°S	41.337945°W	27-07-2023
3	72	2	16.641447°S	41.338733°W	27-07-2023
0	70	2	16.638088°S	41.334355°W	27-07-2023
7	70	2	16.641387°S	41.332925°W	27-07-2023
10	68	1	16.632798°S	41.326869°W	27-07-2023
12	69	1	16.627957°S	41.335423°W	27-07-2023

13 sample plots were selected based on “Sampling and surveys for CDM project activities and programmes of activities” at confidence level of 90%. The plots visited were covered in such a way that it covers all the strata considered in the proposed project activity. Some photographs from the site visit are mentioned in the figure below (Figure 1).



Figure 1: Photographs from site visit

2.5 Resolution of Findings

The objective of this phase of the validation is to resolve any outstanding issues which need to be clarified for EPL positive conclusion on the project description. To guarantee transparency, all findings raised during the audit are incorporated in the Appendix 1 of the report.

A corrective action request (CAR) is raised if one of the following occurs:

The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions.

The VCS Version 4.4 standard have not been met.

There is a risk that the emission reductions cannot be monitored or calculated.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS version 4.4 standard requirements have been met.

The no. of CARs/CLs raised by EPL are:

CL (Clarification Requests): 11

CAR (Corrective Action requests): 02

2.5.1 Forward Action Requests

A forward action request (FAR) is raised during the validation/verification to highlight issues related to project implementation that require review concerning monitoring and reporting during the next monitoring period and subsequent verification of the project activity.

Three FARs are raised during the validation. The detail of the FARs raised are:

- (i) PP to provide a description on the method for estimating the ex-post calculations of the carbon stocks as per the requirements of AR-TOOL-14 in the first verification. Allometric/Volume equations will be defined during the first verification as per the requirements of AR-TOOL -17 and 18. For more information, please refer to Appendix-B of the report.
- (ii) PD section 2.5, sub-section “Risks to Local Stakeholders and their Resources due to Project Implementation”: The PD states that “In the future, anti-discrimination protocols will be implemented and included in the manual of good relations and procedures”. PP to provide evidence for the same.
- (iii) To ensure a larger proportion of stakeholders are consulted, the neighbouring farms should be interviewed by the VVB in the second verification.

3 VALIDATION FINDINGS

3.1 Project Details

Project type

The project is classified under sectoral scope 14 “Agriculture, Forestry and Land Use (AFOLU)”. As described in Section A1.1 of the VCS Standard, the project is eligible under the category of Afforestation, Reforestation, and Revegetation (ARR). It is confirmed that the project is eligible as per the requirements of sections 3.1 (General requirements), 3.2 (AFOLU-Specific Matters), Non-

Permanence Risk (clauses 3.2.10 and 3.2.22) and Appendix A1.5 – A1.8 of VCS Standard v4.4 /12/, as demonstrated in section 1.3 of the VCS PD /1/.

Technologies and measures implemented

The project plans to afforest Eucalyptus plantations in a total area of 293.12 ha of private property located in the farm called Fazenda Boa Vista II, in the municipality of Ponto dos Volantes in the north-eastern part of Minas Gerais state (Brazil). The main purpose of the project is to restore degraded lands with Eucalyptus Forest plantation characterized by rapid growth and high CO₂ absorption potential. The species planted are hybrid *Eucalyptus “urocam”* (*E. urophylla* x *E. camaldulensis*) and *Eucalyptus “tricross”* (*E. camaldulensis* x *E. grandis* and *E. urophylla*) /01/. The land areas forested are established on former degraded pasture lands and intends to conserve the natural forest areas within the project region to enhance and protect the local biodiversity. These lands had suffered deforestation and soil degradation due to land-use change process, mainly because of the extensive traditional cattle grazing and subsistence farming. As per the information provided in the PD, the project doesn't involve harvesting, which is common in other Eucalyptus plantations project. The same was also confirmed as per the site visit observations and interviews with the landowner. The landowner has signed legal agreement with the project proponent which guarantees the continuity of management practices and protection of the credited carbon stocks during the project longevity for at least 40 years /18/.

General eligibility of the project

As per table 1 of the VCS standard v4.4, the proposed project activity is not excluded. The project was listed under pipeline listing on 11/01/2023 and the project start date is 23/01/2020, which is within 3 years from the start date of the project activity and meets the requirement of the section 3.8.3 of the VCS standard v4.4.

The validation/verification body has ensured that the project is listed on the project pipeline with a status of under validation before the opening meeting with the project. The project was open for 30-day public commenting period from 06/02/2023 to 08/03/2023 and the opening meeting was carried out on 26/07/2023, which is after the commenting period got over.

The applied methodology is AR-ACM0003: A/R Large-scale Consolidated Methodology, Afforestation and Reforestation of Lands Except Wetlands. Version 02.0 of 04 October 2013 is permanently excluded CDM methodology. However, as per the announcement from VERRA on 05/05/2023, all projects using AR-ACM0003 must complete validation by 28 December 2024. Thus, the project meets the deadline requirements.

The estimated annual GHG emission removals of the project are 22,655.90 tCO₂e/year. the project generates less than 300,000 tonnes of CO₂ per year. Thus, falling under the category of “project”. The proposed project is not a fragmented part of a larger projects or activity that would otherwise exceed such limits considering the project applies large scale A/R methodology.

AFOLU project eligibility

The project activity is eligible under the scope of the VCS Program according to section 3.2 of the VCS Standard version 4.4 /12/:

There are currently six AFOLU project categories eligible under the VCS Program, as defined in Appendix 1 Eligible AFOLU Project Categories. The project being a eucalyptus forest plantation, falls into the eligible AFOLU project category ARR: Afforestation, Reforestation, and Revegetation.

By 2015, Brazil had adopted a national REDD+ strategy, and in 2018 the country began to receive results-based payments from the Green Climate Fund's pilot programme for REDD+ /55/. More recently, key international developments in jurisdictional REDD+ *finance* have prompted more action from Brazilian states, such as the decision made by the International *Civil Aviation* Organization (ICAO) in 2020 to accept jurisdictional REDD+ *carbon credits* in its Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). Having said that, it is to be noted that the carbon project itself does not run under a JNR program of the VCS.

The project activity does not convert native ecosystems to generate GHG credits. An analysis using satellite images were carried out to assess the presence of tree vegetation and native ecosystem in the consolidated rural areas inside the property, at least 10 years prior to the proposed project start date /60/. From the satellite images /61/ and LULC maps /62/ and the GIS files of the pasture quality maps of the project area from 2010 to 2019 /140/, it was confirmed that no conversion of primary natural forest took place on the project area within the last 10 years. The soil erodibility data from EMBRAPA (Brazilian Agricultural Research Corporation) /148/ showed that the project area and project zone fall under the category "Eroded Phase/Areas", which correspond to presence of strong, very strong and extremely strong erosion /147//149/. As the project area has been degraded pastureland, formerly used for cattle grazing. It is ensured, that no conversion of natural forests took place. It was also checked that the landowner has environmental clearance for the plantations from the respective state environmental agency /26/. In addition a third party baseline study of the project area vegetation /60/ was carried out by a forestry engineer (Hugo Henrique Cardoso De Salis) to confirm the baseline of the project areas, concluding that there was no existing forest 10 years prior to the project start date and the land was abandoned degraded pasture land with the presence of plant species locally known to be indicators of infertile land as alecrim de campo (*Baccharis dracunculifolia*), fedegoso (*Senna macranthera*), jurema (*Mimosa hostilis*) and lobeira (*Solanum lycocarpum*). The competency of the personnel who conducted the technical analysis of the vegetation in the project area were checked against their CVs /141/. The experts are graduates in Forest Engineering with Post graduation in Analysis and modelling of Environmental systems. The team has experience in geoscience with an emphasis on cartography, remote sensing tools applied to hydrology, forest inventories and topography.

As per the discussions in the PD section 1.3, no degradation of hydrologic functions has occurred or will occur in the area where the project is developed, and that the region and biome in which the project area is located are not categorized as wetlands and hence, no drainage activities is expected to occur. The absence of wetlands is confirmed from Figure 34 (Distribution of Wetland areas) of the PD /01/, which is derived from MapBiomas website /63/, and also from LULC maps of the project area /62/. The same was also cross-checked in the Google Earth Pro software /64/ by the audit team.

The project activities do not cause soil disturbance, as the soil type in the project area is not organic in nature as per definitions of FAO (1998) /66/ and IPCC Good Practice Guidance LULUCF (2003) /67/. This was confirmed from the description of soil analysis provided in section 3.2 of the VCS PD /01/, and soil analysis report /65/.

Project design, including eligibility criteria for grouped projects

The project is a non-grouped project; project activity is developed in a private farm called Fazenda Boa Vista II.

Project proponent and other entities involved in the project

The primary project proponent is Carbon Credits Consulting SRL and other entities involved in the project are Brazilian Forestry Empreendimentos Florestais Ltda and Carbon Credits Consultoria Brasil Ltda. CCCS (Carbon Credits Consulting SRL) is responsible for the development of the Project

Document (PD) and monitoring reports, including socio-economic and environmental assessment, baseline studies and carbon stock estimation, monitoring and implementation of proposed GHG emission reduction/mitigation activities, dissemination of project documentation, project validation/verification, delivery of monitoring results to stakeholders, commercialization of generated credits, and co-management of the project throughout its duration /1/. The other entities involved are BFEFL (Brazilian Forestry Empreendimentos Florestais Ltda) and CCCL (Carbon Credits Consultoria Brasil Ltda). BFEFL is the landowner and is responsible for project implementation on ground, operation and maintenance forest and generation of socioenvironmental activities to local communities /01/. CCCL is a subsidiary of the CCCS and its responsibility is to create and oversee the development of project design and monitoring activities for the proposed VCS project activity. The same was confirmed by checking the contract between BFEFL and CCCS, dated 10/07/2019 /18/.

The same was verified through the contract agreement between the project proponent and other entities/18/, and interviews with project proponent and landowners /92/.

Ownership

CCCS is the owner of the project which is in line with VCS standard section 3.7.1 clause 6): An enforceable and irrevocable agreement with the Instances landowners – holder of the statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions or removals– which vests project ownership in the project proponent “CCCS” by the landowners. The same was verified through the agreement document between the landowner and Project Proponent /18/. Note that the agreement is subjected to Italian Law (cf Articles 14 legge applicabile) and 15 (Foro Competence)) and it has been duly executed by the parties. The addendum is an amendment to the agreement and the same has been duly executed by the parties and thus the law don’t require any particular formalities. The agreement provides for the obligation upon the forestry Entrepreneur and for all the duration of the agreement to i) preserve the fundamental characteristics of the forest which are essential for the purposes of the project and for the issuance of the VCUs; and ii) carry out all the activities which are requested in order to obtain and or maintain the VCUs. The agreement and its relevant provisions of the agreement will apply to the project for the term of 40 years from the starting date, it being understood that the provisions of the agreement will survive the termination of the Agreement itself and will last for a period of 40 years (cf Article 2.1 of the Addendum). This was also confirmed from the legal opinion provided by BLF studio Legale /145/.

The project area is located in Fazenda Boa Vista II (Gleba-2) property (One land title, Matricula 30170), with land area of 664.6534 ha. During the assessment of documentary evidence of ownership, the Project proponent provided sufficient and updated documental evidence to proof the land tenure and therefore proof of rights, as below /39/:

- CCIR (Rural Property Registry) by INCRA
- Geodesic Survey approved by INCRA
- Certidão de Cadeia Dominal
- Certidão de Inteiro Teor
- Proof of Enrolment of the Property with the Rural Environmental Registry (CAR), with the description of native vegetation area, preservation and protected environment and the identification of the Legal Reserve areas with active status

- Full content certificate with the State of Minas Gerais Property Registry office of the district of Aracuai/MG
- Negative certificate from the Public Prosecution Office of the state of Minas Gerais
- Negative certificate from the Court of Justice of the State of Minas Gerais
- Proof of Registration and Registration status from Federative Republic of Brazil
- Embargo Negative Certificate, issue by MMA and IBAMA
- Debt certificate relating to federal taxes and the active debt of the rural property union

The audit team further crosschecked the area of the land parcels from GIS shapefiles /68/ and confirmed the areas to be appropriate. Based on the above referred evidence, the audit team confirms that the land owner has control of the project area and has all rights on the resources generated on the land as per the Brazilian Law (2012) /69/ /70/; and the project implementation, management and monitoring is the responsibility of landowner as per the contract agreement between the PP and entities /18/. Thus, it is the landowner, who has the legal rights on the emission removals/reductions that the project will generate.

In view of the above referred documents, information obtained during the interviews and site visit, observations made during the field visit and auditors' knowledge, the audit team confirms that the project is in conformity with the ownership requirements of section 3.7 of VCS standard v4.4.

Project start date

The project start date of an AFOLU project is the date on which activities that led to the generation of GHG emission reductions or removals are implemented. The start date of the project is 23/01/2020, the date when the first phase of planting activities was initiated. The validation team checked the field records and confirmed that earliest planting activities started in block 71 of Fazenda Boa Vista Farm /71/. The same was also crosschecked and confirmed from the seedlings purchase invoice /19/. The audit team confirms that the project is in conformity with the project start date requirements of section 3.8 of VCS standard v4.4.

Project crediting period

The crediting period of the project is 20 years, starting from 23/01/2020 to 22/01/2040. According to section 3.9.3 of the VCS standard, the crediting period of AFOLU projects will have a minimum of 20 years and a maximum of 100 years. Thus, the project activity is in line with the length of the crediting period.

The audit team also checked and confirmed that as per the study by T&M consultoria Agroflorestal S/C Ltda /129/, the eucalyptus plantation shows increase in volume until 20 years, and with forest management practices, it can generate more volume.

Project scale and estimated GHG emission reductions or removals

The project is classified as "Project" according to its scale (less than or equal to 300,000 tonnes of CO₂e per year), as per the requirements of section 3.10.1 of the VCS Standard. The project is estimated to result in an average GHG emission reductions and removals equivalent to 20,255.63 tCO₂e per year.

Project location

The proposed project activity is developed in a private farm called Fazenda Boa Vista II. The farm is in Ponto dos Volantes Municipality, in a region known as Jequitinhonha Valley, in the State of Minas Gerais, part of Southeastern Brazil's macro-region.

The Project Area consists of 10 blocks of the farm that was planted between January 2020 and April 2020 and has an extension of 293.12 ha. The location of the project area has been presented as GIS and KML files /36/. During the on-site audit, EPL team further crosschecked the co-ordinates of project activity and confirmed the same to be appropriate.

Conditions prior to project initiation

Conditions prior to the project initiation are described in detail in the VCS PD /01/ and include climate, hydrology, altitude, topography, soil, temperature, vegetation and ecosystems of the areas involved in the project. These information were cross-checked with the references provided in the VCS PD /01/, and relevant data and GIS files provided by PP /72//73//74//75/. Conditions of the areas were assessed and include neither areas that are forests nor areas still used for cattle ranching. Baseline scenario is the same as the conditions prior to the project initiation, which is degraded pasture lands.

Project compliance with applicable laws, statutes and other regulatory frameworks

The project complies with applicable laws, statues and other regulatory frameworks. During site visit and interviews, the audit team cross-checked legal and regulatory issues /69//70//76//77//78//79//80//81//82//83/. In Brazil, the plantation and management of eucalyptus forests should follow the following rules and regulations, mentioned in the table below.

Table 7: List of applicable laws and regulations

Law	Description	Compliance
Law n° 12,727 of 17/10/2012 /70/	Establishes general norms on the protection of the vegetation, areas of Permanent Preservation and the areas of Legal Reserve; Logging, supply of forest raw materials, control of the origin of forest products and control and prevention of forest fires and provides economic and financial instruments to achieve its objectives.	The project activity is in compliance with the law such as The Legal Reserve area within the Project borders is larger than the 20% as required by the legislation (it is 155.39 ha and represents 23.4% of the farm).
Law n° 12,651 of 25/10/2012 /69/	New Brazilian Forest Code	The law formalizes the requirements of Law 12,727 discussed above, in a more complete and solid law.
Law n° 20,922 of 16/10/2013 – SIAM /76/	Provides for forestry and biodiversity protection policies in the State of Minas Gerais.	Article 69 defines that the planting and reforestation with native or exotic forest species do not depend on prior authorization, that the limitations and conditions

		provided for in the current legislation are observed, and must be informed to the competent environmental agency, within a period of up to one year for source control purposes. It is also established that the extraction of firewood and other products from forests planted in areas not considered APPs and Legal Reserves is free.
Ordinance of the State Institute of Forestry – IEF - Nº 28, of 13/02/2020 /77/	Implemented the forest plantation register provided for in Law No. 20,922 of 2013 and regulated by Decree No. 47,749 of 2019.	Establishes guidelines for registering the planting and harvesting of forests planted with native and exotic species in the State of Minas Gerais. It defines that planting and reforestation with native or exotic forest species does not require prior authorization.
Law nº 21,972 of 21/01/2016 – SEMAD /78/	Provides for the State System of Environment and Water Resources - (SISEMA)	The law defines the State Environment and Water Resources System - SISEMA - as a set of bodies and entities responsible for environmental and water resources policies, with the purpose of conserving, preserving, and recovering. The Boa Vista farm has a certificate that grants the property a Simplified Environmental License /26/, LAS/Cadastro modality, in compliance with current environmental standards and imposed constraints.
Decree nº 47,787, of 13/12/2019 /79/	Provides for the organization of the Secretary of State for the Environment and Sustainable Development – SEMAD.	SEMAD operates within the State as a sectional body of the National System for the Environment – Sisnama, is part of the National System

		for the Management of Water Resources and is responsible for coordinating the State System for the Environment and Water Resources – Sisema. The Boa Vista II farm has a certificate that grants the property a Simplified Environmental License, LAS/Cadastro modality /26/, in compliance with current environmental standards and imposed constraints.
JOINT RESOLUTION SEMAD/IEF No. 3,132, dated April 7, 2022 /80/	Provides for the organization of the Secretary of State for the Environment and Sustainable Development – SEMAD. Establishes the guidelines and procedures for the individualized analysis of the Rural Environmental Registry for rural properties in Minas Gerais, establishes the documentation and necessary studies to guide the regularization processes of the specified Legal Reserve areas, and provides for other measures.	In Section III, it provides definitions regarding the inconsistencies in the registries. It states that, for the analysis of the rural property's area as declared in the documentation and the vectorized area indicated in the CAR registration, a tolerance threshold of up to 5% (five percent) discrepancy will be considered, as previously established by the National SICAR. This applies regardless of the number of fiscal modules. This law serves as the foundation for the project to address the discrepancies between georeferencing files, such as CAR and INCRA.
Regulatory Standard No. 31 (NR-31) /81/	Provides for Ministry of Labor and Employment. Its objective is to establish the principles to be observed in the organization and rural work environment, to align the planning and development of sector activities with the prevention of accidents and work-related illnesses in the rural setting.	According to this law, it is the responsibility of the rural employer or equivalent to: a) Comply with and enforce legal and regulatory provisions regarding safety and health in rural work, ensuring proper working conditions, hygiene, and

	This standard applies to any activities in agriculture, livestock, forestry, logging, and aquaculture, considering various forms of employment relationships and the location of the activities.	comfort, and adopting preventive measures and protections to ensure that all activities, workplaces, machinery, equipment, and tools are safe. b) Take necessary actions in the event of accidents and work-related illnesses, including analyzing their causes. c) Ensure that workers are provided with understandable instructions regarding safety and health, their rights, duties, and obligations, as well as the necessary guidance and supervision for safe work. d) Inform workers about: I. The risks associated with their work and the implemented prevention measures, including those related to new technologies adopted by the employer. II. The results of medical and complementary exams they underwent, when conducted by a medical service contracted by the employer. III. The outcomes of environmental assessments conducted at workplaces. e) Allow a legally constituted workers' representative to accompany the inspection of legal and regulatory provisions regarding safety and health at work;
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		f) Provide the Labor Inspection with all information related to safety and health at work. The audit team confirms that the employees are hired in compliance with Brazilian laws as per the interview with the farm employees /92/ and salary receipts /106/.
COPAM Normative Deliberation No. 217, of December 6, 2017 /82/	Establishes criteria for classification, according to size and polluting potential, as well as the locational criteria to be used to define the environmental licensing modalities for enterprises and activities using environmental resources in the State of Minas Gerais.	It presents licensing modalities: Trifásico (Three-phase), Concomitante (Concurrent), and Simplificado (Simplified), detailing procedures and criteria for each. It exempts licensing for activities not categorized but emphasizes obligations such as obtaining authorizations and maintaining environmental controls. It warns about characterizing the enterprise, considering all activities conducted, and cautions against licensing fragmentation, foreseeing penalties. Activities and enterprises listed according to criteria of pollutant/degradative potential, size, and location are subject to state-level environmental licensing, whose classification ranges from Classes 1 to 6. The pollutant/degradative potential of activities and enterprises will be assessed as small (P), medium (M), or large (G), as stipulated in Table 1 of the Single Annex of the Normative Deliberation, based on environmental

		variables related to air, water, and soil. Size is categorized as small (P), medium (M), or large (G), according to pre-established parameters and limits for each activity or enterprise, as listed in the annex of the Normative Deliberation. The classification of enterprises and activities into classes will occur based on the conjugation matrix of pollutant/degradative potential and size as outlined in Table 2 of the Single Annex of the Normative Deliberation. Enterprises seeking simultaneous regularization of two or more activities listed in the Activities List in the Single Annex of the Normative Deliberation will be regulated based on the classification of the highest-class activity. Locational criteria for classification relate to the relevance and sensitivity of the environmental components characterizing them, with weights assigned as 01 (one) or 02 (two), as per Table 4 of the Single Annex of the Normative Deliberation. The Boa Vista Farm falls into the category with code G-01-03-1, encompassing annual, semi-perennial, and perennial crops, forestry, and agrosilvopastoral cultivation, except
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		horticulture. This category presents the following values for Pollutant/Degrader potential: Air: Small Water: Medium Soil: Medium Overall: Medium And it is categorized as small-scale. These parameters place Boa Vista Farm in Enterprise Class number 2. The licensing modalities will be established in accordance with Table 3 of the Single Annex of the Normative Deliberation, combining the class and locational criteria for classification, except for renewals. Therefore, following all the tools provided in the legislation, Boa Vista Farm is classified under the Licensing Modality type: LAS/Cadastro. The Boa Vista Project has its LAS/Cadastro approved /26/.
Decree nº 47,749 of November 11, 2019 /83/	Provides for authorization processes for environmental intervention and forestry production within the State of Minas Gerais and provides other measures.	The environmental interventions outlined in this decree, whether in public or private domains, will be subject to prior authorization from the competent environmental agency. Legislation specifies the following activities as potential environmental interventions requiring authorization: I - clearing of native vegetation for alternative land use;

		II - intervention, with or without clearing native vegetation, in Permanent Preservation Areas (APP); III - removal of native undergrowth in areas with planted forests; IV - sustainable management; V - stump removal in remaining areas after native vegetation clearance; VI - cutting or utilization of individual live native trees; VII - utilization of woody material. The audit team checked that Boa Vista farm has a certificate that grants the property a Simplified Environmental License /26/, LAS/Cadastro modality, in compliance with current environmental standards and imposed constraints.
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The audit team confirmed the applicability of the laws and regulations to the project through interviews with governmental authorities, described below:

Table 8: List of personnels interviewed from Government entities

Name	Role	Organization
Luiz Claudia P. Ferreira	Regional Supervisor	Instituto Estadual de Florestas (IEF)
Lariane C. Junker	Coordinator of Land Regulation	Instituto Estadual de Florestas (IEF)
Landerson Gomes Galvao	Bio-diversity Co-ordinator	Instituto Estadual de Florestas (IEF)

Thelles Victor Lopes de Souza	Director	INCRA
Antonio Mario	Advisor	City Hall, Pontos dos Volantes Municipality
F.R. Brags Marta	Secretary	City Hall, Pontos dos Volantes Municipality
I. Ramos Santana	Secretary of Planning	City Hall, Pontos dos Volantes Municipality
Moises R. Lima	Municipal Secretary	City Hall, Pontos dos Volantes Municipality
Fucimana de Lima C.S.	Chief of Staff	PMPV

No conflicts were identified. Evidence to the contrary was not observed during the audit taking into consideration information received by interviews with the above referred Govt. officials and other stakeholders.

Participation under other GHG programs

EPL confirms that the project has not been registered or seeking registration under Other GHG Program, nor it has been rejected by other GHG program. The same was checked with other registries /16/.

Other forms of credit and supply chain (Scope 3) emissions:

EPL confirms that the project is not registered and does not intend to register under emission trading programs and other binding limits. The project is not registered and does not intend to register under other forms of environmental credit. The emission reductions of this project are issued for the voluntary carbon market and cannot be double claimed for any organizations involved in producing, delivering, and selling products goods, or services in a supply chain and, therefore, Scope 3 Emissions.

Sustainable development contributions

The project is designed to contribute to Brazil SDGs, specifically by promoting sustainable economic growth, full and productive employment, and decent work for all; actions to combat climate change and its impacts.

In terms of UN SDGs, the project contributes to the sustainable development goal 8: Decent work and economic growth, SDG 13: Climate Action and SDG 15: Life on land.

SDG 8- Decent Work: The proposed project aims to ensure training and skill development courses for workers, enhancing their skills and professional growth. In addition, sustaining job creation throughout the project's lifespan and contributing to long-term decent work.

SDG 13- Life on land: The proposed project aims to reduce greenhouse gas emissions through reforestation activities involving Eucalyptus plantations. 293.12 ha of Degraded pasture lands are converted to standing forest, aiming to reduce 22,655.90 tCO₂e/year in 20 years.

SDG 15- The project focuses to restore the degraded land and soil of 293.12 ha, which were previously degraded pasture lands. Further, aims to continued maintenance of ecological corridors and restoration of degraded areas, contributing to the preservation of terrestrial life. Potential to promote the protection of remnants of native vegetation in previously degraded areas, enhancing the diversity and health of local ecosystems.

EPL assessed the sustainable development contributions through the review of the project description /01/ which were found to be aligned with UN Sustainable Development Goals /17/, and Brazilian Sustainable Development Priority Goals /85/, which were cross-checked during on-site visit and interview with local stakeholders /84/ and report on occupational health and safety of employees (dated July 2023) /23/. The VVB concludes that the proponent demonstrates how the project activities or additional activities implemented by the project proponent can contribute to sustainable development.

Additional information relevant to the project

Leakage management for AFOLU projects: As discussed in the PD, the leakage of the project will be determined as per AR-TOOL15, an A/R methodological tool for the “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R project activity”. The project activity did not expect any displacement of agricultural activities in the project area before its implementation. As discussed in the PD, the projects areas were characterized by abandoned degraded pastures which confirmed from satellite images /61/and LULC maps /62/. Thus, the leakage was considered insignificant and accounted as zero.

Commercially sensitive information: No commercially sensitive information has been excluded from the public version of the PD.

Finally, regarding the project description above, EPL confirms that it is accurate, complete, and provides an understanding of the nature of the project, and confirms that the project has been implemented as described in the project description.

3.2 Safeguards

3.2.1 No Net Harm

The project is not expected to generate negative environmental or socio-economic impacts, since it is implemented on private ecologically degraded lands.

Socio-economic impacts

It is checked that there are no nearby communities close to the project areas, the nearest community is São Pedro do Jequitinhonha, which is 21 km away from the project area /86/. The same was also confirmed in the Google Earth Pro platform /64/. Thus, the project has no impact on the communities.

Moreover, the project has hired employees for the forest plantation and maintenance /106/, who were recruited in compliance with Brazilian national labour laws /81/. It was also checked that safety equipment are provided to the workers, confirmed through interview with the employees /84/ and management plan /46/.

Environmental impacts

- From other VCS project implementation (ID 2079, ID1663) it is understood that the eucalyptus plantations could bring benefits for local biodiversity. Moreover, the Project Proponent plans to

monitor the local fauna in the project area by installing camera traps. As per the study from Vital (2007) /87/, mosaic plantation allows creation of a biological corridor, greater genetic mobility between native and planted forests and between different fragments of plantations and thereby increased biodiversity. The validation team also accepts the fact that such plantations reduce the pressure on deforestation of the natural forest and also helps in carbon sequestration /88/.

- The PP has further confirmed that there is no risk perceived due to eucalyptus plantations on water resources, as the pluviometry is above 400 mm/year /87/ and the project area has an average rainfall of 848 mm/year /74/. The PP has further confirmed to monitor the annual average of pluviometry in the proposed area.
- Eucalyptus is a non-native species to Brazil. The implementation of Eucalyptus can provide some risk of spread beyond the boundaries and might also introduce or spread of invasive weed species. As discussed in the PD, the study conducted by Silva et al (2011) in Brazil /89/ confirms that out of 90% of the plots analyzed in the study, no Eucalyptus plants or seedling were found outside the boundaries and Eucalyptus invasion through seeds in commercial plantations are considered very low. Also, no other invasive species was found in the proposed project areas during the site visit observation.
- PD also discussed about the justification of use of non-native species over native species. Eucalyptus plantations are being used widely for carbon projects due to the following reasons:
 - (i) Rapid growth and Carbon sequestration
 - (ii) Extensive information and studies available on eucalyptus species
 - (iii) Availability of improved and efficient genetic material
 - (iv) Abundance of information on pests and control methods
 - (v) Economic viability

Eucalyptus plantation also provide ecosystem services such as habitat for wildlife flora and fauna /87/, forest goods and resources /88/, etc. For these reasons, the non-native trees (for e.g., Eucalyptus) make up for 44% of all the forest plantations globally /105/.

- Concerning adverse impacts of use of fertilizers and biological control agents, the validation team verified the information provided in the PD by review of forest management plan /46/, field inspections of the project area, use of fertilizer and soil correction procedure /46/ and confirms that the use of fertilizers and pesticides is very limited. Only used during the planting phase and first growth phase of the seedlings . Despite its low toxicity, this product is not spread in the in the field but has been placed directly in the seedling's housing. The insecticide will be reused only in case of large infestations that could threaten the health of the trees. The management plan instructs the use of agricultural inputs, such as fertilizers, herbicides, fungicides and insecticides, according to the specifications of use. The validation team confirms that the silvicultural practice adopted by the PP does not cause environmental impacts such as pollution of land and water resources.

3.2.2 Local Stakeholder Consultation

The stakeholders were identified by the landowner and the forest manager, composing of institutional stakeholders and community stakeholders.

a. Institutional Stakeholders:

- IEF- Instituto Estadual de Florestas – Teófilo Otoni Municipality.

- Secretary of Public Services and Environment – Ponto dos Volantes Municipality.
- b. Community Stakeholders:
 - Internal farm workers (employees)
 - Neighbouring farmers.

According to section 2.2 of the PD, physical meeting with community stakeholder (consisting of farm employees and neighbouring farmers) was carried out on 24 September 2022, the meeting took place at the headquarters of Fazenda Boa Vista II, while one to one meeting with the municipality of Ponto dos Volantes took place on 22 September 2022, and meeting with the State Forestry Institute, was held on 23 September 2022 in the municipality of Teófilo Otoni, Minas Gerais. It is checked that no stakeholders input was received during the local stakeholder consultation and it has been clarified that no comments or feedback were received during the stakeholder consultation. The validation team confirmed the same through interviews with the stakeholders /84/ and the minutes of the meeting of the stakeholder consultations /48/. In accordance with section 3.18.3 of the VCS standard v4.4, a local stakeholder consultation was performed prior to validation.

The project proponent has established mechanisms for ongoing communication with local stakeholders to allow stakeholders to raise concerns about potential negative impacts during project implementation. The same has been discussed in detail in section 3.2.5 of the report.

The audit team concludes, overall, that an adequate stakeholder consultation has taken place prior to validation. Moreover, the project proponent has taken all appropriate measures to communicate and consult with local stakeholders in an ongoing process for the life of the project, including communication regarding the following:

- The project design and implementation, including the results of monitoring
- The risks, costs and benefits the project may bring to local stakeholders
- All relevant laws and regulations covering workers' rights in the host country
- The process of VCS Program validation and verification and the validation/verification body's site visit.

3.2.3 Environmental Impact

As discussed in the PD /01/, EIA is not required for planting Eucalyptus Species in Minas Gerais State. Eucalyptus plantations are considered like any other crop, such as soy, corn and sugarcane.

In Minas Gerais, to plant native or exotic tree species, it is only necessary to register the planting area with the State Forestry Institute (IEF) based on art. 4, item V of Law No. 21,972 of January 21, 2016 /78/, in accordance with art. 51, its §1, item I, of Decree No. 47,787 of December 13, 2019 /79/, and art. 8, item III and its §4, item I, of Normative Deliberation COPAM No. 217, of December 6, 2017 /82/, Fazenda Boa Vista was granted the Environmental License for Annual, Semi- Perennial and Perennial Crops and Forestry. The Certificate No. 928 Simplified Environmental Licensing was issued on 03/12/2020 /26/.

EPL confirms that EIA is not required based on the evidence provided by PP /26//82/.

3.2.4 Public Comments

The project was opened for public comments from 06 February 2023 to 08 March 2023 and published on 13th March 2023. During this public commenting period, several comments were received from an organization “The Nature-based Solutions Brazil Alliance” on 08-Mar-2023. The audit team reviewed the public comments received and checked the PD updates carried out by the PP. The following table summarizes the public comments received, the PP’s response to each of them and the assessment of the audit team against the responses provided by the PP.

Table 9: VVB’s assessment on the public comments

Comment Summary	Response from PP	Audit assessment
Methodology and baseline: In Title and Reference of Methodology, it is important to refer to the version of the VCS standard followed by the project.	Section 3.1 is updated accordingly as per the comment received.	The version number of the VCS Standard has been incorporated in the revised PD. The comment was properly addressed by PP.
It was not possible to verify whether the project is located in a wetland, as the figure referred to in the PDD does not exist.	Figure 31 in section 3.2.4 of the PD version 02 of 05/10/2023 shows that the project area is not located in wetlands, according to MapBiomass.	A map showing the distribution of wetlands around the project area from the MapBiomass source has been provided in Figure 31. From the map it is possible to check and confirm that the project area is not located in wetlands.
The proponent used linear emission removal estimates. It seems that for eucalyptus a sigmoid growth curve would be more appropriate.	This is the ex-ante analysis therefore a preliminary assessment; the method used for the ex-ante estimation does not impact the ex-post calculation.	It is clarified that the method used for ex-ante analysis will not impact the ex-post calculation. The ex-ante estimation method and its appropriateness with methodology requirements have been detailed in section 4.1 and 4.2 of the PD. Moreover, the validation team has raised a FAR to check the ex-post calculation as per the requirements of AR-TOOL-14 in the first verification.
The additionality analysis is insufficient to demonstrate the	The section additionality analysis was updated accordingly.	Section 3.5 Additionality has been updated in the revised PD (version 3). The additionality describes three alternative land use scenarios (cattle ranching, A/R

additionality of the project, where the proponent justifies that without the carbon project the most likely scenario would be the maintenance of areas as pastures. Also, there are not enough alternative land use scenarios and the consistency of the alternative land use scenarios with regulatory requirements is not fully explained. The barrier analysis does not provide documented evidence and it seems fragile, as there are credit options for small and medium-sized producers in the market, in addition to public policy support (Pronaf, for example).		activities without being registered as a carbon project, and A/R activities of commercial eucalyptus for wood production, and agricultural activities (mango production), which are consistent with the national applicable laws and regulations). Barrier analyses have been carried out for each alternative land use, and determined that the cattle ranching is the only scenario without any barrier. Common practice analysis was performed and concluded that it is not a common practice to carry out Afforestation projects for a long term (20 years or more); and hence, the project can be considered additional. It is checked from different literatures cited in the section and confirmed as per the additionality tool (VT0001).
The landowner of the Fazenda Boa Vista II property is Brazilian Forestry Empreendimentos Florestais Ltda. In accordance with the PDD, ownership is evidenced by a title deed ("Certidão de Propriedade") issued by the Cartório Registro de Imóveis ("CRI") of Jequitinhonha, Minas Gerais. However, the land documents were	All the land titles and the agreement between the parties were provided at the time of the document review.	The land title documents are provided for the review to the audit team and the same was checked and accepted /39/. More details are provided in section 3.1 of the report.

not provided for the review.		
The project proponent is Carbon Credits Consulting SRL and the other entities involved are Carbon Credits Consulting Brazil as project developer and Brazilian Forestry Empreendimentos Florestais LTDA as landowner and forest owner. The PDD mentions that the rights to the credits are defined by the Collaboration and Partnership Agreement (“Contratto di Collaborazione e Partnership per L’ottenimento di VCUs”), but it does not specify whether this is between the proponent and the participating entities, or who has the right to commercialize the credits. The evidence of the agreement is cited in the PDD, but it wasn't provided for the review.	All the land titles were and the agreement between the parties were provided at the time of the document review.	PP has provided the Collaboration and Partnership Agreement for review to the VVB, wherein the carbon rights is mentioned. More details are provided in section 3.1 of the report.
Stakeholder consultations were held with institutional stakeholders such as the Instituto Estadual de Florestas and the Secretary of Public Services and Environment, and with community stakeholders	According §3.18.8 of the VCS Standard version 4.4, the communication and consultation with stakeholder is an ongoing process for the life of the project. The project is implemented on private properties and do not impact local stakeholder's property rights, there any	Information on the communication of the risks, costs and benefits to the relevant stakeholders have been included in the revised PD. This communication was made during the stakeholder consultation during September 2022, which are supported by attendance list /48/, project information flyer, presentation workshop /49/,

including internal farm workers (employees at Fazenda Boa Vista II) and neighboring farmers. The consultation process has been described in the PDD, but the communication of the risks, costs and benefits of the project, as well as compliance with all relevant laws and regulations on the rights of workers, is still pending, as this must be completed before the project is validated.	ongoing on unresolved conflicts over the property rights. And as mentioned earlier, the area where the project activities are located is remote and has few local communities. The PP will hold at least at each monitoring event a meeting to provide details about the risk and benefits the project may bring to local stakeholder during the project lifetime. Moreover, the workers involved in the project implementation and maintenance are engaged based on the Brazilian laws regulating workers' rights. The regular engagement is demonstrated by the payment stubs of the permanent workers.	presentation on the project description, and minutes of the meeting /48/. The compliance of the employment/workers with national laws and regulations was confirmed from the interview with the employees and confirmed from the salary receipts /106/. The validation team crosscheck the same with the stakeholders during the site visit.
There is not a FPIC document.	The project is implemented on private properties and do not impact local stakeholder's property rights, there any ongoing on unresolved conflicts over the property rights. Please refer to the updated section 2.5 of the PD version 02 of 05/10/2023.	The project is implemented on private properties and do not impact local stakeholder's property rights, there any ongoing on unresolved conflicts over the property rights. Therefore, an FPIC procedure is not applicable. It is confirmed during the onsite interview with stakeholders and land title documents.
Participants in the local stakeholder consultation did not report any negative impacts on local resources, and according to the PDD, if well managed, forest plantations can have a positive impact on the environment, especially in	The information on the same was updated in section 2.5 of the PD version 02 of 05/10/2023.	Section 2.5 of the revised PD version 2 has been updated by adding more information on the AFOLU-Specific safeguards. The comment was properly addressed by PP. More information is detailed in section 3.2.1 of the report.

degraded ecosystems. The social safeguards are very general and it would be important to better detail the group, the impact, the type of benefit, and what is the change in the well-being of the employees.		
The PDD identifies the risk of forest fires and describes the preventive measures to be developed to reduce the impact on the plantation.	The information on the same was updated in section 2.3 of the PD version 02 of 05/10/2023.	Section 2.3 of the revised PD includes information on the preventative activities to tackle forest fire. The audit team checked the forest fire combat training provided to the farm workers /90/, which complies with Technical Instruction No. 12, of the Military Fire Department of Minas Gerais /24/, and the General management plan of the project /46/. The comment was properly addressed by PP.
It does not describe the beneficiaries or the distribution of the benefits.	The project does not apply additional certification standard to demonstrate social and environmental benefits beyond GHG emission reductions or removal. Section 1.17 of the PD version 02 of 05/10/2023 provide details on how the project activity contributes to sustainable development goals and contributed to training and job opportunities compared to the project site and location.	The proposed project does not have a benefit sharing mechanism, as the project area is in a private property. However, the project activity contributes to sustainable development goals and also contribute to training and job opportunities to the local people.
According to the VCS Standard, Safeguards Section, the project shall justify the use of non-native species over native species, and	The information on the same was updated in section 2.1 and 2.3 of the PD version 02 of 05/10/2023.	Information on justification of the use of non-native species over native species, and the possible adverse effects of non-native species have been incorporated in sections 2.1 and 2.3 of the revised

explain the possible adverse effects of non-native species, which was not addressed in the PDD.		PD. The VVB team verified the same and accepted.
Eligibility: The VCS standard states that “activities that convert native ecosystems to generate GHG credits are not eligible” and “the project area shall not be cleared of native ecosystems within 10 years of the project start date”. As the project area is located in savanna/seasonal forest, the project needs to clarify whether the project pastures are native ecosystems, as the argument given in the eligibility of the project: “it is evident that already in 2008 the land of the project area was characterized by degraded pasture and before the start date the activity practiced was still cattle rearing” is not sufficient to demonstrate that the savanna ecosystem has not been affected by the project.	The information on the same was updated in section 1.3 of VCS PD version 02 of 05/10/2023.	The validation team checked the LULC analysis maps /62/, vegetation analysis report by a third - party engineer /20/, Landsat satellite imageries (2010 to 2019) /140/ and the photographs of the degraded pasture lands of the proposed project area prior to the project /132/, which points to the fact that the project area was covered with degraded pasture with no forest cover. Moreover, as per the reports the area was vegetated with plant species that are indicators of infertile land such as <i>Jurema lobeira species</i> etc. As mentioned in section 1.3 of the PD and checked from the above mentioned references the project activity has not cleared native ecosystem and thereby meets the eligibility criteria. It is to be noted that the proposed project areas are consolidated areas. The Consolidated Rural Areas are an institute of the Brazilian legal system that seeks to combine land use with environmental preservation. Under the terms of the New Forest Code (Law No. 12,651/12) the Consolidated Area is defined as the area of rural property with anthropic occupation (resulting from human action) pre-existing on 22 July 2008, with buildings, improvements, or agronomic activities, which was confirmed from the CCIR and CAR certificates /39/.

EPL is able to confirm that the PP has taken due account of all comments, as per requirement of VCS standard.

3.2.5 AFOLU-Specific Safeguards

The steps taken to assess the requirements of Sections 3.18.12 – 3.18.20 of the VCS Standard are as follows:

Local Stakeholder identification and Background

- The local stakeholder identification process and the description of results:

The project proponent identified stakeholders with the help of the landowner and Forest Manager. The stakeholders have been identified and were divided into Institutional and Community stakeholders.

a) Institutional Stakeholders:

- IEF - Instituto Estadual de Florestas – Teófilo Otoni Municipality.
- Secretary of Public Services and Environment - Ponto dos Volantes Municipality

b) Community Stakeholders:

- Internal farm workers (employees)
- Neighbouring farmers

The list of primary stakeholders seems reasonable for a project of this nature as confirmed through the site visit and since there are no nearby communities around the project area. The Project proponent has provided the map of identified settlements and neighbourhoods. The proponent provided full details on the process of identifying local stakeholders and a description of the results, particularly the interviews it conducted. The PD provide the details of all points from 1 to 7 of section 3.18.12 of the VCS Standard v4.4. The project is implemented on a private property and do not impact local stakeholders' property rights. Moreover, the PP has communication channels and grievance mechanisms in the event of complaint or conflict, as described in section 2.2 and 2.5 of the PD /01/.

Risks to Local Stakeholders and their Resources due to Project Implementation

During the on-site visit, there was no evidence found to confirm that the project expects negative offsite effects during the project lifetime. In general, the nature of the project generates positive impacts on the quality of the environment and on living conditions; no risks to local stakeholders are identified due to project implementation. Having said this, it is noted that weed control, chemical management, pruning, thinning, use of chemicals and maintenance activities of fences and roads can lead to incidents and accidents for workers. It is observed that to mitigate the risk, the PP provides trainings to the workers. The validation team checked the training plan and procedure in place /104//46/. Also crosschecked with the farm workers during the site visit. The workers were also provided with PPEs during the working hours.

In the PD it is mentioned that the main project proponent nor any other entity involved in the project's conception or implementation, is engaged in any form of discrimination or sexual harassment. The same was confirmed through interviews with the local stakeholders and employees /84/.

The Management team of the landowner has prior experience in implementing and management of Eucalyptus projects, which was crosschecked during interview with the stakeholders. Similarly, the PP has prior expertise in implementing carbon projects, which was crosschecked from Company's website (www.carboncreditsconsulting.com) and CVs of the Management team /27/.

Respect to Local Stakeholder Resources

As discussed above, the project is implemented in private property and thus there is no ongoing or unresolved conflicts over the property rights, which was also confirmed while interacting with the local stakeholders. Introduction of invasive species, use of non-native species along with the use of fertilizers, chemicals and biological control agents and the possible adverse effects are discussed under section 3.2.1 above (No Net Harm).

Communication and Consultation

As confirmed by the PP during the interview, they will continue the communication with the local stakeholders, and also adopting a grievance procedure in order to ensure and address claims, complaints and suggestions coming to them.

The PD demonstrates section 3.18.18, 3.18.19 and 3.18.20 of the VCS standard v4.4.

Considering the nature of the project and the context where it is implemented, it is reasonable to assume that it does not and will not create any negative impacts on local stakeholders. During the on-site visit, due to the characteristic of the project area and due to the fact that the project is developed under a private land and also the interviews with the stakeholders confirms that the project activity has no impacts on local stakeholders.

3.3 Application of Methodology

3.3.1 Title and Reference

The methodology used is the CDM A/R Large-scale Consolidated Methodology AR-ACM0003: Afforestation and reforestation of lands except wetlands v02.0 of 04 October 2013 /05/. This methodology is applicable to large scale afforestation and reforestation projects, as per the CDM scale definition. Besides the methodological document, the following tools are applied:

- A/R Methodological Tool: "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" – Version 01 of 19 October 2007. /06/
- AR-TOOL14: "Estimation of carbon stocks and change in carbon stocks of trees and shrubs in AR CDM project activities" – Version 04.2 of 24 July 2015. /09/
- AR-TOOL12: "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities" – Version 03.1 24 July 2015. /08/
- A/R Methodological Tool: "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities" – Version 01.1.0 of 15 April 2011. /11/
- A/R Methodological Tool: "Estimation of non-CO₂ greenhouse gas (GHG) emissions resulting from burning of biomass attributable to an A/R CDM project activity" – Version 04.0.0 of 25 November 2011. /07/

- AR-TOOL15: “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity” – Version 02.0 of 04 October 2013. /10/

EPL confirms that the choice of methodologies/tools is correct and justified in the PD /01/. These methodologies/tools are valid at the time of validation.

3.3.2 Applicability

The validation team reviewed the justifications to the applicability conditions provided by the PP in the PD and confirms the same to be appropriate. The following table provide the VVBs assessment towards the applicability conditions.

Table 10: VVBs assessment on the applicability conditions of the methodology.

Applicability condition	VVB's assessment
a. The land subject to the project activity does not fall in wetland category.	The project does not include wetlands, as it was confirmed during the onsite observations, interview with the field staff, technical staff, land owner, feasibility assessment reports and LULC maps /62/. The GIS files of the project area boundary and LULC was cross-checked in Google Earth Pro platform /36/ /64/.
b. Soil disturbance attributable to the afforestation and reforestation (A/R) project activity does not cover more than 10% of area in each of the following types of land, when these lands are included within the project boundary: i. Land containing organic soils. ii. Land which, in the baseline, is subjected to land-use and management practices and receives inputs listed in appendices 1 and 2 of the methodology.	During the site visit, it could be observed that the project activity did not result in any kind of soil disturbances above 10% of the area. Moreover, the land used for plantations neither contain organic soils, confirmed from the soil analysis reports /65/ nor is subject to land use management practices and does not receive inputs listed in appendix 1 and 2 of the methodology. As confirmed by the PP during the audit and from the project land use land cover maps /62/ the plantations are made on degraded pastureland where cattle ranching activities were practiced without receiving inputs listed in the appendices. Moreover, the Validation team checked the GIS files of the pasture quality maps derived from Mapbiomas v8.0 /140/, and confirmed that most of the project area is either moderately or severely degraded before the start date, as described in section 3.2 of the PD. It is evident that these degraded areas have been increasing over the years (from 2010 to 2019), and are likely to cover the entire project area shortly, without improvement initiatives and inputs.

	The methodology restricts the extent of soil disturbance in the project to be no more than 10 per cent, which has been justified above. Apart from this restriction on the extent of soil disturbance in certain types of soils and land-use practices, the methodology has a broad scope of application, i.e., example the land to be afforested or reforested does not have to be degraded land. Moreover the project justifies the land eligibility criteria AR-Tool-19 as per the requirements of clause 8, which is confirmed by checking evidence like aerial photographs, satellite imageries, LU/LC map, ground based surveys and land information from CCIR and CAR registry.
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Table 11: VVB's assessment on the applicability conditions of the associated tools.

Methodological tool	Applicability conditions	Project compliance
Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities.	Forestation of the land within the proposed project boundary performed with or without being registered as the A/R CDM project activity shall not lead to violation of any applicable law even if the law is not enforced. This tool is not applicable to small – scale afforestation and reforestation project activities.	The forestation activity within the project boundary does not lead to violation any applicable law as described in Section 1.14 of this PD /01/ The project is not a small-scale project. The project's net anthropogenic GHG removals exceed 8000 tCO₂e/year and developed as a project referring to large-scale methodology, AR-ACM0003.
Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities (Version 04.2)	This tool has no internal applicability conditions.	N/A
Estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities v01.1.0	(a) The areas of land to which this tool is applied: (i) Do not fall into wetland category; or (ii) Do not contain organic soils as defined in Annex A: glossary" of the IPCC GPG LULUCF 2003;	As discussed in the applicability conditions of the methodology, the project areas doesn't fall under the category of wetland. During the site visit, it could be observed

	(iii) Are not subject to any of the land management practices and application of inputs as listed in the Tables 1 and 2; (b) The A/R CDM project activity meets the following conditions: (i) Litter remains on site and is not removed in the A/R CDM project activity; and (ii) Soil disturbance attributable to the A/R CDM project activity, if any, is: • In accordance with appropriate soil conservation practices, e.g., follows the land contours; • Limited to soil disturbance for site preparation before planting and such disturbance is not repeated in less than twenty years.	that the project activity did not result in any kind of soil disturbances above 10% of the area. Moreover, the land used for plantations does neither contain organic soils, confirmed from the soil analysis reports /65/ nor is subject to land use management practices and does not receive inputs listed in appendix 1 and 2 of the methodology. As confirmed by the PP during the audit and from the project land use cover map /62/ the plantations are made on degraded pastureland where cattle ranching activities were practiced without receiving inputs listed in the appendices. The PP has further confirmed that the litter will remain at the site, which was also checked and confirmed as per the audit observations. It was also checked during the site visit that the PP is doing soil conservation activities by construction of bands and no soil disturbance activities after the planting has been done until the lifetime of the project, also confirmed from the SOPs /91/.
Estimation of carbon stocks and change in carbon stocks in deadwood and litter in A/R CDM project activity v03.1	This tool has no internal applicability conditions.	N/A
Estimation of the increase in GHG emissions attributable to displacement of pre-	This tool is not applicable if the displacement of agricultural activities is expected to cause, directly or indirectly, any	The project activity is not expected to cause, directly or indirectly, any drainage of wetlands or peatland. In fact,

project agricultural activities in A/R CDM project activity (Version 02.0)	drainage of wetlands or peat lands.	the project area was abandoned currently cattle ranching grassland (as described in Section 1.10) and thus there is no displacement of any agricultural activities. This was confirmed through the review of the evidence provided, including the descriptions in the PD.
Estimation of non-CO ₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity (Version 04.0.0)	The tool is applicable to all occurrence of fire within the project boundary. Non-CO₂ GHG emissions resulting from any occurrence of fire within the project boundary shall be accounted for each incidence of fire which affects an area greater than the minimum threshold area reported by the host Party for the purpose of defining forest, provided that the accumulated area affected by such fires in a given year is $\geq 5\%$ of the project area.	The proponent clarifies that project activity does not include burning biomass but in case of a loss event caused by fire this tool will be applied, provided that the accumulated area affected by such fires a given year is $>5\%$ of the project area.

EPL, hereby, confirms that the selected baseline and monitoring methodology has been previously approved by the CDM Executive Board, and is applicable to the project, which complies with all the applicability conditions therein, and the selected version is valid and active at the time of the validation commencement. It is also confirmed that the methodology and the methodological tools are correctly applied by comparing it with the actual text of the applicable versions.

3.3.3 Project Boundary

Regarding the carbon stock changes and considering the applicable methodology, the chosen carbon pools and GHG accounted are following:

Table 12: GHG sources

Source		Gas	Included?	Justification/Explanation
Baseline	Above and below ground biomass	CO ₂	Yes	Is a major carbon pool and the same has been accounted in baseline calculations. Project area, as per the on-site observation.

Source		Gas	Included?	Justification/Explanation
		CH ₄	No	Not required as per the methodology.
		N ₂ O	No	Not required as per the methodology.
	Dead wood, litter	CO ₂	No	Assumed to be zero for the baseline.
		CH ₄	No	Not required as per the methodology.
		N ₂ O	No	Not required as per the methodology.
	Soil Organic Carbon	CO ₂	No	Assumed to be zero for the baseline.
		CH ₄	No	Not required as per the methodology.
		N ₂ O	No	Not required as per the methodology.
	Burning of woody biomass	CO ₂	No	The project proponents will not burn biomass for site preparation or forest management. CO ₂ emissions due to burning of biomass are accounted as change in carbon stock.
		CH ₄	No	Burning the woody biomass for the purpose of the site preparation, or as part of forest management is allowed under the methodology. However, the project proponent will not burn biomass for site preparation or forest management.
		N ₂ O	No	Burning the woody biomass for the purpose of the site preparation, or as part of forest management is allowed under the methodology. However, the project proponent will not burn biomass for site preparation or forest management.
Project	Above and below ground biomass	CO ₂	Yes	Carbon stock in above and below ground biomass is the major carbon pool subjected to Project activity and it is expected to increase due to the implementation of the Project activity.
		CH ₄	No	This is not a requirement of the methodology.
		N ₂ O	No	This is not a requirement of the methodology.
	Dead wood, litter	CO ₂	Yes	Carbon stock in these pools is expected increase due to implementation of the Project activity.

Source		Gas	Included?	Justification/Explanation
		CH ₄	No	This is not a requirement of the methodology.
		N ₂ O	No	This is not a requirement of the methodology.
	Soil Organic Carbon	CO ₂	Yes	Carbon stock in this pool is expected to increase due to implementation of the Project activity.
		CH ₄	No	This is not a requirement of the methodology.
		N ₂ O	No	This is not a requirement of the methodology.
	Burning of woody biomass	CO ₂	No	No burning of woody biomass is used for site preparation or as part of forest management. However, in case of a loss event caused by fire this tool will be applied, provided that the accumulated area affected by such fires a given year is >5% of the project area.
		CH ₄	No	Burning of woody biomass for site preparation is not part of forest management. However, in case of a loss event caused by fire this tool will be applied, provided that the accumulated area affected by such fires a given year is >5% of the project area.
		N ₂ O	No	Burning of woody biomass for site preparation is not part of forest management. However, in case of a loss event caused by fire this tool will be applied, provided that the accumulated area affected by such fires a given year is >5% of the project area.

According to the VCS requirements, sources of emissions that are expected to increase in the project scenario compared to the baseline case must be included if the exclusion would lead to a significant overestimation of the total net anthropogenic GHG emission reductions generated during the fixed baseline period. Furthermore, the sources considered insignificant according to the latest VCS Methodology Requirements can always be neglected. The validation of the project activity did not reveal other greenhouse gas emissions or removals occurring within the proposed project activity boundary as a result of the implementation of the proposed project activity which are expected to contribute more than 5% of total decreases in carbon pools and increases in emissions, or more than 5% of net anthropogenic removals by sinks, which are not addressed by CDM AR-ACM003, Version 3.0.

EPL confirms that the project boundary and selected sources, sinks and reservoirs and their justification of inclusion and exclusion is valid and are in compliance with the applied methodology /05/.

3.3.4 Baseline Scenario

The pre-project land-use consists of large areas of abandoned and degraded pastures in consolidated rural area and the most plausible baseline scenario is extensive cattle ranching, as demonstrated below:

The baseline scenario has been justified applying the AR - TOOL02 “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities” (VCS PD v05 – Section 3.4 and 3.5). The VVB reviewed the analyses step by step of this process comparing with methodology requirements:

Step-0: Preliminary screening based on the starting date of the A/R project activity.

The project start date is 23/01/2020, based on the earliest planting date at block 71 of Fazenda Boa Vista Farm. Therefore, the start date is after 31/12/1999 as per the methodological tool provision. The incentives from VCS revenues were considered crucial before the start of the project, which was crosschecked from the agreement between Brazilian Forestry Empreendimentos Florestais Ltda and Carbon Credits Consulting S.R.L dated 10/07/2019 and amended on 12/01/2023. The agreement is valid for a period of 40 years and there would not be any harvesting of trees in the proposed project areas.

Step 1: Identification of alternative scenarios.

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

Realistic and credible alternatives scenarios for the current land area that would have occurred on the land within the proposed project boundary in the absence of the afforestation project activity under the VCS are:

Scenario 1: Continuation of the historical and culturally regional pre-project land use (extensive cattle ranching)

Scenario 2: Afforestation of the land within the project boundary performed without being registered as the A/R VCS project activity.

Scenario 03: Land use within the project boundary for agricultural activities (mango production)

The mentioned alternative land use scenarios were checked during the site visit and confirmed by interviewing stakeholders, Govt. stakeholders, and the landowners and literature provided /84/ /92/ /93/ /25/. The continuation of the pre-project activity (cattle ranching) is by far the most likely land use scenario for the project area.

No other possible alternative scenarios have been identified and appear reasonable for the project area.

Scenario 1: According to data from the Monitoring of Land Cover and Use, from the Brazilian Institute of Geography and Statistics (IBGE, 2018) /130/, for the state of Minas Gerais, the biggest changes that occurred in the period 2000 – 2018 were the reduction of grassland vegetation and the increase of agricultural areas, forestry, pasture with management and meadow mosaics and expansion of agriculture in areas occupied by pasture with management. According to IBGE (2017) /25/, the state

of Minas Gerais has a total of 22.1 million of bovines that represents 10.2% of the total bovine herd of Brazil. For cattle breeding is used natural grasslands and lands originally occupied by the Cerrado, that had suffered a process of deforestation and were transformed into pasture. This deforestation process still exists throughout Brazil. All the other information were supported by secondary information such as articles, data from official organisations. Therefore, the current land use would be a plausible alternative baseline land use.

Scenario 2: Afforestation of the land within the project boundary performed without being registered as the A/R VCS project activity: Brazil has millions of hectares planted with reforestation species as Eucalyptus, Pine and other species like Acacia (*Acacia mearnsii*), Seringueira (*Hevea spp.*), Teca (*Tectona grandis*), Paricá (*Schizolobium parahyba*), Araucária (*Araucaria angustifolia*) and Álamo (*Populus spp.*), used in the production of pulp, paper, architecture, furniture, energy and biomass. In Minas Gerais there are reforestation areas with commercial species and according to SFB (*Serviço Florestal Brasileiro*) the total area occupied by these forest plantations is approximately 2,300,000 ha /50/. In Brazil, the planted tree sector has been a significant indicator of economic, social, and environmental development as it promotes local economic changes, provides new employment opportunities, and generates income for the population. Furthermore, it contributes to adapting to climate change, mitigation, and the provision of ecosystem services. In Minas Gerais State costs for implementing such activities are estimated in R\$ 8,067.68/ha, according to the Ribeiro (2020) /51/. All the commercial plantations in Minas Gerais are regulated by national and regional laws and decrees presented in the section 1.14 of the VCS PD v05. Therefore, the alternative would be a plausible baseline land-use and it is consistent with current laws and regulations.

Scenario 3: Land use within the project boundary for agricultural activities (mango production): Minas Gerais fruit cultivation is quite diverse and is distributed across all regions of the state. The main crops produced include avocado, banana, citrus fruits, strawberries, mangoes, papayas, as well as temperate fruits like grapes and peaches, among others. A significant portion of the fruits is intended for the domestic market. All the relevant information were supported by secondary data like articles and data from official sources. Therefore, Scenario 3 is considered a plausible alternative land use scenario to the project activity.

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

EPL based on review of the applicable laws and regulations mentioned in the VCS PD /01/, confirms that the alternative land use scenarios identified are all in compliance with the laws and regulations, evidence regarding the same has also been provided by PP and checked by the validation team /22-27/ and interviews with the local authorities /92/.

As there is more than one alternative land use scenario, the project can proceed to next step i.e. barrier analysis.

STEP 2: Barrier Analysis

Sub-step 2a. Identification of barriers that would prevent the implementation of at least one alternative land use scenarios.

Based on the review of the VCS PD /01/, following barriers were identified that would prevent the implementation of at least one alternative land use scenarios:

- Barriers related to local tradition of land use
- Technological Barriers
- Investment barrier

Barrier related to local tradition of land use: The State of Minas Gerais, Brazil's third economic power, is often referred to as the "condensed state of Brazil" because of the very strong territorial and social disparities within its territory. Minas Gerais is Brazil's second largest state in terms of livestock (23.8 million cattle in 2015) and agricultural production (rice, sugar cane and grains), with production growing steadily at 2% per year since 2005. This growth has led to a 22% increase in emissions from the agricultural sector between 2005 (16.2 MtCO₂eq) and 2014 (19.8 MtCO₂eq), half of which is due to land use changes and deforestation /134/. As discussed in the PD, according to Monitoring of Land Cover and Use, from the Brazilian Institute of Geography and Statistics, source IBGE, 2018 /130/, for the state of Minas Gerais, the biggest changes that occurred in the period 2000 - 2018 were the reduction of grassland vegetation and the increase of agricultural areas, forestry, pasture with management and meadow mosaics and expansion of agriculture in areas occupied by pasture with management. For cattle breeding, natural grasslands and lands originally occupied by the Cerrado suffered a process of deforestation and were transformed into pasture, which was also confirmed in the report from Mongabay 2018 /94/. Understanding the effects of policy change on rates and locations of natural ecosystem loss is imperative. In the study "Simulating deforestation in Minas Gerais, Brazil under changing Govt policies and socio-economic conditions" /133/, deforestation in Minas Gerais was simulated annually until 2020 using Dinamica Environment for Geoprocessing Objects (Dinamica EGO). This system is a state-of-the-art land use and cover change (LUCC) model which incorporates government policy, landscape maps, and other biophysical and anthropogenic datasets. Three studied scenarios: (i) business as usual, (ii) increased deforestation, and (iii) decreased deforestation showed more transition to agriculture from shrubland compared to forests, and consistent locations for most deforestation. The probability of conversion to agriculture is strongly tied to areas with the smallest patches of original biome remaining. Increases in agricultural revenue are projected to continue with a loss of 25% of the remaining Cerrado land in the next decade if profit is maximized. Also confirmed from the Deforestation Monitoring Program of the Brazilian Biomes of the Ministry of Environment /95/. As per the sources CNA (Brazilian Confederation of Agriculture and Livestock), 2020 /22/, agribusiness has been recognized as a crucial driver of economic growth in Brazil. In 2019, the sum of goods and services generated through agribusiness reached R\$1.55 trillion, or 21.4 per cent of the Brazilian GDP. Of this total, crops account for the largest share (R\$1.06 trillion, or 68 per cent), while livestock corresponds to 32 per cent, or R\$494.8 billion.

There are several companies in Brazil dedicated to growing eucalyptus for charcoal, one of the recognised key products from eucalypt plantations, especially in the state of Minas Gerais. One cubic metre of charcoal requires approximately 2.8m³ of raw wood.

Table 13: Charcoal consumption in Minas Gerais (2004) /117/

Industry	1000s of m ³
Integrated steel mills	3,383
Pig Iron plants	13,500
Ferroalloy plants	2,250
Domestic use (estimated)	200
Total consumption Minas Gerais	19,333
Total consumption in Brazil	29,200

It is checked that large companies are the owners of the land and forest plantations, which are mainly steel, pulp and paper companies /104/. A significant portion of reforestation was carried out by reforestation companies, subsidiaries of major corporations, such as Florestal Acesita owned by

Aperam and Companhia Agrícola e Florestal Santa Barbara of Belgo-Mineira /108/. One of the Minas Gerais companies (V&M FLORESTAL), its main activity is the planting of Eucalyptus forests for charcoal with around 40,000 ha in dedicated plantation /96/. Thus, confirming that the prevailing practices of land-use in these regions are agriculture and livestock farming; and only large companies (as discussed above) go for eucalyptus plantations for fulfilling their needs. The validation team further wants to emphasize that the proposed project does not involve harvesting and is not a business as usual scenario.

Technological Barrier: Since farmers/landowners are already familiar with the entire production process for the activities related to their current land use, afforestation/reforestation requires different technical knowledge from the one applied to agriculture. It requires prior knowledge on the characteristics and specificities of this activity, as well as planning and technical knowledge on long-term silviculture implementation and management. As per the studies carried out by Institute of Forest Research and Studies /109/, to reach the productivity potential of the site, training is required to ensure the choice of genetic material with the most appropriate physical characteristics for the intended end use of the wood, which may also vary depending on specificities imposed by customers. The techniques implemented must be compatible with the local climate; therefore, it is necessary to analyse soil type, consider long-term cultural traits, control pests, ants, diseases, and weeds, and apply best management practices (including thinning), among other actions. Thus, it is essential that the farmers/landowners have the technical know-how in silvicultural operations. As per the report from Simioni *et al.* (2018) /97/ the major challenge for small and medium-sized producers lies not only in planting, but getting eucalyptus into the market.

Also, the lack of knowledge of forestry techniques available to small farmers is a barrier complemented with lack of availability and uncertainties in acquiring proper seedlings. As compared to traditional crops, the forest plantations require investments in procurement and storage of seedlings. Moreover, these investments are incremented by weak logistics such as transportation infrastructure (roads) prevalent in Brazil. As per National Confederation of Transportation (Confederação Nacional do Transporte – CNT) in 2022 estimated that 66% of the Brazilian Highways as fair, bad or very bad, and only 12.4% of the roads are paved /137/. Another technological barrier is the availability of irrigation system, as the project region is rainfall scarce region /74/, making it hard to cultivate water sensible crops like Mango during flowering season /138/ /139/.

Investment Barrier: The investment barrier is focused on unfavourable elements in the forestry sector, like the high concentration of costs in the first years of production, the long production cycle and the long wait for economic returns. The actual forestry market in Brazil is facing several market issues related to: domestic currency devaluation, which has led to significant increase in the cost of plant protection products and the increase of labour costs; it has been checked that the cost of forest production in Brazil have grown above inflation over the years. The same was checked with the costs of forestry activity, represented by the INCAF (Forest Activity Costs Index), have historically grown above the cost of agricultural production, represented by the IICP (Production Cost Inflation Index). Noted that the cost of forestry activity rose 24% above inflation presented by agricultural activity in the period between 2011 and 2019 /110/.

As per the reports published by Federal Institute of Minas Gerais Campus Sao Joao /111/, a large number of independent farmers use the land as a source of livelihood for their families, obtaining annual income from livestock and crop production (sometimes, even more than once a year) with independent forest producers, 70 percent of all participants did not count on forest planting as their main source of revenue, and approximately 71 per cent of those 70 per cent had agriculture as their main activity. It is also checked and confirmed that high liquidity, accessible instruments for risk management, protection against inflation, low trading margin and the various incentives provided to farmers are the main drivers for investing in commodities, which is not applicable to forestry sector /112/.

Due to the unfavourable peculiarity of the forestry sector (high concentration of costs in the first years of production, long wait for economic returns due the long production cycle) public capital from domestic and/or international capital markets are not available. The World Bank report of 2017 confirms that it is difficult that for donors to commit resources where there is risk of achieving those results, therefore forest countries are better able to choose their own pathways to achieving goals /107/. Lending interest rate in Brazil was reported at around 29.042 % in 2020 according to the World Bank collection of development indicators /113/. The high interest rate does not allow small-medium company to access to bank loan, because of the long production cycle, this represents a barrier to invest in forestry sector. It is also checked that due to high inflation rates, the project faces lack of access to credits. It was also checked that the Banks are reluctant to provide loan for such projects.

In addition, Brazil has lost its investment grade (poor credit rating), due to several economic instability factors, making it clear that there are structural risks and difficulties in what concerns capital for long term investments such as in the proposed project. The credit rating agency Fitch maintained Brazil's credit rating at BB- but revised the outlook to negative. In a statement the agency pointed out that the review reflects the deterioration of the country's economic and fiscal prospects, and the downside risks both due to political uncertainty and over the duration and intensity of the coronavirus pandemic. The note from Brazil has been in BB- since February 2018 /114/. Also, the scientific journal issued by the Federal University of Parana /115/ identified several factors that hinder and prevent the financing of reforestation projects in the region, such as the lack of information on credit lines among farmers and bank staff; bank managers' lack of knowledge about forestry enterprises; the long-term nature of forestry (and consequent higher risk); the lack of technical knowledge for project evaluation.

As per the "Equipe Agroicone /116/ forests are not accepted as collateral for financing, whereas farming has various mechanisms for insurance and guarantees. In addition, the proposed project does not involve harvesting and thereby doesn't generate any revenues other than VCS. It was also checked that some similar initiatives were carried out in the degraded areas of the region and most of them were done by NGOs /97/, non-profit institutions /98/, social movements /99/, research universities /110/ and Government agencies /101/ /102/. Also noted that these projects are initiated from international funds or public programs and budgets /103/. Thus, to implement such projects where there are no other revenues generated, VCS revenues, is very essential to make the project sustainable in the long run and alleviate the barriers.

Sub-step 2b. Elimination of land use scenarios that are prevented by the identified barriers.

Table 14: Scenarios identified by the project proponent with their corresponding barriers.

Scenario Barrier	Scenario 01: Continuation of the pre project activity (extensive cattle ranching).	Scenario 02: Afforestation of the land within the project boundary performed without being registered as the A/R VCS project activity	Scenario 03: Land use within the project boundary for agricultural activities (mango production).
Barriers related to local tradition of land use		x	
Technological Barrier			x
Investment Barrier		x	x

The land-use scenarios that are not prevented by any of the barriers are:

Scenario 1: Continuation of the pre-project activity (extensive cattle ranching).

The validation team confirms that the continuation of pre-project activity has been identified as the most plausible scenario in the absence of the proposed project activity, i.e., pre-project land use is the most plausible baseline scenario.

STEP 3: Investment analysis:

Not opted by PP. The forestation not registered as a VCS A/R project activity is not included in the list of land use scenarios that are not hindered by any barriers and given the barrier analysis identifies only one alternative land use scenario, it is not necessary to proceed with step 3.

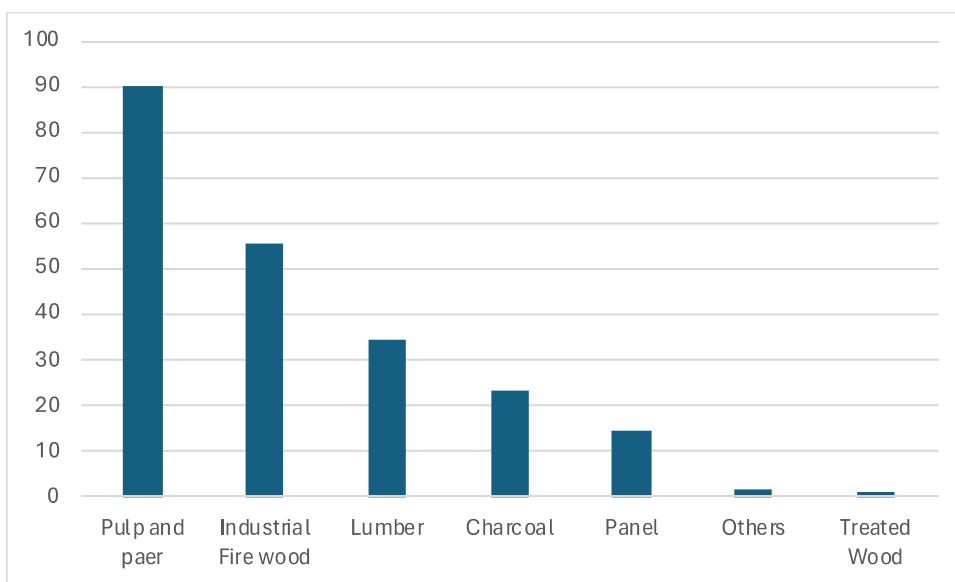
3.3.5 Additionality

According to the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities”, the previous steps (as discussed in the section above 3.3.4) shall be complemented with an analysis of the extent to which forestation activity has already diffused in the geographical area of the proposed VCS project activity. This test is a credibility check to demonstrate additionality which complements the barrier analysis (step 2) conducted above.

Step 4. Common practice analysis

As per the study “restoration of degraded lands and rehabilitation of soils in the Brazilian Cerrado” /131/, one of the states with the largest cattle herd is Minas Gerais. Brazil has 8.6 million hectares of commercial forests, Production reached 221 million m³, which was distributed among different types of industries.

Figure 2: Wood consumption for industrial use (million m³). Source: Brazilian Tree Industry (IBÁ), 2018 /131/



A survey carried out by the Indústria Brasileira de Árvores (IBÁ – Relatório 2019) /128/, together with state associations of forest-based companies, pointed out that Minas Gerais is the state with the largest area of planted forests in Brazil. In total, there are 2.3 million hectares, which represents 24% of the entire forest base in the country. The major eucalyptus producers in the state include independent steel companies, integrated steelworks, cellulose producers, ferroalloy producers, and

independent producers, with the first four also being the largest consumers of forest-based products /104/.

The main difference between the forestry activity of the Brazilian Forestry Sector that occurs in the region and the proposed project is that the FBV project proposes an innovative activity of establishing a planted forest with a long-term life cycle, as existing commercial forests in Brazil today have a medium harvest cycle, rarely exceeding 12 years. The long-term retention of commercially planted forests is not a common practice in the area due to the lack of demand for forest products from long-term forests and, primarily, due to the lack of interest from the Brazilian Forestry Sector in maintaining forests for 20 years or more, thereby preventing projects like FBV from becoming a common practice on a large commercial scale. Therefore, no similar activity can be observed, this is not a common practice. Hence, it can be confirmed that the project is additional.

Between 2000 and 2018, the national area of commercial forests grew by 1.8 million hectares, mainly in the states of Minas Gerais and Goiás, which are the states with the largest areas as well. In the Cerrado, the area of commercial forests was 3.3 million hectares in 2018, representing a 38.6% share /107/.

In Minas Gerais there are currently nine steel plants and 41 iron mills which produced 3.1 million tons of pig iron in 2018, of which some 50% was exported. The large iron and steel companies have invested heavily in eucalyptus plantations to secure charcoal production. Despite the fact that these companies are vertically integrated and have their own plantations. One of the Minas Gerais companies; V & M FLORESTAL, was founded in 1969, its main activity is the planting of Eucalyptus forests for charcoal – one of the key inputs to V&M do BRASIL (former Mannesmann S.A.) operations, used to feed its blast furnaces in the steel tube making process. The major eucalyptus producers in the state include independent steel companies, integrated steelworks, cellulose producers, ferroalloy producers, and independent producers, with the first four also being the largest consumers of forest-based products /104/. Thus, small and medium forestry companies are not advantaged in the market. It is clear that a multinational group may have different access to capital than a local SME company or an individual company and this project is completely different from the existing projects. The essential distinction between the proposed project and existing project is that the other projects have relatively short rotation cycle of 12 years. Sometimes it could be very short rotation (2 to 6 years); clonal eucalypt plantations are producing very high volumes (40-80 m³ /ha per annum), MAIs of 60 m³ /ha/yr have been reported /117/. However, the same is not the case with the proposed project activity, which doesn't involve harvesting.

In conclusion, the long-term retention of commercially planted forests is not a common practice in the area due to the lack of demand for forest products from long-term forests and, primarily, due to the lack of interest from the Brazilian Forestry Sector in maintaining forests for 20 years or more, thereby preventing projects like FBV from becoming a common practice on a large commercial scale. EPL is able to confirm that the approved baseline methodology has been correctly applied to identify a complete list of realistic and credible baseline land use, and the identified baseline land-use most reasonably represents what would occur in the absence of the proposed project activity.

All the assumptions and data used by the PP are listed in the PD and/or supporting documents. All documentation relevant for establishing the baseline land-use are correctly quoted and interpreted in the PD. Assumptions and data used in the identification of the baseline land-use are justified appropriately supported by evidence and can be deemed reasonable. Relevant national policies and circumstances are considered and listed in the PD. In view of the above, the project activity would not be a common practice in the geographical region of analysis and it would, therefore, be additional and the proposed project activity is not the baseline scenario.

EPL team confirms that similar activities would not have occurred in the project activity region without VCU revenues to maintain the forest throughout the project crediting period. EPL confirms that all data, rationales, assumptions, justifications, and documentation provided by the project participants to support demonstration of additionality are credible and reliable, which was checked and verified at the time of validation. EPL considers the reasoning for the proposed project additionality demonstration is credible and reasonable i.e. the proposed project has the ability to reduce anthropogenic emissions of greenhouse gases by sources below those that would have occurred in the absence of the registered VCS A/R project activity.

3.3.6 Quantification of GHG Emission Reductions and Removals

Procedures for quantifying the GHG emission reductions and removals generated by the project during the project crediting period were conducted in accordance with the methodology “AR-ACM0003: Afforestation and reforestation of lands except wetlands v02.0”/05/. The validation team performed an intensive quantification review of all input data, parameters, formulae, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS documentation, methodology modules, ER calculation sheet /02/, and the PD /01/.

Furthermore, the validation team recalculated subsets of the analysis to confirm correctness. Where applicable, references for analysis methods or default values were checked against relevant scientific literature for best practice.

Baseline emissions: The baseline emissions were determined by AR-ACM0003 - Afforestation and Reforestation of Lands Except Wetlands, version 2 – A/R Large-scale Consolidated Methodology, it was reviewed step by step and was compare with methodology requirements. For baseline net GHG removals by sinks, in accordance with AR-ACM0003, the equation number 1 of methodology was applied.

$$\Delta C_{BSL,t} = \Delta C_{TREE_BSL,t} + \Delta C_{SHRUB_BSL,t} + \Delta C_{DW_BSL,t} + \Delta C_{LI_BSL,t} \text{-----}(1)$$

Where:

$\Delta C_{BSL,t}$	=	Baseline net GHG removals by sinks in year t ; t CO ₂ -e
$\Delta C_{TREE_BSL,t}$	=	Change in carbon stock in baseline tree biomass within the project boundary in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”; t CO ₂ -e
$\Delta C_{SHRUB_BSL,t}$	=	Change in carbon stock in baseline shrub biomass within the project boundary, in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”; t CO ₂ -e
$\Delta C_{DW_BSL,t}$	=	Change in carbon stock in baseline dead wood biomass within the project boundary, in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO ₂ -e
$\Delta C_{LI_BSL,t}$	=	Change in carbon stock in baseline litter biomass within the project boundary, in year t , as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO ₂ -e

Carbon stock in trees in the baseline:

Although the trees present under the baseline are sparse and limited, the phytophysiognomy of the area has been characterized as degraded pasture and exposed soil. As per the vegetation analysis report /60/, these sparse trees are actually shrubs. And these shrubs were removed by the landowner during land preparation stage of plantation. It is also important to highlight that the landowner has acquired license for plantation purpose from concerned Govt. authority /26/.

However, to be conservative, these shrubs were considered as sparse/isolated trees and hence, the tree stock under the baseline should be accounted for, as these were removed. The Project followed the approach of proportional canopy cover, described under section 8.3 of AR-TOOL14. This method is suitable for estimating baseline carbon stock in tree biomass where the average tree crown cover in the baseline is less than 20% of the threshold tree crown cover reported by the Host Party, considering the current definition of forest or forest formation.

The Brazilian Designated National Authority informed the following values for afforestation and reforestation project activities /128/:

Table 15: Brazilian Afforestation/Reforestation information

Requirements	Host party's selected single minimum
Canopy cover	30%
Minimum Height	1 m
Area	5 m

The mean pre-project tree crown cover is 0.13% for stratum 1 and 0.65% for stratum 2, less than 20% of the threshold tree crown cover defined by the DNA (6%), as required by the AR-TOOL0014, which requires under paragraph 49 that "This method is applicable only for estimation of the pre-project carbon stock in tree biomass in the baseline where the mean pre-project tree crown cover is less than 20 per cent of the threshold tree crown cover reported by the host Party under paragraph 8 of the annex to decision 5/CMP.1."

The canopy crown cover of the sparse trees that were removed and the respective occupied area for each stratum are 0.06 ha for stratum 1 with a project area of 46.66 ha and 1.59 ha for stratum 2 with a project area of 246.46 ha. The occupied areas were crosschecked with GIS files /118/ and confirmed to be appropriate.

Meeting the guidelines of AR-TOOL14 tool section 8.3, in paragraph 25, the change in tree carbon stock at baseline is estimated as follows:

$$\Delta C_{TREE_BSL} = \sum_{i=1}^M \Delta C_{TREE_BSLi} \quad (\text{Equation 9})$$

$$\Delta C_{TREE_BSLi} = \frac{44}{12} \times CF_{TREE} \times \Delta b_{FOREST} \times (1 + R_{TREE}) \times CC_{TREE_BSLi} \times A_i \quad (\text{Equation 10})$$

$$\Delta C_{TREE_BSL} = \text{Mean annual change in carbon stock in trees in the baseline; t CO}_2\text{e yr}^{-1}$$

$$\Delta C_{TREE_BSLi} = \text{Mean annual change in carbon stock in trees in the baseline, in baseline stratum i; t CO}_2\text{e yr}^{-1}$$

		Carbon fraction of tree biomass; t C (t.d.m.) ⁻¹ .
CF_{TREE}	=	A default value of 0.47 t C (t.d.m.) ⁻¹ is used unless transparent and verifiable information can be provided to justify a different value.
Δb_{FOREST}	=	Values of are taken from Table 3A.1.5 of the IPCC Good Practice Guidance for Land Use, Land-Use Change and Forestry (IPCC GPG-LULUCF 2003) unless transparent and verifiable information can be provided to justify different values. Default mean annual increment of above-ground biomass in forest in the region or country where the A/R CDM project activity is located; t d.m. ha ⁻¹ yr ⁻¹ .
		Root-shoot ratio for the trees in the baseline; dimensionless.
R_{TREE}	=	A default value of 0.25 is used unless transparent and verifiable information can be provided to justify a different value.
$CC_{TREE_{BSL},i}$	=	Crown cover of trees in the baseline, in baseline stratum i, at the start of the A/R CDM project activity, expressed as a fraction; dimensionless
A_i	=	Area of baseline stratum i, delineated on the basis of tree crown cover at the start of the A/R CDM project activity; ha
ΔC_{TREE_BSLi}	=	8.93t CO ₂ e

Carbon stock in shrubs:

As discussed above, prior to the project, the baseline had few isolated trees/shrubs and the same has already been discounted from the baseline carbon stock in trees. As per the vegetation analysis report, these sparse trees are actually shrubs. However, to be conservative, these shrubs were considered as sparse/isolated trees and hence, the tree stock under the baseline was accounted for, as these were removed. Thus, the need of accounting baseline shrubs are no longer necessary.

Further to the above justification, the shrubs in the baseline may be accounted as zero for those lands where one or more indicators apply:

- Observed reduction in topsoil depth (e.g., as shown by root exposure, presence of pedestals, exposed sub-soil horizons);
- Presence of gully, sheet or rill erosion; or landslides, or other forms of mass movement erosion;
- Presence of plant species locally known to be indicators of infertile land;
- Land comprises of bare sand dunes, or other bare lands;
- Land contains contaminated soils, mine spoils, or highly alkaline or saline soils;

- Land is subjected to periodic cycles (e.g. slash-and-burn, or clearing-regrowing cycles) so that the biomass oscillates between a minimum and a maximum value in the baseline;

Conditions under the previous paragraph apply (conditions a, b and c from paragraph 11 at AR-TOOL14).

The above mentioned conditions of AR-TOOL 14, section (#12) were crosschecked with the third party feasibility analysis assessment report /60/ carried out by the Forest Engineer Hugo Henrique Cardoso De Salis dated 22/04/2022. The report states the presence of rill erosion. In fact during the site visit, the validation team noted that contour bunds were built to ensure there is no sheet and rill erosion. and also the presence of plant species (for example, *Baccharis dracunculifolia*, *Senna macranthera*, *Mimosa hostilis*, *Solanum lycocarpum*), which are indicators of infertile land. The competency and prior experience of the forest engineer (Hugo Henrique Cardoso de Salis and Marcos Aurélio) was crosschecked with the CVs /141/. The experts are graduates in Forest Engineering with Post graduation in Analysis and modelling of Environmental systems. The team has experience in geoscience with an emphasis on cartography, remote sensing tools applied to hydrology, forest inventories and topography.

Moreover, a report on Soil Erodibility to water erosion within the project area/ project zone was provided by Project Proponent /147/, and in section 3.2 of the PD /01/. As per the report, the project area and project zone fall under the category “Eroded Phase (Fase Erodida)” or “Eroded Areas”, which corresponds to presence of strong, very strong and extremely strong erosion /147//149/. VVB crosschecked and confirms the results by downloading the soil erodibility data from the EMBRAPA website /148/ and examined the maps in GIS platform. Additionally, VVB also checked the Soil Vulnerability and Soil Susceptibility to water erosion data from EMBRAPA/150/; however, there was no data for the project area/zone in these maps, similar to the report provided by PP/147/.

In addition, the baseline scenario was extensive cattle ranching leading to degraded pasture /140/, which is often due to slash and burning procedures. The same was crosschecked from the satellite image /61/ LULC Maps /62/ and GIS files of pasture quality maps /140/. Thus, demonstrating that more than one of the conditions discussed above applies, which are justified using objective evidences. On this basis, the carbon stock and change in carbon stock in shrubs in the baseline are accounted as zero.

Carbon stocks in dead wood and litter:

Baseline scenario does not include forested land, but unmanaged grasslands for cattle ranching. Moreover, the baseline scenario was degraded land, where slash-and-burn cycles were used in the past, which did not allow accumulation of dead wood and litter. Therefore, dead wood and litter are not present in the continuation of the pre-project activities and are accounted as zero.

Therefore, the total baseline net GHG removals by sinks are considered as 8.93 tCO_{2e}. EPL deems that this assumption is correct and in accordance with the methodology, tools, and the VCS standard requirements.

Project Emissions:

Procedure to be used for calculation of ex-ante actual net GHG removals by sinks is detailed in the “AR-ACM0003 methodology v02.0” under the section 5.5 “Actual net GHG removals by sinks”.

The actual net GHG removals by sinks are calculated as follows:

$$\Delta C_{ACTUAL,t} = \Delta C_{P,t} - GHG_{E,t}$$

Where:

- $\Delta C_{ACTUAL,t}$ = Actual net GHG removals by sinks in year t ; t CO₂-e
- $\Delta C_{P,t}$ = Change in the carbon stock in project, occurring in the selected carbon pools, in year t ; t CO₂-e
- $GHG_{E,t}$ = Increase in non-CO₂ GHG emissions within the project boundary as a result of the implementation of the A/R CDM project activity, in year t , as estimated in the tool "Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity"; t CO₂-e.

Stratification:

Stratification was defined according to section 5.3 of the "AR-ACM0003 A/R Consolidated Large Scale Methodology Afforestation and reforestation of lands except wetlands Version 02.0". The methodology states that if the distribution of biomass in the project area is not homogeneous, stratification should be performed to improve the accuracy of biomass estimation.

For actual net GHG removals for ex-ante estimations, the stratification was based on the project planting plan, considering the year of plantation as well as the type of species to be planted. In the proposed project the plantation was in done 2020. Hence the species type was considered to stratify the area: VM01 *Eucalyptus urocam* (*E. urophylla* x *E. camaldulensis*) and *Eucalyptus tricross* (*E. camaldulensis* x *E. grandis*) x *E. urophylla*).

Table 16: Stratum for Eucalyptus planting plot sampling

Stratum	Area in ha	Eucalyptus Type	Year of planting
Stratum 1	46.66	Eucalyptus urocam	2020
Stratum 2	246.46	Eucalyptus tricross	2020

According to AR-ACM0003, stratification for ex post estimation for actual GHG removals by sinks should be based on actual implementation of the project planting plan. The PP has confirmed in the PD that if natural or anthropogenic impacts of other factors significantly alter the pattern of biomass distribution in the project area, then the ex-post stratification will be revised accordingly. The same is accepted by the VVB team.

Change in carbon stock in project

Carbon stock changes are the sum of the changes in above-ground and below-ground tree biomass, dead wood, litter, and soil organic carbon stocks in the project scenario. Changes in the carbon stocks in project were estimated using the following equation described in the methodology:

$$\Delta C_{P,t} = \Delta C_{TREE_PROJ,t} + \Delta C_{SHRUB_PROJ,t} + \Delta C_{DW_PROJ,t} + \Delta C_{LI_PROJ,t} + \Delta C_{SOCAL,t}$$

(Equation 3)

Where:

$\Delta C_{P,t}$ = Change in the carbon stocks in project, occurring in the selected carbon pools, in year t; t CO₂-e

$\Delta C_{TREE_PROJ,t}$ = Change in carbon stock in tree biomass in project in year t, as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”; t CO₂-e

$\Delta C_{SHRUB_PROJ,t}$ = Change in carbon stock in shrub biomass in project in year t, as estimated in the tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities”; t CO₂-e

$\Delta C_{DW_PROJ,t}$ = Change in carbon stock in dead-wood biomass in project in year t, as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO₂-e

$\Delta C_{LI_PROJ,t}$ = Change in carbon stock in litter biomass in project in year t, as estimated in the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities”; t CO₂-e

$\Delta SOC_{AL,t}$ = Change in carbon stock in SOC in project, in year t, as estimated in the tool “Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities”; t CO₂-e

It is to be noted that the proposed project activity is an afforestation activity and it doesn't include harvesting events. Hence a long-term average GHG benefits is not applied to the stratum, since there is no disturbance/harvesting throughout the lifetime of the project.

Estimation of Change in Carbon Stock in Tree and Shrub biomass

For ex-ante estimation of carbon stock in tree biomass at a given moment, the guidelines on AR-ACM0003 and AR-TOOL14, section 8.2 “Estimation by modelling of tree growth and stand development” was applied. Since specific equations/stand growth data for the species *E. urocam* and *E. tricross* was not available, the PP used increment in volume of wood suitable for industrial processing value (I_v) to model the tree growth. To estimate the increment in volume (IV) for each type of species, the PP applied the IVs of the species that were used in the inbreeding and then got an average of this values: for cultivar VM01, *E. urophylla* increment in volume is 40 m³ ha⁻¹ year⁻¹, while *E. camaldulensis*'s IV value is 22.5 m³ ha⁻¹ year⁻¹; the average of these values is 31.25 m³ ha⁻¹ year⁻¹. For AEC 2034, considered the average IV for *E. camaldulensis* and *E. grandis* (32.5 m³ ha⁻¹ year⁻¹), that is 27.5 m³ ha⁻¹ year⁻¹, the output value was then coupled with *E. urophylla*'s IV value (40 m³ ha⁻¹ year⁻¹), resulting to 33.75 m³ ha⁻¹ year⁻¹ of increment. The validation team crosschecked the values with IPCC Good Practice Guidance for LULUCF - Biomass Default Tables, table 3A.1.7, Average annual above ground

net increment in volume in plantations by species (to be used for I_v in equation 3.2.5) and confirms to be appropriate /121/.

Average annual increment in biomass (equation 3.2.5)

$$G_{total} = G_w \times (1 + R) \quad (A) \quad \text{In case aboveground biomass increment (dry matter) data are used directly. Otherwise, GW is estimated using equation B or its equivalent}$$

$$G_w = I_v \times D \times BEF_1 \quad (B) \quad \text{In case net volume increment data are used to estimate GW.}$$

Where:

G_{TOTAL} = average annual biomass increments above and below-ground, tons d.m. $ha^{-1} yr^{-1}$

G_w = average annual aboveground biomass increment, $ton^{-1} ha^{-1} yr^{-1}$

R = root-to-shoot ratio appropriate to increments, dimensionless.

I_v = average annual net increment in volume suitable for industrial processing, $m^3 ha^{-1} yr^{-1}$

D = basic wood density, tons d.m. m^{-3}

BEF_1 = biomass expansion factor for conversion of annual net increment (including bark) to aboveground tree biomass increment, dimensionless

Wood density of *E.urocam* is taken as 0.65, which is resulting from the average of wood density of *E. urophylla* and *E. camaldulensis*. The values are referred from Zanne et al. Global wood density database 2009 /119/ and Cirad wood density database 2017 /120/.

Wood density of *E. tricross* is taken as 0.61, which is resulting from the average of wood density of *E. grandis* and *E. camaldulensis*. The resulting averaged value is added to *E. urophylla*, which finally averaged to the value 0.61. The validation team checked values from ER spread sheets and references Zanne et al. Global wood density database 2009 /119/ and Cirad wood density database 2017 /120/. The same is found to be appropriate.

Biomass Expansion Factor (BEF) of 1.50 referred from IPCC – TABLE 3A.1.10 of ANNEX 3A.1 “Biomass Default Tables for Section 3.2 Forest Land” of IPCC Good Practice Guidance for LULUCF (Tropical > Broadleaf > Equation 3.2.5) /122/. The validation team accepted the same since it is for tropical climate zone.

Root-shoot-ratio, R is again referred from IPCC – TABLE 3A.1.8 of ANNEX 3A.1 “Biomass Default Tables for Section 3.2 Forest Land” of IPCC Good Practice Guidance for LULUCF /123/.

For ex-post estimation of carbon stock in trees at a point of time option 8.1.1 of stratified random sampling has been chosen.

Under this method, random sample plots are installed in the strata (e.g. systematic sampling with a random start) and measured. This method is more efficient when the sample plots are optimally allocated to the strata keeping in view the expected mean tree biomass per hectare and its variability in the strata. Number of sample plots and their allocation to strata are estimated by using the A/R methodological tool “Calculation of the number of sample plots for measurements within A/R CDM

project activities". The number of sample plot calculation is confirmed from the calculation sheet provided by PP /136/.

Mean carbon stock in trees within the tree biomass estimation strata was calculated as per the below equation.

$$C_{TREE} = \frac{44}{12} \times CF_{TREE} \times B_{TREE} \quad (\text{Equation 12})$$

Where:

C_{TREE} = Carbon stock in trees in the tree biomass estimation strata; t CO₂e

CF_{TREE} = Carbon fraction of tree biomass; t C (t d.m.)⁻¹

B_{TREE} = Tree biomass in the tree biomass estimation strata; t d.m.

$$B_{TREE} = A \times b_{TREE} \quad (\text{Equation 13})$$

Where,

B_{TREE} = Tree biomass in the tree biomass estimation strata; t d.m.

A = Sum of areas of the tree biomass estimation strata; ha

b_{TREE} = Mean tree biomass per hectare in the tree biomass estimation strata; t d.m. ha⁻¹

Uncertainty Assessment

It is to be noted that Ex-ante estimation (projection) of carbon stock in tree biomass is not subjected to uncertainty control, although the project participants should use the best available data and models that apply to the project site and the tree species.

For ex-post estimations, as per the AR-Tool 14, only sampling uncertainty is assessed and controlled. Uncertainty in values obtained from direct measurement (e.g. measured diameter of a tree) or values derived from models (e.g. biomass of a tree derived from its diameter using an allometric equation) is not quantified. This type of uncertainty should be managed through the application of appropriate quality assurance and quality control (QA/QC) methods. The same has been detailed in section 5.3 of the monitoring plan of the PD.

As per the tool -14, the uncertainty is estimated as follows:

$$u_C = \frac{t_{VAL} \times \sqrt{\sum_{i=1}^M w_i^2 \times \frac{s_i^2}{n_i}}}{b_{TREE}} \quad (\text{Equation 15})$$

As discussed in the PD, if the uncertainty estimated as per the above equation is greater than 10%, C_{TREE} is made conservative by applying uncertainty discount according to the procedure provided in Appendix 2 of AR-Tool-14. Also, as per the PD, the applied methodology and the VCS Standard do not

define the procedure for the uncertainty assessment for ex-post and ex-ante calculations. The ex-post calculation will be analyzed through the calculation of the sampling error and demonstrated in the monitoring report.

Estimation for Change in carbon stock in litter and dead wood

Estimations were done in accordance with the tool “Estimation of carbon stocks and change in carbon stocks in dead wood and litter in A/R CDM project activities” (Version 3.0). “Conservative default-factor based method for estimation of carbon stock” was used. In this approach the deadwood and litter are not removed from the project area.

The method allows for estimating carbon stocks under such pools based on conservative default factors, as outlined in the following equations:

$$C_{DW,i,t} = C_{TREE,i,t} * DF_{DW}$$

$$C_{LI,i,t} = C_{TREE,i,t} * DF_{LI}$$

Through the guidelines of the AR-TOOL12, carbon stock under litter and dead wood pools were estimated by correlating them with the carbon stock in the tree biomass, applying the estimated data for the stock in trees within the project boundaries.

For the dead wood and litter estimation, the conservative default factor identified by the tool was applied. The validation team checked the evidence for the tropical biome, elevation /73/ and precipitation /74/ and the justification provided for the application of default value in the ER sheets and PD. The VVB confirms the same to be satisfactory.

Estimation for Change in soil organic carbon

The carbon stock in soil organic carbon for the native reforestation areas will be estimated as per AR-TOOL0016, which applies the following equation:

$$SOC_{INITIAL,i} = SOC_{REF,i} \times f_{LU,i} \times f_{MG,i} \times f_{IN,i} \quad (\text{Equation 1})$$

Where,

$SOC_{INITIAL,i}$	=	SOC stock at the beginning of the A/R CDM project activity in stratum i of the areas of land; t C ha ⁻¹ ;
$SOC_{REF,i}$	=	Reference SOC stock corresponding to the reference condition in native lands (i.e. non-degraded, unimproved lands under native vegetation – normally forest) by climate region and soil type applicable to stratum i of the areas of land; t C ha ⁻¹ ;
$f_{LU,i}$	=	Relative stock change factor for baseline land-use in stratum i of the areas of land; dimensionless;
$f_{MG,i}$	=	Relative stock change factor for baseline management regime in stratum i of the areas of land; dimensionless;
$f_{IN,i}$	=	Relative stock change factor for baseline input regime (e.g. crop residue returns, manure) in stratum i of the areas of land; dimensionless;
i	=	1, 2, 3, ... strata of areas of land; dimensionless.

Since the entire project is classified as a tropical dry region /02/ and the soils found are LAC soils. The SOC reference values for these were referred from the methodological tool. The auditing team checked the justification of the values used in the ER calculations and details of the same provided in 4.4 of the PD, which is accepted.

The rate of change in SOC stock in project scenario until the steady-state SOC is reached is estimated as follows:

$$dSOC_{t,i} = \frac{SOC_{REF,i} - (SOC_{INITIAL,i} - SOC_{LOSS,i})}{20 \text{ years}} \text{ for } t_{PREP,i} < t \leq t_{PREP,i} + 20 \quad (\text{Equation 6})$$

$$dSOC_{t,i} = 0.05 \quad \text{tC/ha/year}$$

The change in SOC stock for all the strata of the areas of land, in year t is calculated according to the following equation of the methodological tool.

$$\Delta SOC_{AL,t} = \frac{44}{12} \times \sum A_i \times dSOC_{t,i} \times 1 \text{ year} \quad (\text{Equation 8})$$

$$\Delta SOC_{AL,t} = 58.25 \quad \text{tCO}_2\text{e/year}$$

$\Delta SOC_{AL,t}$ represents the fixed amount of annual carbon storage. Multiplying the number of years and hectares with the $\Delta SOC_{AL,t}$ results in the amount soil organic carbon change (ΔSOC). The same is as per the tool. EPL team crosschecked the same from ER spread sheet and confirmed to be appropriate.

The methodological tool estimation of non-CO₂ emissions resulting from burning of biomass attributable to an A/R CDM project activity” is applicable for all occurrence of fire within the project boundary.

Emissions of non-CO₂ GHGs resulting from burning of biomass and forest fires within the project boundary in year t is estimated as follows:

$$GHG_{E,t} = GHG_{SPF,t} + GHG_{FMF,t} + GHG_{FF,t} \quad (\text{Equation 1})$$

No emissions from fires have been considered in the ex-ante calculation as no burning is used to clear the land for planting. This was confirmed during the site visit no burning occurs as part of the site preparation within the project boundary and no burning occurs as part of the forest management. Emissions from forest fires will be monitored as required by the methodological tool “Estimation of non-CO₂ GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity /07/” and the same will be accounted that surpasses threshold of 5% of the project area.

$$GHG_{FF,t} = GHG_{FF_TREE,t} + GHG_{FF_DOM,t} \quad \text{Equation (6)}$$

Where:

$$GHG_{FF,t} = \text{Emission of non-CO}_2 \text{ GHGs resulting from forest fire, in year } t; \text{ tCO}_2\text{-e}$$

$$GHG_{FF_TREE,t} = \text{Emission of non-CO}_2 \text{ GHGs resulting from the loss of aboveground biomass of trees due to forest fire, in year } t; \text{ tCO}_2\text{-e}$$

$$GHG_{FF_DOM,t} = \text{Emission of non-CO}_2 \text{ GHGs resulting from the loss of dead organic matter due to forest fire, in year } t; \text{ tCO}_2\text{-e}$$

Since the stock of dead organic matter is considered as 0. The emissions of non-CO₂ emissions resulting from the same is not considered.

Emission of non-CO₂ GHGs resulting from the loss of aboveground tree biomass due to fire is calculated using the above ground biomass in trees of relevant strata in last verification and a combustion factor. For the first verification, emission of non-CO₂ GHGs resulting from the loss of trees due to natural or anthropogenic forest fire is assumed to be zero.

$$GHG_{FF_TREE,t} = 0.001 * \sum_{i=1}^M A_{BURN,i,t} * b_{TREE,i,t_L} * COMF_i * (EF_{CH_4,i} * GWP_{CH_4} + EF_{N_2O,i} * GWP_{N_2O}) \quad \text{Equation (7)}$$

Where:

$GHG_{FF_TREE,t}$	=	Emission of non-CO ₂ gases resulting from the loss of aboveground biomass of trees due to fire, in year t; t CO ₂ -e
$A_{BURN,i,t}$	=	Area burnt in stratum i in year t; ha
$b_{Tree,i,tL}$	=	Mean aboveground tree biomass per hectare in stratum i in year tL which is the year in which last verification was carried out before occurrence of the fire; t d.m. ha ⁻¹ (Where aboveground biomass of living trees is not burnt by fire, TREE i tL b , may be set equal to zero)
$COMF_i$	=	Combustion factor for stratum i; dimensionless
$EF_{CH_4,i}$	=	Emission factor for CH ₄ in stratum i; g CH ₄ (kg dry matter burnt) ⁻¹
GWP_{CH_4}	=	Global warming potential for CH ₄ ; dimensionless
$EF_{N_2O,i}$	=	Emission factor for N ₂ O in stratum i; g N ₂ O (kg dry matter burnt) ⁻¹
GWP_{N_2O}	=	Global warming potential for N ₂ O; dimensionless
I	=	1, 2, 3,..... M strata
T	=	1, 2, 3,..... years elapsed since the start of the project activity

Leakage:

According to the applied methodology /05/, leakage has to be estimated due to the displacement of agricultural activities as per the provision of the methodological tool “Estimation of the increase in GHG emissions attributable to displacement of pre-project agricultural activities in A/R CDM project activity”. The project does not expect any displacement of agricultural activities and any harvesting activity thus the leakage is accounted as zero. As per the site visit observations and interviews with the project proponents, it was confirmed that the project area was degraded pasture lands, which was confirmed from the LU/LC maps. Moreover, no agricultural or cattle ranching activities were carried out by the present landowner, and therefore, no leakage is anticipated.

Summary of net Anthropogenic GHG removals by sinks:

According to the equation 5 of the AR-ACM0003 methodology /05/, the net anthropogenic GHG removals by sinks shall be calculated as follows:

$$\Delta C_{AR-CDM,t} = \Delta C_{ACTUAL,t} - \Delta C_{BSL,t} - LK_t$$

Where:

$\Delta C_{AR-CDM,t}$	=	Net anthropogenic GHG removals by sinks, in year t; t CO ₂ -e
$\Delta C_{ACTUAL,t}$	=	Actual net GHG removals by sinks, in year t; t CO ₂ -e
$\Delta C_{BSL,t}$	=	Baseline net GHG removals by sinks, in year t; t CO ₂ -e
LK_t	=	GHG emissions due to leakage, in year t; t CO ₂ -e

Based on the calculations and results presented in above sections and ER calculation sheet /02/, the implementation of the project activity will result in net anthropogenic GHG removals by sinks of 453,118.03 tCO₂e over the 20 years crediting period with an average annual GHG emission of 22,655.90 tCO₂e.

No uncertainties result was associated with the calculation of net anthropogenic GHG removals by sinks. Applying the AFOLU non-permanence risk analysis, the buffer is calculated, which is detailed at section 3.4 of this report.

All assumptions and data used by the PPs are listed in the PD and/or supporting document, including their references and sources. All documentation used by the PPs as the basis for assumptions and source of data is correctly quoted and interpreted in the PD. All values used in the PD are considered reasonable in the context of the proposed project activity. The baseline methodology has been applied correctly to calculate net anthropogenic GHG removals reductions by sinks, and can be replicated using data and parameter values provided in the PD.

3.3.7 Methodology Deviations

No methodology deviations are applied to the project.

3.3.8 Monitoring Plan

The monitoring plan is consistent with the applied methodology and methodological tools; the monitoring plan will allow for accurate measurement of GHG removals by sinks. EPL has validated all of the parameters in the monitoring plan against the requirements of the methodology and methodological tools; no deviations related to the project activity were discovered in the plan. EPL confirms that the monitoring arrangements described in the monitoring plan are feasible within the project design, and that the means of implementing the monitoring plan are adequate to ensure that the GHG removals by sinks achieved by the proposed project activity can be reported ex-post and verified.

Table 17: Data and Parameters Available at Validation

Data/Parameter	Unit	Value Applied	Assessment
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lv - Mean annual increment in volume	M³ ha-1 yr-1	31.25 (for stratum 1, <i>E. urocam</i>) 33.75 (for stratum 2, <i>E. tricross</i>)	For <i>E. urocam</i>, the value is derived from the mean value between lv vales of <i>E. urophylla</i> and <i>E. camaldulensis</i>. For <i>E. tricross</i> the value is derived from mean value between IV value of <i>E. urophylla</i> and the mean IV value between <i>E. camaldulensis</i>. and <i>E. grandis</i> The value is sourced from Annex 3A.1 Biomass default tables -3A.1.7 of IPCC "Good Practice Guidance for LULUCF" /15/.
Wood Density (D)	t.d.m./m³	0.65 (for stratum 1, <i>E. urocam</i>) 0.61 (for stratum 2, <i>E. tricross</i>)	This is the mean value between wood density values of <i>E. urophylla</i> and <i>E. camaldulensis</i>. This is the mean value between wood density value of <i>E. urophylla</i> and the mean wood density value between <i>E. camaldulensis</i> and <i>E. grandis</i>. The wood densities are sourced from Zanne et al. Global wood density database 2009 /119/ and CIRAD wood density data base 2017 /120/.

Average Annual Increment in AGB in Regeneration	ton ha-1 yr-1	4.0	It is the average annual net increment in aboveground biomass in natural regeneration and it's used to calculate the baseline emissions of the project with the Equation 3.2.5 of IPCC "Good Practice Guidance for LULUCF. Average annual increment in AGB in natural regeneration, used to calculate baseline project emissions, did not change from 2003 to 2006, changing from 4.0 ton/ha/year to 3.9 in the 2019 refinement. However, in this case the higher value was chosen for conservativeness.
Biomass Expansion Factor – (BEF)	Dimensionless	1.50	The value is sourced from Table 3A.1.10 of ANNEX 3A.1 of IPCC "Good Practice Guidance for LULUCF"/15/. available for tropical broadleaf and to be used in connection to increment data (equation referred in 3.2.5), which is appropriately applied to the proposed project. Noted that values have not changed in IPCC 2019 refinement.

Average Annual Increment in AGB in Regeneration	ton ha ⁻¹ yr ⁻¹	3.9	The value is sourced from Table 4.9 of Volume 4 of 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Root-Shoot Ratio (R):	Dimensionless	AGB ≤ 125 t/ha : 0.334 AGB > 125 t/ha : 0.379	The value is sourced from Table 4.4 of Volume 4 of 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories for Tropical/sub-tropical dry forest.
Carbon Fraction (CF)	tC/ (t d.m.)-1	0.47	Default value is sourced from the methodological tool for the estimation of carbon stocks and change in carbon stocks /09/.
Reference SOC (SOC _{REF,i})	tC ha ⁻¹	35	Default value is sourced from methodological tool for estimation of change in soil organic carbon stocks /11/, which is as per table -3 “default reference for SOC stock (SOC _{REF}) for mineral soils, which is appropriate to the climate zone, tropical dry.

Land Use Factor ($f_{LU,i}$)	Dimensionless	1	Default value is sourced from methodological tool for estimation of change in soil organic carbon stocks /11/ and assigned to all permanent grassland.
Management Factor ($f_{MG,i}$)	Dimensionless	0.97	Default value is sourced from methodological tool for estimation of change in soil organic carbon stocks /11/ assigned to land identified as moderately degraded lands as the project area. Accepted since the same is conservative, though majority of the land is severely degraded.
Input Factor ($f_{IN,i}$)	Dimensionless	1.11	Default value is sourced from methodological tool for estimation of change in soil organic carbon stocks /11/ assigned to grassland without input of fertilizers as the project area.
DF _{DW} Carbon stock in dead wood	%	2%	Default factor sourced from methodological for estimation of carbon stock and change in

			carbon stocks in dead wood and litter /8/. The value is justified as per the requirement of Default value for Tropical Biome, Elevation < 2000 m, Precipitation < 1000 mm yr ⁻¹ . Crosschecked the same from the evidence /73/ /74/ and confirmed to be appropriate.
DF _{LI} Relationship between carbon stock in litter and in living trees.	%	4%	Default factor sourced from methodological for estimation of carbon stock and change in carbon stocks in dead wood and litter /08/. Default value for Tropical Biome, Elevation < 2000 m, Precipitation < 1000 mm yr ⁻¹ . Crosschecked the same from the evidence /73/ /74/ and confirmed to be appropriate.
A Project area	ha	293.12	The validation team crosschecked the same from kml files /36/ and also the land ownership documents /39/.
A _i Area of stratum i	ha	Stratum 1:46.66 Stratum 2: 246.46	The validation team crosschecked the same from kml files /36/, field records of plantation /71/ and field observations.

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Table 18: Data and Parameters Monitored

Data/Parameter	Frequency and measuring method
A Project area (Planted Area) ha	Area delineation through field measurement using GPS or geo-referenced remote sensing data.
A _i Area of stratum i ha	Field measurement using GPS or geo-referenced remote sensing data.
A _{p, i} Area of Sample plot in stratum i m ²	The plot area will be measured following specific SOPs (Standard Operating Procedures) prescribed under the national forest inventory are applied. In the absence of these, SOPs from published handbooks or from the IPCC GPG LULUCF 2003 are applied.
n Number of plots to be established in the project area. Dimensionless	Calculated using the tool “Calculation of the number of sample plots for measurements within A/R CDM project activities”.
n _b Number of plots to be established in each stratum. Dimensionless	Calculated using the tool “Calculation of the number of sample plots for measurements within A/R CDM project activities”.
Sample Plot location Lat/Long	Using GPS or geo-referenced remote sensing data.
DBH diameter at Brest Height of the trees cm	Measure all the trees above some minimum DBH in the permanent sample plots. The trees are measured at 1.3 m above ground. The DBH would be measured at each verification event through measuring tape.
H - total height of trees	Only 40% of the trees in the PSPs are measured using Clinometer. Measurements are done at every verification event though field measurements in sample plots.
$f_j (X_{1,i}, X_{2,i}, X_{3,i}, \dots) / V_{TREE,j}, (X_{1,i}, X_{2,i}, X_{3,i}, \dots)$	Above-ground biomass of the tree returned by the allometric equation for species j relating the measurements of tree i to the above-ground

	biomass of the tree t d.m./Stem volume of tree l of species j in sample plot p of stratum i , estimated from the tree dimension(s) as entry data into a volume table or volume equation; m^3 . Will be defined during the first verification as per the requirements of AR-TOOL -17 and 18. FAR 01 has been raised. For more information, please refer to Appendix-B of the report.
T-student value (t_{VAL}) dimensionless	Two-sided Student's t -value, at infinite degrees of freedom in the first iteration and at degrees of freedom equal to $(n-1)$ in subsequent iterations, for the required confidence level; dimensionless . Will be assessed in the verification.
Sampling Error (E) t d.m. (or t d.m. ha $^{-1}$)	Acceptable margin of error (i.e. one-half the confidence interval) in estimation of biomass stock within the project boundary; in units used for i A default value equal to 10% of the mean biomass stock within the project boundary may be used unless a different value is prescribed in a methodology
Standard Deviation (s_i) t d.m. (or t d.m. ha $^{-1}$)	Estimated standard deviation of biomass stock in stratum i . Standard deviation of biomass stock per unit area (in t d.m. ha $^{-1}$) may also be used for this purpose. Approximate value of the standard deviation of biomass stock in each stratum is either known from existing data related to the project area or existing data related to a similar area, or is estimated from a preliminary sample.

EPL confirms that the list of parameters is complete and that the values assumed for ex-ante calculations will lead to precise or at least conservative estimations.

PP has clarified the equipment and calibration methods in the PD. Measuring equipment will be submitted to calibration before usage. Measuring tape is compared to a certified measuring tape. The procedure is done on site, during visits. Clinometer will be calibrated on a post or tower with marks on 10, 20 and 30 m. The field operator shall use a certified tape to assure the marks and conduct the height measuring of the known values. The estimation of the number of sample plots was confirmed from the calculation sheet/136/.

During the site visit, the validation team checked that the monitoring field members from CCC were competent to carry out the measurements. The field team are experts from forestry with good knowledge in Measurement and Cartography. For measuring the diameter at breast height (1.3 m), the monitoring field staff use measuring tapes. Apart from the tape, other equipment are used in the

measuring activities such as clinometers and GPS. EPL has verified that field staff along with the forest technicians implemented the monitoring plan as it is established in the PD, and also it was evident from the site inspection that that key field staff are fully involved in monitoring events (training, measuring, archiving, reporting, quality control, etc).

QA/QC procedures are considered strict at identifying, reviewing, and handling inconsistencies found. Roles and responsibilities are clearly identified in the monitoring report and QA/QC procedures. CCC will be responsible for the centralized documentation of all project planning and implementation, monitoring and data recording and storage. Quality assurance (QA) and quality check (QC) procedures implemented follow IPCC good practice guidance for LULUCF, which was checked from the “General Management Plan” and accepted /46/. The use of these procedures monitored to ensure that net anthropogenic GHG removals by sinks are measured and monitored precisely, and are credible, verifiable, and transparent. It is further checked that the measurements and inventories also undergo verification by head of the Technical Department, CCC. Apart from this, the verification process will also undergo internal audit.

The project’s monitoring plan includes description of responsibilities and authorities for project management; description of the monitoring equipment and procedures to be followed; QA/QC measures applied; sampling provisions; measurement methods and procedures; data management. Detailed information has been properly addressed in PD. In conclusion, the application of the monitoring methodology is transparent and EPL considers that the PP are able to implement the monitoring plan.

3.4 Non-Permanence Risk Analysis

The project utilized the VCS Non-permanence risk tool /03/ to assess risks according to internal risk, external risk, natural risk and mitigation measures for minimizing risk. At all levels has been evaluated the rationale, appropriateness and justifications of risk rating chosen by PP. The conclusion regarding the non-permanence risk analysis undertaken for the project are summarized below for each risk category factor. Unless noted otherwise, the audit team agrees with the conclusion stated in the non-permanence risk report.

Internal Risk

1.1 Project Management (PM)		
Risk Factor	Assessment	Risk Rating
Q1	The project has an adaptive management plan in place that includes a monitoring and mitigation plan /46/. The adaptative management plan addresses the potential risk and the mitigation plan and measures in place. The same was further checked with SOPs of forest management plan /46/, occupational health and safety reports /23/ and trainings on forest fire and occupational health and safety /90/. The adaptive management plan consists of various topics, some of which are described below: (i) Responsibilities of the project proponents (ii) Procedure for delineation of the project area including land use and land cover	

	(iii) Social management procedures including on-going communication with the stakeholders, performance indicators, workers' safety, firefighting training, etc. (iv) Forest Management Plan including definition of planting areas, firebreaks and roads, silvicultural activities (land preparation, planting, fertilizing, replanting), Maintenance activities throughout the project lifetime, etc. (v) Monitoring Plan including stratification, size and sample of permanent plots, equipment and calibration procedures, forest inventory measurement procedure, data validation processing and storage (QA/QC), etc.	
Q2	Do any of the following project management risks apply to the project ?	
a.	The species planted are hybrid <i>Eucalyptus "urocam"</i> (<i>E. urophylla</i> x <i>E. camaldulensis</i>) and <i>Eucalyptus "tricross"</i> (<i>E. camaldulensis</i> x <i>E. grandis</i> and <i>E. urophylla</i>) although they are non-native species, they are proven to be well adapted to the agro-ecological zone of the project. As this is the first validation no GHG credits have been issued previously. Thus, Risk rating 0 is justified.	0
b.	The project activity is developed in a private property and the project area is bordering with other areas falling into the same landowner /39/ Within the whole property, workers are in the bordering area therefore their presence prevent encroachment by outside actors. Therefore, no risk of encroachment by outside actors have been identified. Thus, 0 rating is justified	0
c.	In accordance with the evidence provided, Management team includes the project proponent and the carbon project development partner who has contractual agreement to support the project activities /18/. The management team has individuals with significant experience to successfully undertake the project activities. The same was confirmed from evidence shared by the PP /27/ and PP's website (www.carboncreditsconsulting.com). The Management team of the landowner has prior experience in implementing and management of Eucalyptus projects, which was crosschecked during interview with the stakeholders /92/. Thus, Risk rating 0 is justified.	0
d.	The management team maintain presence in the country. The CCC office is based in Manaus Brazil and maintain less than one day trip to the project area. This was confirmed during on-site visit and interviews with stakeholders. Also, the landowner and employees reside in the project property.	0

	Thus, Risk rating 0 is justified.	
e.	Not Applicable, as this is first validation activity.	0
f.	Not Applicable, as this is not ALM project.	0
g.	Not Applicable, as this is not ALM project.	0
Q3	Do any of the following mitigations apply to the project?	
h.	The management team includes individuals with significant experience in AFOLU project design and implementation, and in carbon accounting, under approved GHG programs and the same was checked with evidence provided by PP /27/ and PP's website (www.carboncreditsconsulting.com). The audit team confirmed the same. Thus, -2 rating is justified	-2
i.	Not Applicable, as this is not ALM project.	0
Total Project Management (PM)=		0
Total shall not be less than zero		

1.2 Financial Viability (FV)		
Q1	How long is the project's payback period (i.e., how many years will it take to breakeven)?	
a.	Not Applicable	0
b.	Not Applicable	0
c.	Not Applicable	0
d.	The project cash flow break-even point is 7 years from the current risk assessment. It is checked by the evidence provided by PP/37/ Therefore, 1 rating is justified	1
e.	Not Applicable	0
Q2	What percentage of funding has the project secured to cover the total cash out required before the project reaches breakeven?	
f.	Not Applicable	0
g.	Not Applicable	0

h.	Not Applicable	0
i.	The PP has secured more than 80% of funding needed to cover the total cash out before the project reached breakeven. It is confirmed with the evidence provided by PP/37/. Thus, 0 rating is justified.	0
Q3	Does the following mitigation apply to the project?	
j.	The validation has checked the evidence /37/, and confirms that the Project has available, as callable and secured financial resources, at least 80 percent of total cash out before the project reaches breakeven. Thus, -2 rating is justified.	-2
Total Financial Viability ((Total shall not be less than zero and the sub-total for question two with the mitigation j shall not be less than zero (note: the mitigation only applies to Q2))		1

1.3 Opportunity cost (OC)		
Q1	Are the baseline activities subsistence-driven? If No, proceed to Q2. If Yes, proceed to Q3.	No
Q2	What is the NPV of the most profitable alternative land use activity compared to the NPV of the project activity?	
a.	Not Applicable	0
b.	Not Applicable	0
c.	Not Applicable	0
d.	Not Applicable	0
e.	Not Applicable	0
f.	The alternative, without barriers, more profitable land use activity would be to continue with extensive livestock farming practices. According to the analysis carried out, the NPV for cattle production was U\$90.14 /ha/year, while the NPV for the project was \$222.59 /ha/year, which proves to be 147% more profitable than continuing extensive livestock farming. The evidence for the same was checked /37/. Thus, -4 rating is justified.	-4
Q3	Not applicable, as response to Q1 is "No"	

g.	Not applicable, as response to Q1 is “No”	
h.	Not applicable, as response to Q1 is “No”	
Q3	Do any of the following mitigations apply to the project?	
i.	The project proponent has a legal agreement with the property owner to guarantee the continuity of management practices and protection of the credited carbon stocks during the project longevity, i.e., 40 years. It is confirmed with the evidence provided by PP /18/. Thus, -2 rating is justified.	-2
j.	Not Applicable	0
k.	Not Applicable	0
Total Opportunity Cost (Total shall not be less than zero)		0

2. Project Longevity (PL)		
Q1	Did the project request registration on or after 1 January 2024?	Yes
Q2	Does the project have a legally binding agreement that covers at least a 100-year period from the project's start date?	No
Q3	The longevity of the project is 40 years, which is cross-checked and confirmed from the collaboration and Partnership agreement between Carbon Credits Consulting S.R.L and Brazilian Forestry Empreendimentos Floresais Ltda. Dated on 10/07/2019 /18/.	40
Q4	The validation team checked the evidence /37//46/, and confirms that the project has a management, financial and monitoring plan for the entire project longevity	Yes
Q5	The current ARR project does not have harvesting activity. The project crediting period is 20 years. Project proponent has a legal agreement with the property owner to guarantee the continuity of management practices and protection of the credited carbon stocks during the project longevity for at least 40 years, which ensures that no harvesting is carried out at the end of the project crediting period.	No
Q6	The validation team confirms that the project demonstrates a commitment to continue the management practice through General Management Plan /46/ and contract agreement between the project parties /18/.	0

Q7	The audit confirms that the project has a legal Agreement or requirement to continue the management practice /18/.	Yes
a.	Not Applicable, as there is a legal agreement to continue the management practice.	0
b.	The contract between Carbon Credits Consulting and Brazilian Forestry Empreendimentos Florestais Ltda, which is for 40 years agreement /18/ is the legal agreement to continue the management practice. Thus, 15 rating is justified.	15
Q8	Not applicable, as the project is not a grouped Project.	
Total Project Longevity		15

External Risks

2.1 Land Tenure and Resource Access/Impacts		
Risk factor	Assessment	Risk rating
Q1	The validation team interviewed the local stakeholders /92/ and cross-checked the landownership documents /39/, and confirms that the project area is a private property and has no disputes over ownership and land, resource access, or use rights.	Yes
Q2	The project has a legally binding contract document contract /18/ securing the legal right to control and operate project activities over the entire project area. Also, the landowner has a legal permission to carry out plantation activities in the property, as per the evidence /26/.	Yes
Q3	Do the same or different entities hold land ownership and resource access or use rights?	
a.	The ownership and resource access/use rights are held by the same entities. The project area is located inside a private farm owned by Brazilian Forestry Empreendimentos Florestais Ltda. The owner has a legal agreement with the CCC SRL for the development of the project and will receive the proceeds from the sale of the VCU. It is confirmed by the evidence provided by PP/18/. Thus, 0 rating is justified.	0

b.	Not Applicable	0
Q4	Is the project in a country/jurisdiction with a history of national, sub-national, or local government (“Government”) intervention in land or resource use?	
c.	Not Applicable	0
d.	Not Applicable	0
e.	The validation team cross-checked the applicable laws /69/ /70/; the land owner has full control of the project area and has all rights on the resources generated on the land as per the Brazilian Law (2012). As per the land documents (Certidão de Inteiro Teor and Certidão de Cadeia dominal), which contains the history of the land, there was not intervention of Government in the property in the past /39/. Moreover, while browsing through the Google Search, the audit team did not find any instances where the Government intervened the land or resource use in the project area.	0
Q5	What percent of the project area is affected by disputes over land tenure or ownership?	
f.	Not Applicable, as there is no dispute	0
g.	Not Applicable, as there is no dispute	0
h.	The validation team interviewed the local stakeholders /92/ and cross-checked the landownership documents /39/, and confirms that the project area is a private property and has no disputes over ownership and land, resource access, or use rights.	0
Q6	What percent of the project area has disputes over access or use rights?	
i.	Not Applicable, as no disputes exist.	0
j.	Not Applicable, as no disputes exist.	0
k.	The validation team interviewed the local stakeholders /92/ and cross-checked the landownership documents /39/, and confirms that the project area is a private property and has no disputes over ownership and land, resource access, or use rights.	0
Q7	Have the risks of upstream and sea impacts undermining the carbon stocks of a WRC project been demonstrated as insignificant or effectively mitigated for the ten years that follow the risk assessment?	
l.	Not Applicable, as this is not WRC project.	0

m.	Not Applicable, as this is not WRC project.	0
Q8	Do any of the following mitigations apply to the project?	
n.	The project proponent has a legal agreement with the landowner to ensure the continuity of management practices and protection of credited carbon stocks during the project's longevity /18/. Thus, -2 rating is justified.	-2
o.	Not Applicable, as no disputes exist.	0
Total Land Tenure (Total shall not be less than zero)		0

2.2 Community Engagement		
Q1	As per the site visit observations and stakeholder interviews /84/ /92/, there are no local population or community that are reliant on the project area.	No
Total Stakeholder Engagement		0

2.3 Political Risk		
Q1	What is the governance score for the country?	
a.	Not Applicable	0
b.	Not Applicable	0
c.	The audit team confirmed that during the 6 years (2018 – 2023) the average governance score for Brazil across the six governance indicators of World Bank Institute's Worldwide Governance Indicators is -0.26 /124/. Therefore, agrees that the political risk is 2.	2
d.	Not Applicable	0
e.	Not Applicable	0
Q2	Does the following mitigation apply to the project?	
f.	Brazil receives bilateral fund from Norway through the Amazon Fund (www.fundoamazonia.gov.br); participates in CCBA/CARE REDD+ Social and Environmental Standards Initiative (http://www.redd-standards.org); has established FSC headquarters (www.fsc.org.br); has a Designated National Authority under the Clean Development Mechanism (http://cdm.unfccc.int/).	-2

	Thus, -2 rating is justified.	
Total Political Risk (Total shall not be less than zero)		0

Natural Risk

3.1 Natural Risk Assessment		
Risk Factor	Assessment	Risk rating
Fire	Significance: Insignificant (less than 5 percent loss of carbon stocks) or transient (full recovery of lost carbon stocks expected within 10 years of any event) Likelihood: Once every 10 to less than 25 years A recent study conducted by Dias (2023) /34/ considered four factors associated with the annual increase in the number of records of burned and fire-affected areas: i) human activities; ii) characteristics of combustible materials; iii) fire management activities; iv) changes in land use and climate. The study analyzed the risk of wildfires and burns occurring throughout the territory of Minas Gerais using the Analytic Hierarchy Process (AHP) decision analytic model from 2017 to 2021. The results indicate that regions with a very high-risk class interval regarding the risk of fires and burns are mainly distributed in the mesoregions of Vale do Rio Doce, Vale do Mucuri, and Zona da Mata. The results of the risk of fires and burns for the Jequitinhonha mesoregion (where the project area is located) show that, during the dry season in 2021, the very high risk only reached 18.6%. Dias emphasizes that these results are linked to low-altitude areas near highways, which is not the case for the project area, as it is situated in a remote and high altitude region. Also, the studies conducted by Pereira et al. (2014) /142/ in Minas Gerais, and Jaques (2003) /143/ highlights that mostly the fire points are primarily related to human activities, while fire caused by natural factors is practically non-existent. Therefore, it is assumed that natural fire does not pose a significant risk. Mitigation score is 0.25, as the project proponent conducted forest fire combat training course for the employees /90//104/ in compliance with Technical	3

	Instruction No. 12, of the Military Fire Department of Minas Gerais /24/, and also has forest fire mitigation plan /46/.	
Pest and Disease outbreaks	Significance: Insignificant (less than 5 percent loss of carbon stocks) or transient (full recovery of lost carbon stocks expected within 10 years of any event) Likelihood: Once every 10 to less than 25 years A pest prevention and control plan has been developed and implemented in the planting and growth stages of Eucalyptus trees /46/. Moreover, the search for new clones is being conducted to select for desirable traits such as pest resistance, adaptation to different soil and climate conditions, and tolerance to water deficits. It has been observed that clones of the E. grandis x E. urophylla hybrid can yield very favorable results in terms of disease and pest resistance. The AEC 2034 hybrid, which is more abundant in the project area, had its pest resistance efficiency confirmed in a study conducted by Silva (2020) /38/. The validation team confirms that the studies referred by the PP are the most recent and also very specific to the species planted in the Project area and thereby justifying the score selected by the PP. Mitigation: 0.25	3
Extreme Weather	Significance: Insignificant (less than 5 percent loss of carbon stocks) or transient (full recovery of lost carbon stocks expected within 10 years of any event) Likelihood: Every 25 to less than 50 years Hurricanes/Tornadoes As per Candido (2012) /125/, only the central-southern part of Brazil including São Paulo, Santa Catarina, and Rio Grande do Sul presents a high risk of occurrence of tropical storms like Tornadoes. Minas Gerais state where the project area is located does not possess high risk. Also, Eucalyptus tree has been shown to withstand such extreme events due to its incredible flexibility. Flooding: As per Camargo and Sanchés (2021) /126/, there is occurrence of flooding events in the Jequitinhonha region, which is mainly caused due to overflow of Jequitinhonha river and affects the low floodplains of the	2

	valley. However, the project area is located at a higher altitudes /73/, and is not affected by the floods. Mitigation= 0.5. A management plan is in place to ensure the maintenance of the plantation forest stands.	
Geological Risk	Significance: No Loss Likelihood: Once every 100 years or more, or risk is not applicable to project area According to the Seismology Center of University of Sao Paulo (USP) /127/, in the region of the Project area, in the last 30 years, only thirty earthquakes were registered, all of them of low magnitude. Very often their effects were not even perceptible. None of them occurred in the municipality of Ponto dos Volantes. No mitigation is necessary.	0
Other Natural Risk	No other risks to the carbon stocks are foreseen.	0

3.1 Natural Risk Assessment

Natural Risk Assessment	Natural Risk Score (LS)	Mitigation (M)	Sub-total Risk (LS x M)	Affected by Climate Change?
Fire (F)	3	0.25	0.75	Yes
Pest and disease outbreaks (PD)	3	0.25	0.75	Yes
Extreme weather (W)	2	0.5	1	Yes
Geological risk (G)	0	1	0	No

3.2 Future Climate Impact

Reference Region 1: S.E.South-America	Project Area Coverage (%): 100
---------------------------------------	--------------------------------

	Type	Category Index	Projected Change Value	CID Impact Score	Sign of Change	Project Impact
Future Climate Impact	Heat and cold (hc)	Mean air temperature	1.60	1.00	High confidence of increase	Does not apply
		Extreme heat	10.0	1.00	High confidence of increase	Negative
		Cold spells	1.90	1.00	High confidence of decrease	Does not apply
	Wet and dry (wd)	Mean precipitation	1.40	1.00	High confidence of increase	Negative
		River flood	0.07	4.00	Medium confidence of increase	Does not apply
		Landslide	4.00	4.00	Low confidence in direction of change	Does not apply
		Soil Moisture	1.00	2.00	Low confidence in direction of change	Does not apply
		Agricultural and ecological drought	4.00	5.00	Low confidence in direction of change	Negative
		Fire weather		2.67	Low confidence in direction of change	Does not apply
	Wind (w)	Mean wind speed	2.40	2.00	Low confidence in direction of change	Does not apply
		Tropical cyclone			NaN	Does not apply
SLR Impact Level	Coastal (co)	Coastal flood	2.90	5.00	High confidence of increase	Does not apply
		Coastal erosion	-200.00	5.00	High confidence of increase	Does not apply

Adaptive Capacity:

Does the project proponent demonstrated at least 5 criterion of adaptive capacity? No

FUTURE CLIMATE IMPACT ON NATURAL RISK	AGGREGATED SUB-TOTAL RISK	FUTURE IMPACT FACTOR	TOTAL
Natural risk associated with climate change impact (NR-c)	2.50	1.20	3.00
Natural risk NOT associated with	0.00	1	0.00

climate change impact (NR-nc)			
Sea Level Rise (SLR)	N/A	N/A	0
Total Natural Risk			3

3.2 Sea-Level Rise (SLR) Risk is not applicable, as the project area is not close to the coastal areas or sea.

Table 19: Overall Risk Rating

Risk Category	Rating
Internal Risk	16
External Risk	0
Natural Risk	3
Overall Risk Rating	19

As per the VCS non-permanence risk tool, the overall risk rating is 19, which is found to be appropriate. The impact of the climatic parameters “extreme heat”, “mean precipitation”, and “agricultural and ecological drought” on the plantation project was cross-checked and confirmed with Sondermann et al. (2022) /135/.

In summary, the PP have accounted for risk factors in a reasonable manner and have reached an overall risk rating that encompasses all risks of non-permanence. The risk will be re-assessed and given risk scores at each verification period.

4 VALIDATION OPINION

EPL has performed a validation of the project activity “Fazenda Boa Vista Afforestation Project” in Brazil. The validation was performed based on VCS version 4 requirements as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and subsequent follow-up interviews have provided EPL with sufficient evidence to determine the fulfillment of stated criteria.

The project correctly applied the baseline and monitoring methodology AR-ACM0003 version 02.0 “A/R Large-Scale Consolidated Methodology, Afforestation and reforestation of land except wetlands”.

The proposed project consists in the establishment of 293.12 ha of plantations in degraded land located inside the Fazenda Boa vista. The species planted are hybrid Eucalyptus “*E. urocam*” (*E.*

urophylla x *E. camaldulensis*) and Eucalyptus “*E. tricross*” (*E. camaldulensis* x *E. grandis* and *E. urophylla*). As a result, the project results in net anthropogenic GHG removals of CO₂e that are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not likely a baseline scenario. GHG removals attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total net anthropogenic GHG removals from the project are estimated to be 405,112.54 tCO₂e over the selected 20-year crediting period. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved to any that the underlying assumptions do not change.

The monitoring plan provides for the monitoring of the project’s emission reductions. The monitoring arrangements described in the monitoring plan are feasible within the project design and it is EPL’s opinion that the project participants are able to implement the monitoring plan.

In summary, it is EPL’s opinion that the project activity “Fazenda Boa Vista Afforestation Project” in Brazil as described in the PD version 07 dated 23/09/2024, meets all relevant VCS version 4 requirements and correctly applies the baseline and monitoring methodology AR-ACM0003 version 02.0.

Validation period must be broken down into calendar year vintages: From [23-January-2020] to [22-January-2040]

Table 20: Validated GHG emission reductions and removals

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
23/01/2020 – 31/12/2020	20,574.35
01/01/2021 – 31/12/2021	21,919.23
01/01/2022 – 31/12/2022	21,919.23
01/01/2023 – 31/12/2023	21,919.23
01/01/2024 – 31/12/2024	25,561.37
01/01/2025 – 31/12/2025	22,656.67
01/01/2026 – 31/12/2026	22,656.67
01/01/2027 – 31/12/2027	22,656.67
01/01/2028 – 31/12/2028	22,656.67
01/01/2029 – 31/12/2029	22,656.67
01/01/2030 – 31/12/2030	22,656.67
01/01/2031 – 31/12/2031	22,656.67
01/01/2032 – 31/12/2032	22,656.67
01/01/2033 – 31/12/2033	22,656.67
01/01/2034 – 31/12/2034	22,656.67
01/01/2035 – 31/12/2035	22,656.67

01/01/2036 - 31/12/2036	22,656.67
01/01/2037 - 31/12/2037	22,656.67
01/01/2038 - 31/12/2038	22,656.67
01/01/2039 - 31/12/2039	22,656.67
01/01/2040 - 22/01/2040	1,374.49
Total estimated ERs	453,118.03
Total number of crediting years	20
Average annual ERs	22,655.90

APPENDIX 1: CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS AND FORWARD ACTION REQUESTS

CL ID	01	Section no.	3.1	Date: 15/08/2023
Description of CL				
1. Section 1.3 of PD: (i) PD is not transparent if any isolated individual trees were cut down or preserved in the project area during the land preparation. (ii) In order to demonstrate that the project area was not cleared of native ecosystem, PP is requested to provide the land use land cover (LULC) maps of the project zone/Project area prior to the Project start date and 10 years before the start date. (iii) PP is requested to provide evidence to claim the statement made in the PD “The Project is not developed inside a REDD+ program zone (Brazil does not have REDD+ programs in Minas Gerais). (iv) PP is requested to clarify if the project overlaps with ecosystems of interest, such as Ramsar areas, buffer areas of water bodies, and areas of high regional and national conservation value. Justify the same with evidence. PP has provided the document “Report analysis diagnosis of vegetation”. However, the PP is requested to provide the translated version of the same. (v) The PD states that the project activities did not drain the native ecosystem or lead to any type of hydrogeological degradation. PP is requested to provide evidence for the same. 2. Section 1.7 (Ownership): The PP is requested to provide more information on the terms and conditions of the contract document between the PP and other entity (Brazilian Forestry Empreendimentos Florestais Ltda.). Also clarify on how the document is a legally binding document for both the parties. PP is further requested to clarify whether in Brazil, the land title and ownership of the property gives the project proponent any legal rights on the carbon credits that will be issued by the project. PP is further requested to provide the translated version of the document “Contratto di Collaborazione ePartnership perL’ottenimento di VCUs” verified and sealed by the notary office. 3. Section 1.7 (Ownership): The shapefiles of the consolidated area, legal reserves, Permanent Preservation Areas of the property provided by the PP from CAR (Folder name: Land use_Rural Environmental Registry_CAR) is not consistent with Figure 18 and Appendix 2 map. PP is requested to clarify the inconsistency. Also, PP is to				

provide the GIS files for the native vegetation, consolidated areas, legal reserve areas, and Permanent preservation areas from valid authentic sources.

4. The CNPJ/CPF numbers of the land title mentioned in INCRA document (33.117.361/0001-71) and Licenciamento Ambiental Simplificado document (CNPJ/CPF : 33.117.361/0002-52) are not consistent. PP to clarify the same.
5. Section 1.8: PP is requested to justify the start date of the project with field reports, chronology of events along with the supporting evidence.
6. Section 1.11: PP is requested to provide the detailed Forest management plan (SOPs) in place from identification of lands for planting until forest establishment, maintenance, and harvesting (if applicable) and replanting.
7. Section 1.11.1 (Planted areas): PP is requested to provide English version of the technical report (document title: Laudo Técnico Boa Vista II), which is considered the evidence for existence of degraded pasture in the project area before the plantation activity.
8. Section 1.12.2 (Project zone):
 - (i) The PD states that the total area of the land property is 664.65 ha; however, the sum of the different areas (Planted areas, Legal Reserve Areas, PPA, Pasture areas, Roads/Corridors, and Remaining native forests) within the property is equal to 664.634 ha. The same is also found to be inconsistent with the CAR documents.
 - (ii) The areas of Remaining Native Forests (129.22 ha) and Permanent Preservation Areas (12.79 ha) mentioned in the PD are not consistent with that of the CAR document (Native forest= 298.3124 ha and PPA= 12.3431 ha). PP to clarify the same. PP is requested to justify the areas (total area, implemented project area, Legal Reserve, APP, and other excluded areas, which might include infrastructure, road, water body, etc.) based on valid evidence.
9. Section 1.13: It is mentioned that the Fazenda Boa Vista property is composed of 46% of the consolidated area (pasture: 29% and poorly covered soil: 17%) and 54% of the vegetated area. However, as per CAR document, the consolidated area covers 55.08% and the native vegetated area covers 44.86% of the property area. PP is requested to clarify the inconsistency.
10. Section 1.14: The PD is not transparent on the laws related to social (labour, indigenous population, women, etc.), land title ownership (5% difference threshold between CAR and INCRA), forest fire protection/measures, Agricultural/livestock/aquaculture/forestry activities, input of fertilizers and pesticides, requirements of forest management certificate, biodiversity, and environmental clearance, etc. PP is requested to justify the same with references/sources.
11. Section 1.17 (Sustainable Development Contributions):
 - (i) The PD mentions about the implementation of project activities and SDG contributions through a Social and Environmental Management Plan,

which is under development. PP is requested to provide the management plan and conclusion on the same. (ii) PD is not transparent on how the project contributes to achieving any nationally stated sustainable development priorities, including any provisions for monitoring and reporting same. (iii) As per the interviews and site visit observations it was understood that the planting activities in the proposed project areas are carried out by a third party named 'Ouro Ouro Verde Mineracao e Florestas Ltda'. The same was also confirmed from the contract dated 18/10/2019, with a validity until 18/10/2029. Thus, it was confirmed that the farm employees who worked in the project activity are hired by the contracting company. Thus, PP is requested to justify how the employment generation, increased salary due to sale of carbon credits and provision to technical trainings are project-specific SDGs, when this is under the control of Ouro Verde. (iv) It was also noted that there are no communities around the project area. PP is requested to justify the same within 20km radius, and also to clarify the statement "jobs to guarantee the benefits to the communities targeted by the project", when there is no community. (v) SDGs- PP is requested to provide the SDGs more specific to the project activity. 12. Section 1.18.1 (Leakage Management): PP to provide evidence that leakage is not expected within the project area in line with probable displacement of grazing area and crop cultivation. 13. The website links to the references (footnotes) 1, 2, 3, and 4 should be provided in the PD. 14. Page 26 of PD (Topography): The information provided for topography could not be found in footnote 7.	Project participant response Date: 05/10/2023
Item 1 - PD version 02 section 1.3 is updated accordingly: (i) and (ii) clarifications and additional description is provided. (iii) as evidenced by the International Database on REDD+ projects, it is confirmed that in Minas Gerais there are no Jurisdictional REDD+ Programme. (iv) map of HCVs near the project zone is added (figure 4). (v) evidences that the project activities did not drain the native ecosystem or lead to any type of hydrogeological degradation are provided. Item 2. PD Version 02 of 05/10/2023 Section 1.7 is updated accordingly.	

Item 3. PD Version 02 of 05/10/2023 Section 1.12 is updated accordingly. The mentioned folder (Folder name: Land use_Rural Environmental Registry_CAR) contains the raw and official municipal data sourced from SICAR. There might have been a misunderstanding about what a Consolidated Area is, and both the pasture and planting areas are located within this area delimited by the CAR. The change has been made in the PD, providing a clearer explanation about this. The valid authentic source that delineates the property into native vegetation, consolidated areas, legal reserve areas, and permanent preservation areas is the Rural Environmental Registry - CAR. All other official sources in the country only outline the total area. The Rural Environmental Registry - CAR is a national mandatory public registry for all rural properties, aimed at integrating environmental information from properties and rural holdings, creating a database for environmental and economic control, monitoring, planning, and combating deforestation.

Item 4. The CNPJ of parent company Brazilian Forestry is 33.117.361/0001-71, and it is headquartered in the FAZENDA RENASCER; Fazenda Renascer is the owner of the Fazenda Boa Vista II. However in the FAZENDA BOA VISTA II there is a branch of the Brazilian Forestry which the is CNPJ 33.117.361/0002-52. The first 9 numbers are the same. The environmental license was requested in the name of the branch which is located in FAZENDA BOA VISTA II. The document provided as evidence state the CNPJ of the branch 33.117.361/0002-52 named "FILIAL", while for the CNPJ 33.117.361/0001-71 is named "MATRIZ".

Item 5. PD Version 02 of 05/10/2023 Section 1.8 is updated accordingly. The starting date is the date when the plantation activities started, 23/01/2023 as evidenced by the field registry and by the machine tracking sheet which is the daily working sheet.

Item 6. PD Version 02 of 05/10/2023 Section 1.11 is updated accordingly. Moreover a General Management Plan is available.

Item 7. English version of the English version of the technical report provided as in the documentation response.

Item 8. PD Version 02 of 05/10/2023 Section 1.11 is updated accordingly.

(i) The total area of the land property is updated according the CCIR (Certificate from the Rural Property Registry).

(ii) All the environmental areas info are updated according to CAR certificate.

Item 9. PD Version 02 of 05/10/2023 Section 1.13 is updated accordingly.

The values of areas expressed in % have been updated according to the corrected ha as per CCIR and/or CAR certificates.

Item 10. PD Version 02 of 05/10/2023 Section 1.14 is updated accordingly.

Please note that the project activity does not have indigenous population living in the project area. There are general state/federal legislations on indigenous population/women; not necessarily directly related to the project. However, as there are no indigenous population within the project region, the laws are excluded from the PD. Evidence related to labour legislation has been provided, as they are the identified stakeholders.

The General Management Plan include description of the mitigation measures to ensure worker's safety (§2.4).

Item 11. PD Version 02 of 05/10/2023 Section 1.17 is updated accordingly.

(i) The Social Environmental Management Plan was expected to be developed at the time of writing the first version of the PD, but it is not developed, therefore removed from the PD.

(ii) Section 1.17 is updated describing how the project contributes to achieving any nationally stated sustainable development priorities, including any provisions for monitoring and reporting same.

(iii) The forest owner has signed first a contract for plantation with the company OURO VERDE and then with the company OURO PRETO for the forest maintenance. The same workers (three) involved in the plantation phase are involved in the forest maintenance as evidenced by the salaries. The evidence provided for the salaries highlight also the increasing in the salaries from 2020 to 2023. The three are full-time workers for activities related to the project; they also benefit from accommodation at the fazenda. The existence of the project over time guarantees jobs, accommodation, even for the families of the workers, it ensure the wage and generates opportunities for the women of the families who are employed in the housewife charts of the fazenda.

(iv) A KMZ file was already provided (Name: Communities_20km). This file includes routes to the main verified communities; all of them are located more than 20 km from the project area. However, we have defined that this distance would be measured through street routes and access roads to these localities, as the region is quite mountainous, and drawing a simple radius wouldn't be representative.

The statement "jobs to guarantee the benefits to the communities targeted by the project," it has been removed from the PD because it was part of SDG 1, which was removed as it was analysed that the project would not be able to fully encompass it.

(v) The Sustainable contribution of the project is updated adhering to the specific project activity,

Item 12. PD Version 02 of 05/10/2023 Section 1.18.1 is updated accordingly.

Item 13/14. PD Version 02 of 05/10/2023 References in footnote updated accordingly.

Documentation provided by project participant

PD_FBV_version 02_05102023_tc hl.pdf

Evidence Item 1 – Folder CL01

- (i) Folder 1_Pictures
- (iii) 1_International Database on REDD+ projects.pdf
- (v) Folder 1_Hydrogeological conditions
 - 7_LAUDO TÉCNICO BOA VISTA_ENG.docx

Evidence Item 2 – Folder CL01

2_FBV_Contract_ENG.docx

Evidence Item 3 – Folder CL01

3_CAR_cliped_shapefiles

Evidence Item 4 – Folder CL01

4_CNPJ MATRIZ BRAZILIAN FORESTRY 33.117.361_0001-71.pdf

Evidence Item 5 – Folder CL01

- 5_Registro Plantio Boa Vista II.xls
- 5_Machine tracking sheet.jpeg

Evidence Item 6 – Folder CL01

6_General Management Plan_FBV_cl.pdf

Evidence Item 7 – Folder CL01

- 7_LAUDO TÉCNICO BOA VISTA.pdf
- 7_LAUDO TÉCNICO BOA VISTA_eng.pdf

Evidence Item 8/Item 9 – Folder CL01

- 8_CAR BOA VISTA.pdf
- 8_CCIR_Rural Property Registry_FBV.pdf

Folder 8_Shapefiles

Evidence Item 10 – Folder CL01

Folder 10_Rules

6_General Management Plan_FBV_cl.pdf

Evidence Item 11 – Folder CL01

11_Contrato Brazilian Fortestry - Ouro Verde.pdf

Folder 11_Salaries

11_2023 List of Employees OURO PRETO.pdf

11_CONTRATO BRAZILIAN X OURO PRETO 01-10-2021(2).pdf

11_Communities 20km.kmz

DOE assessment

Date: 17/01/2024

1. (i) PP has identified the isolated baseline trees that were present before the project implementation and removed during land preparation. The carbon stocks of the baseline trees were estimated by applying methodological tool “Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities §6.3 Estimation by proportionate crown cover”. This information has been included in section 4.1 of the revised PD v3 and ER sheet. The audit team checked the shapefiles of the baseline trees and the area occupied in GIS platform, and confirmed the carbon stock estimation in ER sheet. CL is closed.
- (ii) PP has provided the annual LULC maps of the project area from 2010 to 2019 which indicates that the project area is mostly covered with bare soil, pasture land, and shrubland (regrowths in bare soil) throughout the analysed period. A few patches of isolated trees were also identified; the ones that had to be removed during land preparation are accounted in Carbon stock estimation. It is clear that there were no contiguous large patches of vegetation that could be identified as native forest or ecosystem. The LULC maps were also cross-checked with the provided GIS files and Google Earth images. It is also checked that the overall accuracy of the LULC classification is acceptable (atleast 90%). CL is closed.
- (iii) It is checked that International Database on REDD+ projects (website) shows list of projects/programs and it is confirmed that in Minas Gerais there are no Jurisdictional REDD+ Programme. CL is closed.
- (iv) PP has provided the map of HCVs consisting of river, waterbodies, conservation units and indigenous lands in the project region, and checked by the audit team. However, translated version of the Report analysis diagnosis of vegetation has been provided. CL is Closed.
- (v) Literature containing information that the eucalyptus plantations do not necessarily impact the water regime have been provided and cited in the

- revised PD. The studies conducted in the four literature shows that eucalyptus plantation are not expected to cause harm to the hydrological conditions, provided best management practices are implemented. CL is closed.
2. Translated version of the contract provided, and clarification on how the document is legally binding is provided in PD (SECTION1.7). CL is closed.
 3. PP has provided the GIS files from CAR registry, and section 1.12 has been modified to provide better clarity. The audit team checked the GIS files and CAR document and confirmed that areas of the Consolidated areas, native vegetation, Planted areas, Legal Reserve, Permanent Preservation Areas (APP), Pasture area, and Remaining Native Forest are now consistent with revised PD version 2. CL is closed.
 4. It is clarified that BRAZILIAN FORESTRY EMPREENDIMENTOS FLORESTAIS LTDA is the owner of both the CNPJ/CPF numbers. CNPJ/CPF 33.117.361/0001-71 is the parent company which has branch with FAZENDA BOA VISTA II land parcel CNPJ/CPF : 33.117.361/0002-52. Evidence document showing the same ownership of both the CNPJ/CPF have been provided and confirmed. CL is closed.
 5. The PD is not transparent on the chronology of events with dates carried out during the plantation: land preparation, purchase of saplings; plantation of first plot, etc.
 6. PP has provided a General Management Plan which includes processes such as identification of lands for planting until forest establishment, maintenance, and replanting. Also, a Standard Operating Procedure (SOP) for forest inventory containing information such as sampling, plot allocation, tree measurements, data recording, and quality control is provided. CL is closed.
 7. English version of The Report has been provided. It is checked and confirmed. CL is closed.
 8.
 - (i) The total area of the land property has been updated in the revised PD version 2 (section 1.12) as per CCIR certificate (664.6 ha), and the sum of the different environmental areas (Planted areas, Legal Reserve Areas, PPA, Pasture areas, Roads/Corridors, and Remaining native forests) amounts to the land area. CL is closed.
 - (ii) All the area information of different environmental areas (Planted areas, Legal Reserve Areas, PPA, Pasture areas, Roads/Corridors, and Remaining native forests) have been updated in the revised PD version 2 as per CAR certificate, and hence, are consistent. CL is closed.
 9. PP has updated section 1.12 of the revised PD version 2 as per CAR certificate, and the percentage area coverage of consolidated and vegetated area in the revised PD are now consistent with CAR. CL is closed
 10. Section 1.14 has been updated on the laws related to relevant labour laws, land title ownership (5% difference threshold between CAR and INCRA) and environmental clearance, and their applicability to the project. CL is closed.
 11.
 - (i) Social and Environmental Management Plan has been removed in the revised PD version 2. The Plan was initially expected to be developed during the preparation of the first version of the PD, therefore it has been removed in later version as it is not developed. CL is closed.
 - (ii) Section 1.17 of the PD version 2 (Table 10) has been revised to include information on the SDGs contributions of the project in alignment with the national sustainable development priorities. CL is closed.
 - (iii) It has been clarified that the land owner has contracts with two companies Ouro Verde and Ouro Preto which performed/performs the plantation activities

and maintenance respectively. These companies hired three employees (Henrique, Joao Batista, and Junio Antunes) specifically for the project activities, and their accommodation is provided by the land owner. The same is confirmed from the evidence documents: salary receipts. CL is closed. (iv) Section 2.5 of the revised PD (version 3) has been updated with communities that are present within 20 km radius from the project area. There are no communities present within 20 km radius, and the communities that are present are between 21 km to 50 km, therefore, these communities (Itaobim, São Pedro do Jequitinhonha, Santana do Araçuaí, and São João Grande) were excluded from the project activities, as they will not be impacted by the project due to their far distance. It is also clarified that the statement "jobs to guarantee the benefits to the communities targeted by the project," was removed from the PD as it was part of SDG 1, which is now removed because it was analysed that the project would not be able to fully encompass it. CL is closed. (v) Section 1.17 has been updated in the revised PD version 2 to provide project specific SDG contributions. CL is closed. 12. As per the LULC analysis and vegetation report, there is no agricultural or grazing activity prior to project start date. As per the interview with local stakeholders, the project area had not been managed for few years before the project activity. Therefore, no leakage is estimated. CL is closed. 13. The website links or PDF documents of the concerned references (footnotes) have been provided in the revised PD version 2. CL is closed. 14. Appropriate reference has been incorporated in the revised PD version 2. CL closed.

CL ID	02	Section no.	3.2.1	Date: 15/08/2023
Description of CL				
Section 2.1 (No Net Harm) of PD: 1. As per VCS Standard 4.4 (section 3.18.17 (2)), the PD is not transparent on the following: a) Justification on the use of non-native species over native species, explaining the possible adverse effects of non-native species. b) Description on the possible adverse effects of non-native species on the region's environment, including impacts on native species and disease introduction or facilitation. c) Justification on use of fertilizers, chemical pesticides, biological control agents, and other inputs used by the project and their possible adverse effects. d) PP is requested to provide the Mitigation plan/measures that are in place to ensure workers' safety. 2. The PD further states that "as the project uses exotic species planted in monoculture. To mitigate this impact, it was delimited areas for the purpose of regenerating native forest,				

composing forest mosaics along with the planted areas". However, the same was not observed during the site visit. PP is requested to provide kml files for the same.	
Project participant response	Date: 05/10/2023
Item 1. PD Version 02 of 05/10/2023 Section 2.1 is updated accordingly (a) (b) (c) updated accordingly. (d) The General Management Plan is provided. The document contains measures that are in place to ensure workers' safety. Item 2. PD Version 02 of 05/10/2023 Section 2.1 is updated accordingly. They are the native areas forming mosaics with the Stratum 2 blocks. There might have been a misunderstanding regarding the use of the word "regeneration"; the correct term should be "protection of remnants." This expression has been corrected in the PD. The specific KML file identifying these areas had already been shared at the beginning of validation process.	
Documentation provided by project participant	
PD_FBV_version 02_05102023_tc hl.pdf Evidence Item 1 – Folder CL01 6_General Management Plan_FBV_cl.pdf Evidence Item 2 – Folder CL02 IBGE_shapefiles	
DOE assessment	Date: 17/01/2024
1. a) Section 2.1 of the revised PD (v3) has been updated with information on the use of non-native species over native species and also on the possible adverse impacts of non-native species. CL is closed. b) Information on the possible adverse impacts of the non-native species plantation has been incorporated in the revised PD version 2 (section 2.1). CL is closed. c) Justification on the use of fertilizers and other chemicals used during plantation have been provided in the revised PD version 2. CL is closed. d) Description on the mitigation plan/measures to ensure workers' safety in the project work has been added in the revised PD version 2. Also, General Management Plan document is provided. CL is closed. 2. It is clarified that the land owner voluntarily chose to protect additional native forest areas (130.57 ha) apart from the mandatory legal reserve conservation for the purpose of maintaining forest connectivity with the plantation areas (Stratum 2	

block). GIS file of these remnant native forest areas are provided; which are checked and confirmed. CL is closed.

CL ID	03	Section no.	3.2.2	Date: 15/08/2023
Description of CL				
Section 2.2 (Local stakeholder consultation) of PD: The PD is not transparent on the following: a) how due account of all and any input received during the consultation has been taken, including details on any updates to the project design or justify why updates are not appropriate? b) The procedures or methods used for documenting the outcomes of the local stakeholder consultation? c) how the project has or will communicate the project design and implementation, including the results of monitoring? d) how the project has or will communicate all relevant laws and regulations covering workers' rights in the host country? e) PD doesn't demonstrate how the project has or will communicate the risks, costs and benefits the project may bring to local stakeholders? f) PD doesnt describe the mechanism for on-going communication with local stakeholders? g) PD doesn't demonstrate how the project has or will communicate the risks, costs and benefits the project may bring to local stakeholders? h) PD doesn't demonstrate on how the project has or will communicate the process of VCS Program validation and verification and the validation/verification body's site visit? Justify the same with evidence.				
Project participant response				Date: 05/10/2023
PD Version 02 of 05/10/2023 Section 2.2 is updated accordingly (a) During the consultation, no questions and no other inquiries were received during. (b) A specific report is not available, the evidence to confirm the topic discussed during the meeting and the participants are supported by the presentation and by the list of attendance. (c) (e) (g) Section 2.2 is updated on how the project progress, including the risks and benefits the project may bring to local stakeholder during the project lifetime, and the results of monitoring will be communicated in the future. The project implementation was communicated during the stakeholder consultation meeting.				

(d) Section 2.2 is updated including how the worker's rights are communicated. (f) Section 2.2 is updated describing the mechanism for on-going communication with local stakeholders. (h) The institutional stakeholders were informed first emails while the local stakeholder were informed verbally. A workshop and flyer was also provided for explaining the validation/verification process.	
Documentation provided by project participant	
PD_FBV_version 02_05102023_tc hl.pdf Evidence (b) – Folder CL03 2_Apresentação ARR Boa Vista.pdf 2_Local stakeholder consultation Attendance list.jpeg Evidence (h) – Folder CL03 7_Auditoria Projeto Carbono Ponto dos Volantes_.eml 7_Auditoria Projeto Carbono Ponto dos Volantes.eml 7_RE_ Auditoria Projeto Carbono Ponto dos Volantes.eml 7_Boa Vista Flyer.pdf 7_presentation_Boa Vista_workshop.pdf	
DOE assessment	Date: 17/01/2024
a) It has been clarified that no comments or feedback were received during the stakeholder consultation. It was also confirmed through interviews with the stakeholders and project proponents. PP has provided the minutes of the meeting for the stakeholder consultation conducted. CL is closed. b) Section 2.2 of the revised PD (v3) has been updated with information on the procedures/methods used for documenting the outcomes of the local stakeholder consultation. Attendance sheets, minutes of the meeting (handwritten or digital) and photographic evidence of the consultation have been recorded, and will also be carried out in future consultations. CL is closed. c) Section 2.2 of the revised PD version 2 has been updated with information on how the project has communicated the project design and implementation to the stakeholders, and also how the results of the monitoring will be communicated in the future. CL is closed. d) It is clarified that the workers employed in the project activities are engaged in accordance with the Brazilian workers' rights and laws. It is also confirmed from the interview with the employees during the onsite audit and the salary receipt. CL is closed.	

- e) Description on how the project will communicate the risks, costs and benefits the project to local stakeholders have been incorporated in the revised PD version 2. CL is closed.
- f) Section 2.2 of the revised PD v2 has been updated with information on the mechanism for on-going communication with local stakeholders. The procedures applied were confirmed during the onsite visit interview with the stakeholders. CL is closed.
- g) Description on how the project will communicate the risks and benefits the project to local stakeholders have been incorporated in the revised PD version 2. CL is closed.
- h) Evidence and explanation of the process has been provided in the response. It is checked and confirmed. CL is closed.

CL ID	04	Section no.	3.2.3	Date: 15/08/2023
Description of CL				
1. Section 2.3 (Environmental Impact): PP is requested to provide the English translation of the document: Environmental License for Annual, Semi-perennial, and Perennial Crops and Forestry (Simplified Environmental Licensing). 2. The website links to the references (footnotes) 23, 24, 25, 26, and 27 should be provided in the PD.				
Project participant response			Date: 05/10/2023	
Item 1. The translated environmental licensing is provided. Item 2. Evidences are provided				
Documentation provided by project participant				
Evidence Item 1 – Folder CL04 1_Simplified Environmental Licensing - ENG.pdf Evidence Item 2 – Folder CL04 2_Decree_47787_Organization of the Secretary of State for the Environment and Sustainable Development.pdf 2_Law_21972_State System of Environment and Water Resources.pdf 2_Influencia do tipo de vegetacao.pdf 2_Mamiferos de medio e grande porte.pdf				

2_RB 28 Impacto Ambiental de Florestas de Eucalipto_P_BD.pdf	
2_The ecological, economic and social effects.pdf	
DOE assessment	Date: 17/01/2024
1. The translated version of the Simplified Environmental Licensing is provided. CL is closed. 2. The website references of the concerned footnotes are provided along with downloaded documents of the same. CL is closed.	

CL ID	05	Section no.	3.2.4	Date: 15/08/2023
Description of CL				
Section 2.4: PD is not transparent on the public comments. As per the VERRA Registry, the following comments (mentioned below) were made during the public commenting period (06 February 2023 – 08 March 2023) and published on 13 March, 2023. PP is requested to demonstrate how due account of the comments received during the public comment period has been taken, and also include details on any updates to the project design or demonstrate the insignificance or irrelevance of comments. Methodology and Baseline 1. In Title and Reference of Methodology, it is important to refer to the version of the VCS standard followed by the project. 2. It was not possible to verify whether the project is located in a wetland, as the figure referred to in the PDD does not exist. 3. The proponent used linear emission removal estimates. It seems that for eucalyptus a sigmoid growth curve would be more appropriate. 4. The additionality analysis is insufficient to demonstrate the additionality of the project, where the proponent justifies that without the carbon project the most likely scenario would be the maintenance of areas as pastures. Also, there are not enough alternative land use scenarios and the consistency of the alternative land use scenarios with regulatory requirements is not fully explained. The barrier analysis does not provide documented evidence and it seems fragile, as there are credit options for small and medium-sized producers in the market, in addition to public policy support (Pronaf, for example). As the additionality analysis resulting from the application of the “Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM Project activities” is insufficient, the baseline scenario proposed in the document is not justifiable. Ownership and Project Proponents 5. The landowner of the Fazenda Boa Vista II property is Brazilian Forestry Empreendimentos Florestais Ltda. In accordance with the PDD, ownership is				

evidenced by a title deed (“Certidão de Propriedade”) issued by the Cartório Registro de Imóveis (“CRI”) of Jequitinhonha, Minas Gerais. However, the land documents were not provided for the review.

6. The project proponent is Carbon Credits Consulting SRL and the other entities involved are Carbon Credits Consulting Brazil as project developer and Brazilian Forestry Empreendimentos Florestais LTDA as landowner and forest owner. The PDD mentions that the rights to the credits are defined by the Collaboration and Partnership Agreement (“Contratto di Collaborazione e Partnership per L’ottenimento di VCUs”), but it does not specify whether this is between the proponent and the participating entities, or who has the right to commercialize the credits. The evidence of the agreement is cited in the PDD, but it wasn't provided for the review.

Local Stakeholder Consultation and AFOLU-Specific Safeguards

7. Stakeholder consultations were held with institutional stakeholders such as the Instituto Estadual de Florestas and the Secretary of Public Services and Environment, and with community stakeholders including internal farm workers (employees at Fazenda Boa Vista II) and neighboring farmers.

The consultation process has been described in the PDD, but the communication of the risks, costs and benefits of the project, as well as compliance with all relevant laws and regulations on the rights of workers, is still pending, as this must be completed before the project is validated.

8. There is not a FPIC document.
9. Participants in the local stakeholder consultation did not report any negative impacts on local resources, and according to the PDD, if well managed, forest plantations can have a positive impact on the environment, especially in degraded ecosystems. The social safeguards are very general and it would be important to better detail the group, the impact, the type of benefit, and what is the change in the well-being of the employees.
10. The PDD identifies the risk of forest fires and describes the preventive measures to be developed to reduce the impact on the plantation.
11. It does not describe the beneficiaries or the distribution of the benefits.
12. According to the VCS Standard, Safeguards Section, the project shall justify the use of non-native species over native species, and explain the possible adverse effects of non-native species, which was not addressed in the PDD.

Other Comments

13. Eligibility: The VCS standard states that “activities that convert native ecosystems to generate GHG credits are not eligible” and “the project area shall not be cleared of native ecosystems within 10 years of the project start date”. As the project area is located in savanna/seasonal forest, the project needs to clarify whether the project pastures are native ecosystems, as the argument given in the eligibility of the project: “it is evident that already in 2008 the land of the project area was characterized by

degraded pasture and before the start date the activity practiced was still cattle rearing” is not sufficient to demonstrate that the savanna ecosystem has not been affected by the project.	
Project participant response	Date: 05/10/2023
PD version 02 of 05/10/2023 Section 2.4 is updated accordingly in relation to comments received during the public comment period. Methodology and Baseline. Item 1. Section 3.1 is updated accordingly. Item 2. Figure 31 in section 3.2.4 of the PD version 02 of 05/10/2023 shows that the project area is not located in wetlands, according to MapBiomass. Item 3. This is the ex-ante analysis therefore a preliminary assessment; the method used for the ex-ante estimation does not impact the ex-post calculation. Item 4. Additionality analysis is updated. Item 5/Item 6: All the land titles were and the agreement between the parties were provided at the time of the document review. Item 7: According §3.18.8 of the VCS Standard version 4.4, the communication and consultation with stakeholder is an ongoing process for the life of the project. The project is implemented on private properties and do not impact local stakeholder’s property rights, there any ongoing on unresolved conflicts over the property rights. And as mentioned earlier, the area where the project activities are located is remote and has few local communities. The PP will hold at least at each monitoring event a meeting to provide details about the risk and benefits the project may bring to local stakeholder during the project lifetime. Moreover, the workers involved in the project implementation and maintenance are engaged based on the Brazilian laws regulating workers’ rights. The regular engagement is demonstrated by the payment stubs of the permanent workers. Item 8. The project is implemented on private properties and do not impact local stakeholder’s property rights, there any ongoing on unresolved conflicts over the property rights. Please refer to the updated section 2.5 of the PD version 02 of 05/10/2023. Item 9. Please refer to the updated section 2.5 of the PD version 02 of 05/10/2023. Item 10. Please refer to section 2.3 of the PD version 02 of 05/10/2023. Item 11. The project does not apply additional certification standard to demonstrate social and environmental benefits beyond GHG emission reductions or removal. Section 1.17 of the PD version 02 of 05/10/2023 provide details on how the project activity contributes to sustainable development goals and contributed to training and job opportunities compared to the project site and location. Item 12. Please refer to section 2.1 and 2.3 of the PD version 02 of 05/10/2023.	

Item 13. Please refer to section 1.3 of the PD version 02 of 05/10/2023.	
Documentation provided by project participant	
PD_FBV_version 02_05102023_tc hl.pdf Evidence Item 5 – Folder 02. Ownership / 2.1 Brazilian Forestry Empreendimentos Florestais LTDA / Legal status - property rights Evidence Item 6 Folder CL01 2_FBV_Contract_ENG.docx	
DOE assessment	Date: 17/01/2024
1. The version number of the VCS Standard has been incorporated in the revised PD version 2. CL is closed. 2. A map showing the distribution of wetlands around the project area from the MapBiomass source has been provided in Figure 31. From the map it is possible to check and confirm that the project area is not located in wetlands. CL is closed. 3. It is clarified that the method used for ex-ante analysis will not impact the ex-post calculation. The ex-ante estimation method and its appropriateness with methodology requirements have been detailed in section 4.1 and 4.2 of the PD. A FAR (01) has been raised for subsequent verification to check the same. CL is closed. 4. Section 3.5 Additionality has been updated in the revised PD (version 3). The additionality describes three alternative land use scenarios (cattle ranching, A/R activities without being registered as a carbon project, and A/R activities of commercial eucalyptus for wood production, and agricultural activities (mango production), which are consistent with the national applicable laws and regulations). Barrier analyses have been carried out for each alternative land use, and determined that the cattle ranching is the only scenario without any barrier. Common practice analysis was performed and concluded that it is not a common practice to carry out Afforestation projects for a long term (20 years or more); and hence, the project can be considered additional. It is checked from different literatures cited in the section and confirmed as per the additionality tool (VT0001). CL is closed. 5. The land title documents are provided for the review to the audit team. CL is closed. 6. PP has provided the Collaboration and Partnership Agreement, wherein the carbon rights is mentioned. CL is closed. 7. Information on the communication of the risks, costs and benefits to the relevant stakeholders have been included in the revised PD version 3. This communication was made during the stakeholder consultation during September 2022, which are supported by attendance list, project information flyer, presentation workshop, presentation on the project description, and minutes of the meeting. The compliance of the employment/workers with national laws and regulations was confirmed from the interview with the employees, and confirmed from salary receipts. CL is closed. 8. The project is implemented on private properties and do not impact local stakeholder's property rights, there any ongoing on unresolved conflicts over the	

property rights. Therefore, an FPIC procedure is not applicable. It is confirmed during the onsite interview with stakeholders ad land title documents. CL is closed. 9. Section 2.5 of the revised PD version 2 has been updated by adding more information on the AFOLU-Specific safeguards. CL is closed. 10. Section 2.3 of the revised PD version 2 includes information on the preventative activities to tackle forest fire, CL is closed. 11. The proposed project does not have a benefit sharing mechanism, as the project area is in a private property. However, the project activity contributes to sustainable development goals and also contribute to training and job opportunities to the local people. CL is closed. 12. Information on justification of the use of non-native species over native species, and the possible adverse effects of non-native species have been incorporated in sections 2.1 and 2.3 of the revised PD version 3. CL is closed. 13. PP has provided the LULC analysis report, vegetation analysis report by a third party engineer and the photographs of the pasture lands before the project, which points to the fact that the project area was covered with degraded pasture with no forest cover. The area was vegetated with plant species that are indicators of infertile land such as jurema, lobeira, etc. as mentioned in section 1.3 of the PD. Hence, it is confirmed that the project activity has not cleared native species and meets the eligibility criteria. CL is closed.

CL ID	06	Section no.	3.3.2	Date: 15/08/2023
Description of CL				
Section 3.2 (Applicability of methodology): 1. Table 8 (wetland category): PP is requested to provide the land use land cover (LULC) maps of the project zone/Project area prior to the Project start date and 10 years before the start date. 2. Table 8 (Soil disturbance/organic soil): PP is requested to include the threshold value of organic matter in soil supported by literature references to justify that the land is not organic soil. Also, PP is requested to justify with evidence that the soil disturbance attributable to the Project activity does not cover more than 10%. 3. PP is requested to justify that the project areas doesn't have organic soil as per the definitions of Annex-A, Glossary of the IPCC GPG LULUCF 2003. 4. No burning of biomass is applicable to the project. However, the team is of the opinion that there could be accidental fires. In such cases how the emissions from biomass burning would be calculated.				
Project participant response				Date: 05/10/2023
Item 1. PD version 02 of 05/10/2023 section 3.2 is updated adding a map showing the Wetland area according to MapBiomass classification. However, I have added the citation from the 10-year analysis of LULC in section 1.3.				

Item 2/3. PD version 02 of 05/10/2023 section 3.2 table 8 is updated adding the soil disturbance conditions. Explanation has been provided in the table of section 3.2 in accordance with the FAO's definition of organic soil.

Item 4. PD version 02 of 05/10/2023 section 3.2 and section 4 are updated accordingly.

Documentation provided by project participant

PD_FBV_version 02_05102023_tc hl.pdf

Evidence Item 1 – Folder 01

8_Shapefiles

Evidence Item 2/3 – Folder 06

Annex-A_Glossary_IPCC.pdf

Soil Analysis.pdf

Soil collection procedure_embrapa.pdf

world_reference_base_for_soil_resources-wageningen.pdf

DOE assessment

Date: 17/01/2024

1. PP has provided the LULC maps of 2010 and 2020; and wetland distribution map in the revised PD version 2. CL is closed.
2. Section 3.2 (Applicability of Methodology) of the PD has been updated with information on the criteria to define organic soil which is supported by organic soil definition by FAO (1998) mentioned in IPCC GPG LULUCF 2003. The soil samples from the project area were analysed and shows that the project area soil is not organic soil. This is confirmed from the evidence and documents provided by the PP such as soil analysis report, soil collection procedure, IPCC GPG LULUCF 2003, AND World reference base for soil resources. Also, the project area in the absence of the project activity is expected to remain without land-use and management practices. Therefore, it is confirmed that the soil disturbance attributable to the Project activity does not cover more than 10%. CL is closed.
3. It is justified that soil analyses was performed to check if the project area land contains organic soil. Results of the analysis shows that the land of the project area is not organic soil as per the organic soil definition/criteria of FAO 1998 in IPCC in IPCC GPG LULUCF 2003. This is confirmed from the evidence and documents provided by the PP such as soil analysis report, soil collection procedure, IPCC GPG LULUCF 2003, AND World reference base for soil resources. CL is closed.

4. Sections 3.2 and section 4 have been updated in the revised PD version 2, describing the Estimation of non-CO2 greenhouse gas (GHG) emissions resulting from burning of biomass attributable to an A/R CDM project activity. CL is closed.

CL ID	07	Section no.	3.3.3	Date: 15/08/2023
Description of CL				
1. Section 3.3 (Table 10) (Above and below ground biomass): The justification/explanation for inclusion of above and below ground biomass is not consistent with the interview and site visit observations. It was claimed that the baseline was a degraded land with no isolated trees, and also, as per field observations no existing trees from baseline were observed. PP to clarify the same with supporting evidence. 2. Section 3.3 (Table 10): The justification/explanation for the inclusion of Dead wood and Litter in Baseline states that "It is expected that carbon stock in these pools will not decrease due to the implementation of the Project activity." PP is requested to justify the statement with appropriate explanation and reference. Similarly, for Soil Organic Carbon in Baseline. 3. Also, PP to justify with appropriate references regarding inclusion of Dead wood/Litter and Soil Organic Carbon in project activity.				
Project participant response				Date: 05/10/2023
Item 1. Section 3.3 (table 10) of the PD version 02 of 05/10/2023 is updated accordingly. As discussed in section 1.3 and 1.13, the land within the Project Area prior to the start of the Project was degraded pasture occupied by extensive livestock, therefore the above and below ground biomass in the baseline is accounted to zero. Furthermore, based on-site observation at the time of the project implementation, in the project area there were no trees, the only trees present were marginal trees and at the side of the roads. Item 2. Section 3.3 (table 10) of the PD version 02 of 05/10/2023 is updated accordingly. Item 3. Section 3.3 of the PD version 02 of 05/10/2023 is updated including explanation about the inclusion of dead wood/litter and SOC in project activity.				
Documentation provided by project participant				
PD_FBV_version 02_05102023_tc hl.pdf				

Evidence Item 3 – Folder CL07

3_CHANGES IN SOIL ORGANIC CARBON UNDER EUCALYPTUS PLANTATIONS IN BRAZIL - Fialho and Zinn 2012.pdf

3_Eucalyptus plantations as hybrid ecosystems Implications for species conservation in the Brazilian Atlantic Forest - Tavares et al. 2019.pdf

DOE assessment

Date: 17/01/2024

1. It is clarified that land within the Project Area prior to the start of the Project was degraded pasture occupied by extensive livestock, and hence, the above and below ground biomass in the baseline is zero. Further, it is clarified that there are no isolated trees within the project area, as confirmed from the site visit. The isolated trees are found only at the side of the roads, and not within the project boundary. CL is closed.
2. Justification for the inclusion or exclusion of Dead wood, Litter and Soil Organic Carbon in baseline have been provided in the revised PD version 3 (section 3.3). CL is closed.
3. Section 3.3. of the revised PD version 2 has been updated with justification for inclusion of Dead wood/Litter and Soil Organic Carbon in the project activity along with appropriate references. CL is closed.

CL ID	08	Section no.	3.3.5	Date: 15/08/2023
Description of CL				
1. Section 3.5 (Additionality): Section 3.5.1 states that the project starting date of the project is 10-01-2020; however, it is mentioned as 23-Jan-2020 in section 1.8 of the PD. PP is requested to clarify the inconsistency and provide appropriate evidence to justify the same. 2. Table 12 of alternative land-use scenarios only mentions two scenarios, PP is requested to provide all the plausible/credible land-use scenarios and clarify the consistency of credible alternative land use scenarios with enforced mandatory applicable laws and regulations, while demonstrating PP is requested to justify the same with valid and latest data sources. 3. Section 3.5 (Additionality): Page 55 of PD mentions about the forest plantation laws relevant to the state Mato Grosso Do Sul, which does not encompass the project area. PP to clarify the same. 4. Section 3.5: Additionality/ Barrier Analysis- Investment barrier is not transparent on the following: a) Investment barrier for other land use scenarios considered in the project activity. b) For alternatives undertaken and operated by entities: Similar activities have only been implemented with grants or other non-commercial financing terms. Similar activities are defined as activities that rely on a broadly similar				

technology or practices, are of a similar scale, take place in a comparable environment with respect to regulatory framework and are undertaken in the applicable geographical area, as defined in Step 1a (Define alternative scenarios to the proposed CDM project activity). c) No capital is available from domestic or international capital markets due to real or perceived risks associated with investments in the country where the project activity is to be implemented, as demonstrated for example, by the credit rating of the country or other country investment reports of reputed origin (e.g., country investment grade or country risk reports). 5. Footnotes 31, 32, and 33 could not be accessed.	
Project participant response	Date: 05/10/2023
Item 1: the project start date is defined as 23 January 2020, when the plantation activities started in block 71 as evidenced by the field registry and by the machine tracking sheet which is the daily working sheet. Item 2: Table of land use scenarios is updated accordingly. Item 3: Typo, corrected. Item 4: Additionality analysis is updated. Item 5: footnotes have been updated and copy of the evidence is provided.	
Documentation provided by project participant	
PD_FBV_version 02_05102023_tc hl.pdf Evidence Item 4 - Folder CL08 4_Análise do resultado financeiro da produção de eucalipto.pdf Evidence Item 5 - Folder CL08 5_Deforestation statistics for Brazil (2022).pdf 5_Environmental Monitoring of Brazilian Biomes.pdf 5_Produção da Pecuária Municipal 2017.pdf 5_SNIF - Planted Forests.pdf 5-Land degradation neutrality.pdf	
DOE assessment	Date: 17/01/2024
1. Section 3.5 of the revise PD version 2 has been updated to make the project start date consistent with section 1.8. CL is closed.	

2. Section 3.5 (Additionality) has been updated with more alternative land use scenarios in table 15 of the revised PD version 2. CL is closed.
3. It is clarified that the mention of state Mato Grosso Do Sul was typo error; and is now corrected in the revised PD. It is checked and confirmed by the audit team. CL is closed.
4. Additionality section 3.5 has been updated in the revised PD version 3. Investment barrier was analysed in line with the methodology requirements, i.e., Similar activities have only been implemented with grants or other non-commercial financing terms. It is checked by the audit team that relevant references and information are provided to justify the same. CL is closed.
5. Appropriate accessible footnotes have been provided in the revised PD version 2 along with PDF as evidence document. CL is closed.

CL ID	09	Section no. 3.3.6	Date: 15/08/2023
Description of CL			
1. Section 4.1 (Baseline Emissions): PD mentions about the continued existence of baseline trees; however, as per interview and field observations, it was understood that there were no baseline trees. PP is requested to clarify the existence of baseline trees with supporting evidence. 2. PP to justify the baseline emissions from changes in carbon stocks in shrubs as per the paragraph 12 of AR-TOOL-14. 3. Section 4.2 (Project Emissions): PD is not transparent on the emission calculation of the project emissions in the event of probable accidental forest fires in future. 4. Section 4.3 (Leakage): PP is requested to provide evidence for non-occurrence of forest fire in the project area after the project start date. 5. Section 4.4.2 (Estimating carbon stock in trees at a point of time): a) PD is not transparent on the justification of points discussed in section 8.2 "Estimation by modelling of tree growth and stand development" for ex-ante estimation of carbon stock in tree biomass as per clause 8.2 of the AR-Tool-14. Demonstrate the same with valid references/sources. Also, reference (weblink) is required for "IPCC: Good Practice Guidance for Land Use, Land Use Change and Forestry" in page 64 and elsewhere throughout the PD. b) Table 19: The reference of data value used for Wood Density (D) is from the year 2009. PP is requested to use the latest data available. c) Table 19: PP is requested to provide justification for applying the value of Biomass Expansion Factor (BEF) as 1.50 in the PD. d) In the ER calculation, PP is requested to apply appropriate values of Root-shoot ratio with justification.			

6. In the ER calculation sheet, justification is required for applying the soil database in Soil Organic carbon. Also references should be included, and GIS files of the soil database and climate type data for the project area should be provided.
7. Section 4.4 Net GHG Emission Reductions and Removals (Soil Organic Carbon):
 - a) PP is requested to provide justification for the “Input factor (f_{IN})” value in the PD which should be in line with A/R Methodological Tool (classification level and climate regime).
 - b) PP is requested to justify the use of $SOC_{LOSS,i}$ as zero, i.e., soil disturbance is less than 10%. If the soil disturbance > 10%, 0.1 value should be used.
8. Section 4.4 Net GHG Emission Reductions and Removals (Dead Wood): PP is requested to provide justification for the DF_{DW} (2%) along with reference and evidence in line with A/R-TOOL 12 conditions.
9. Section 4.4 (Litter): As per A/R-TOOL 12, there is no 2% value for DF_{LI} . PP is requested to use appropriate value along with justification in line with the methodology tool conditions.
10. The ER calculation provided is for 30 years; however, the project crediting period is for 20 years. PP is requested to clarify the inconsistency and provide the revised ER calculations.

Project participant response

Date: 05/10/2023

Item 1. Section 4.1 of the PD version 02 of 05/10/2023 is updated accordingly. As explained in section 1.3 based on-site observation at the time of the project implementation, in the project area there were no trees, the only trees present were marginal trees and at the side of the roads. For further detail please refer to section 1.3 and 1.13, as well as to CL01.

Item 2. Section 4.1 of the PD version 02 of 05/10/2023 is updated accordingly. The changes in carbon stock in shrubs in the baseline is accounted zero for those lands for which the PP demonstrate evidence of one or more indicators stated in §12 of the methodological tool. As per the analysis reported in section 1.3 of the PD, the project area falls into three indicators: (a) presence of rill erosion; (b) presence of plant species locally known to be indicators of infertile land; (c) land is subjected to periodic cycles (slash-and-burn) so that the biomass oscillates between a minimum and a maximum value in the baseline. Therefore, for the purpose of ex-ante estimation of carbon stock and change in carbon stock in the project scenario, change in carbon stock of shrubs is estimated to be zero.

Item 3. Section 4.2 of the PD version 02 of 05/10/2023 is updated accordingly. No burning activity will be implemented by the PP in the project area. Hence, fire is not used by the PP for the site preparation, nor will biomass be burned within the project boundary. In case of forest fires that surpassed a threshold of 5% of the project area, the methodological tool must be applied, and all the required procedures for loss events will be fully applied. Thus, Project Emissions due to burning are accounted as zero.

Item 4. In case of occurrence or non-occurrence of forest fire after the project start date will be demonstrated within the first monitoring report.

Item 5. Section 4.2 of the PD version 02 of 05/10/2023 is updated accordingly.

(a) The description of the estimation of carbon stock in tree at a point of time is updated including details and related references. (b) We assessed that there is no reason to use a more current reference, as the species' density values do not vary from year to year. We chose to retain the cited study because we have confidence in the integrity of the provided data. (c) Table 21 is updated adding the justification for applying the value of Biomass Expansion Factor (BEF) as 1.50. (d) Table 21 and ER spreadsheet is updated accordingly. Item 6. The values were corrected in the spreadsheet and GIS files of the soil database and climate type data for the project area are provided. Item 7. Section 4.4 of the PD version 02 of 05/10/2023 is updated accordingly. (a) The input factor was changed to 1.11, both in the ER spreadsheet and in the PD. (b) The factor was changed, both in the spreadsheet and in the PD. Item 8. Section 4.4 of the PD version 02 of 05/10/2023 is updated accordingly providing related justifications. Item 9. Section 4.4 of the PD version 02 of 05/10/2023 is updated accordingly providing related justifications. Item 10. The ER calculation is revised considering the 20 years of crediting period.	
Documentation provided by project participant	
PD_FBV_version 02_05102023_tc hl.pdf EX-ANTE ERs_FBV_v02_05102023.xlsx Evidence Item 5 – Folder CL09 5_Anex_3A_1_Data_Tables.pdf 5_GPG_LULUCF_FULLEN.pdf 5_CIRAD wood density DB.xlsx Evidence Item 6 – Folder CL09 Folder 6_GIS files of the soil and climate Evidence Item 8/9 – Folder CL09 8_DFDW 8_DFDW and Litter	
DOE assessment	Date: 17/01/2024
1. Section 4.1 of the revised PD version 2 has been updated to provide clarity that there were no baseline trees inside the Project area; the isolated trees mentioned in the PD are present at the side of the roads outside the project boundary and are not accounted for carbon stock calculation. CL is closed. 2. Justification for the baseline emissions from carbon stock changes in shrubs as per the paragraph 12 of AR-TOOL-14 has been provided in the section 4.1 of revised PD version 2. CL is closed.	

3. Section 4.2 of the revised PD version 2 has been updated with information on the Emission calculation of the project emissions in the event of probable accidental forest fires in future. CL is closed.
4. The evidence of occurrence or non-occurrence of the forest fire after the project start date falls under the verification scope. CL is closed.
5.
 - a) Section 4.4 has been updated with more information on the estimation of carbon stock using "Estimation by modelling of tree growth and stand development". It is clarified that as the stand development/growth data are not available, PP has opted for annual increment in volume (IV) of wood suitable for industrial processing value. The values of the increment in volume are taken from Annex 3A.1 (Table 3A.1.7) of IPCC Good Practice Guidance for LULUCF for the species: *E. grandis*, *E. camaldulensis*, and *E. urophylla*. As the species planted are cross-breeds of the above mentioned species, the average values were used for calculating the IVs of the planted species *E. Urocam* and *E. tricross* were CL is closed.
 - b) It is clarified that as the wood density values are unlikely to change from year to year, the PP has decided to use the values from the source. CL is closed.
 - c) Table 21 of the revised PD is updated with justification for applying the value of Biomass Expansion Factor (BEF) as 1.50. CL is closed.
 - d) ER sheet has been revised with appropriate Root-Shoot Ratio, i.e., For Above Ground Biomass (AGB) value of < 50 t/ha, it is 0.45; for AGB value of 50 - 150 t/ha, it is 0.35, and for AGB > 150, it is 0.20. The source of the values is IPCC – TABLE 3A.1.8 of ANNEX 3A.1 "Biomass Default Tables for Section 3.2 Forest Land" of IPCC Good Practice Guidance for LULUCF. CL is closed.
6. ER sheet has been revised. It is checked that the soil type in the Project area (section 1.13 of PD) is latosols (GIS file also provided) which corresponds to oxisols or ferrasols as per USDA Soil taxonomy and World Reference Base for Soil Resources respectively; hence it is considered as LAC. Climate information is also cross-checked with the GIS files provided confirming that the climate is tropical dry. CL is closed.
7.
 - a) Justification for the Input factor value has been updated in the revised PD v2, i.e., Grasslands with direct application of fertilizers – organic or inorganic. CL is closed.
 - b) The $SOC_{LOSS,I}$ value has been updated in the revised PD as per the tool "Tool for estimation of change in soil organic carbon stocks due to the implementation of A/R CDM project activities". CL is closed.
8. It is checked and confirmed that PD has been revised to provide justification for the value of DF_{DW} . The default value from AR-TOOL 12 for Tropical Biome with precipitation less than 1000 mm/year and Elevation range below 2000 m was considered. The audit team checked the precipitation data (source: <http://www.agritempo.gov.br/agritempo/produtos.jsp?siglaUF=MG>) from 2001 to 2022 and SRTM elevation profile of the project area (highest elevation is 892 m) provided by the PP. CL is closed.
9. DF_{LI} value (4%) has been updated appropriately in the revised PD version 2 as per A/R-TOOL 12. CL is closed.
10. ER calculation has revised for 20 years crediting period. CL is closed.

CL ID	10	Section no.	3.3.8	Date: 15/08/2023
Description of CL				
1. Section 5.1 (Data and parameters available at Validation): Management factor: PP is requested to provide evidence for assigning the project area land to “severely degraded” in line with A/R methodology. 2. Section 5.2 (Data and Parameters Monitored): Data parameters (Number of plots to be established in the Project Area, and Number of plots to be established in the Project Area): PD is not transparent on the method used for sample plot estimation, and QA/QC procedures to error correction. Also, as per the CDM sampling procedure (90/10), the maximum sampling error should be 10%. 3. Section 5.3 (Monitoring Plan): (i) The PD is not transparent on the competencies of the personnel that will be carrying out monitoring activities. (ii) The PD is not transparent on collating and reporting data and parameters. (iii) The PD is not transparent on the roles and responsibilities of different teams. (iv) The PD is not transparent on details of the calibration requirements of field instruments and equipment’s (such as frequency of calibration required). (v) The PD is not transparent on the method/tool used for the selection of sample plots (number of samples and plot identity). (vi) The PD is not transparent on the policies for oversight and accountability of monitoring activities. (vii) The PD is not transparent on the procedures for internal auditing.				
Project participant response				Date: 05/10/2023
Item 1. Section 4.4 of the PD version 02 of 05/10/2023 is updated accordingly. The collected evidence aligns with option "a" of the methodological tool using official data from the Pasture Atlas of the Federal University of Goiás. This pasture quality mapping analyses pasture data pixel by pixel for the period from 2000 to 2021 through the analysis of trends in accumulated anomalies. The analysis was based on satellite data (NDVI/MOD13Q1) and assesses productivity losses or gains. Areas with significant trends of productivity loss ($p < 0.05$) were considered areas with signs of degradation. Data from 2015, the year when the cattle were removed and the area was abandoned, shows that nearly half of the project area was classified as "severely degraded pasture." Item 2. Section 5.2 and 5.3 of the PD version 02 of 05/10/2023 is updated accordingly. Equation 2 of the A/R methodological tool Calculation of the number of sample plots for				

measurements withing A/R CDM project activities, will be used to determine the exact number of sample plots within each stratum.

Item 3. Section 5.3 of the PD version 02 of 05/10/2023 is updated accordingly.

Documentation provided by project participant

PD_FBV_version 02_05102023_tc hl.pdf

Evidence Item 1 – Folder CL10

Folder 1_Severely degraded

DOE assessment

Date: dd/mm/yyyy

1. Section 5.1 has been updated with appropriate value of Management factor, and the evidence for assigning the project area land to “severely degraded” has been included in section 4.4 of the revised PD version2 in line with A/R methodology. CL is closed.
2. Section 5.2 and 5.3 have been updated in the revised PD v3 with information on the method used for sample plot estimation, and QA/QC for error correction with error no more than 10%. PP also provide Standard Operating Procedure (SOP) document for the same. CL is closed.
3.
 - (i) Section 5.3 of the revised PD v3 has been updated with information on the organizational structure and competencies of the monitoring team. CL is closed.
 - (ii) Section 5.3 of the revised PD v3 has been updated with information on collating and reporting of data and parameters. CL is closed.
 - (iii) Information on the roles and responsibilities of the project team has been incorporated in the revised PD v3. CL is closed.
 - (iv) Information on the calibration of field equipment have been incorporated in the revised PD v2. CL is closed.
 - (v) Information on the method/tool used for the selection of sample plots have been included in the revised PD version 3. An SOP has been provided for the same. CL is closed.
 - (vi) Section 5.3 of the revised PD v3 has been revised with information on oversight and accountability of monitoring activities. An SOP document is also shared for the same. CL is closed.
 - (vii) Section 5.3 of the revised PD v3 has been revised with information the internal audit procedures. An SOP document is also shared for the same. CL is closed.

CL ID	11	Section no.	3.4	Date: 15/08/2023
Description of CL				
In the Non-Permanence Risk Report: PP is requested to provide justification for all the items/sections wherever “Not Applicable” is mentioned in the NPR report. <i>A) INTERNAL RISKS</i> 1. Project Management: (i) In item a) (species planted), as the planted species is non-native, PP is requested to provide justification for the score “zero”. (ii) In item b), it is mentioned that “This is the first verification....”. PP to correct the same as it is the “validation”. (iii) In items c) and d) (Management team), PP is requested to provide the description on the management team who are doing the activities on ground. Also, evidence of competence/experience should be provided for the team members. (iv) In item e), PP is requested to provide the experience/competence (CV) of the team members. (v) In item f) (Mitigation): The description of the mitigation should be described in terms of mitigation plan on the ground, especially by the FBV (landowner). 2. Financial Viability: i. Item b): PP is requested to replace the word “within 7 years” by “in 7 years” as the breakeven point. ii. In the cashflow, PP is requested to segregate the different activities and provide individual cost of the activities: “Activities on field”, “Wages (field personnel) and maintenance costs”, and “Wages (Project management)” in the section “Total Carbon implementation cost” along with evidence. iii. PP is requested to reference and evidence for all the input values used in cashflow calculation. iv. PP is requested to provide references for price increase rate and cost (inflation), and dollar exchange rate in cashflow sheet. v. In item h), PP is requested to provide information on the source of funding. 3. Opportunity Cost: In item e), the NPR report mentions that the NPV from project activities is between 20% and up to 50% more profitable than that of cattle production (most lucrative alternative land use activity). However, as per the NPV calculation provided by the PP, the profit from project activity is more than 50% than the cattle production. The description stated by the PP: “the NPV for cattle production was U\$57/ha/year, while the NPV for the project was U\$377,85/ha/year”. PP is requested to provide appropriate score. <i>B) EXTERNAL RISKS</i>				

1. Community Engagement:

- (i) Item b): As per the kml file provided by the PP for the communities living within 20 km from the project area, a community/settlement (São Pedro do Jequitinhonha) is observed. PP to clarify on the same.
- (ii) Item c) (Mitigation): PP is requested to clarify how the community will be benefited as there are no communities, as claimed by the PP. Also, the employees of the farm are hired the third party that has contract with PP for maintenance and plantation activities. PP to clarify the same and justify the NPR score.

- 2. Political Risk: Item c) The dataset used (World Bank) for the Governance score is for the year 2022. PP is requested to provide the latest data, if available.

C) NATURAL RISKS

- 1. Fire: The forest fire dataset provided is analysed for years between 1999 to 2009. PP is requested to provide the latest dataset (till recent years) on the forest fire incidence for the project region, along with evidence such as map of active fire points.
- 2. Pest and Disease outbreaks: PP is requested to provide the integrated pest management strategy, and information on other mitigation activities. Also, PP to provide objective evidence with data and references for the insignificance claim.
- 3. Extreme weather: The description provided in the report should be supported with objective evidence, data, and references.

Project participant response

Date: 17/01/2024

INTERNAL RISKS

- 1) Project management. Item a), b) have been updated accordingly. Item c) is updated. Please note that evidence about experience of the field workers are not available. As you observed during the site visit, they are working from long time in plantations owned by the forest owner. Item e) CVs are provided.
- 2) Financial viability. Item b) corrected. Item h) provided the latest financial statement approved.
- 3) Opportunity cost is updated accordingly and evidence are provided.

EXTERNAL RISKS

- 1) Community engagement, is updated accordingly.
- 2) Political risks. The latest data available are used (2018-2022)

NATURAL RISKS

- 1) Fire. Updated.
- 2) Pest and disease. Updated.
- 3) Extreme weather. Updated.

Documentation provided by project participant

VCS-Non-Permanence-Risk-Report-ARR-BOA-VISTA_validation_ver. 2.0.pdf

Boa_Vista_VCS-Risk-Report-Calculation-Tool-v4.0.xlsm

Evidence INTERNAL RISKS – FOLDER CL11

- 1_CVs team
- 2_Cashflow_FB.xlsx
- 2_Cashflow evidence (folder)
- 2_Financial statement 31.12.2022_CCC.pdf
- 3_Livestock NPV - Opportunity Cost.xlsx
- 3_price_cattle_MG.pdf

Evidence EXTERNAL RISKS – FOLDER CL11

- 2_The Worldwide Governance Indicators 2023.xlsx

Evidence NATURAL RISKS – FOLDER CL11

- 1_DIAS, Bruna Aparecida Silva. Proposta para mapeamento dos riscos de queimadas e incêndios em Minas Gerais. 2023.pdf
- 2_Locus Repositório Institucional da UFV_ Seleção de híbridos multi-espécies de eucalyptus tolerantes ao déficit hídrico, insetos e fungos.pdf
- 3_Renaud Camargo, D., Sánchez, C. (2021). Ciência popular do sertão mineiro e educação ambiental de base comunitária saberes locais como pontos de partida para a contextualização.pdf

DOE assessment

Date: 17/01/2024

A) INTERNAL RISKS

1. Project Management:
 - (i) NPR Report version 3 has been revised. It is justified that Eucalyptus plantation has been introduced in Brazil since 1900s for forestry purpose due to its adaptability to soil and climatic conditions, which is supported by a literature

- report provided by PP titled “Short Rotation Eucalypt Plantations for Energy in Brazil”. CL is closed.
- (ii) Item b) has been rectified and more information on the concerned risk factor has been incorporated in revised NPR version 2. CL is closed.
 - (iii) The NPR report has been revised to provide the description on the management team who are doing the activities on ground, and also described the experience of the team members. CL is closed.
 - (iv) PP has provided the experience and skills of the project team along with CVs. CL is closed.
 - (v) PP has provided a General management plan that contains information on the adaptive management plan including performance indicators, mitigation for worker’s safety, and communication with stakeholders. CL is closed.

2. Financial Viability

- (i) PP has rectified the word “within 7 years” with “in 7 years” as the breakeven point. CL is closed.
 - (ii) Cashflow sheet has been revised to segregate the different activities and provided the individual cost of the activities. CL is closed.
 - (iii) The reference and evidence for all the input values used in cashflow calculation were provided, and found to be consistent. CL is closed
 - (iv) Cashflow sheet has been updated to provide references for price increase rate and cost (inflation), and dollar/Euro/BRL exchange rates. CL is closed.
 - (v) PP has provided information on the source of funding, i.e., the latest financial statement of the company which is transparent on the source of funding for the project. CL is closed.
3. PP has provided the revised NPV calculation spreadsheet. The values in the spreadsheet is now consistent with that of the NPR report, i.e., the NPV for cattle production was US\$90.14/ha/year, while the NPV for the project was \$222.59 which proves to be 147% more profitable than continuing extensive livestock farming. CL is closed.

B) EXTERNAL RISKS

1. Community Engagement:

- (i) Item b): Detail on the communities located within 20 km radius outside the project boundary has been provided in section 2.5 of the revised PD v3. A total of four communities or settlements (São Pedro do Jequitinhonha, Itaobim, Santana do Araçuaí, and São João Grande) were identified; however, none of the communities are within 20 km radius, and are unlikely to be impacted by the project due to their distant location, and remoteness of the project area. CL is closed.
 - (ii) Item c (Mitigation): This section has been updated with the information that the no local communities dependent on the project area were identified, and hence the project does not generate net positive impacts on the social/economic well-being of the local communities. Appropriate score of Zero has been inserted. CL is closed.
2. It is checked that the latest data available have been used for calculation the political risk score. CL is closed.

C) NATURAL RISKS

1. Fire: NPR Report has been revised with latest information on the fire risk (Dias 2023) for the period 2017 to 2021. The document is checked and confirmed that the Jequitinhonha mesoregion where the project area is located experience about 18.6% of the risk category “very high risk”; however, the most affected areas are located at low-altitude places and close to highways unlike the project area which is located far from the highway and at relatively higher altitude. CL is closed.
2. NPR report has been revised with information on the risk of the pest and disease outbreaks. PP has provided a reference document (Silva 2020) which explains the resistance properties of the eucalyptus plants against insects and fungi. Also, it is checked that the General Management Plan provided by the PP consists of planned activities related to controlling the ants, termite, and other insects, which will be executed on a yearly basis. CL is closed.
3. NPR Report has been updated with relevant literatures to support that the occurrence of extreme weather events like tornado (Candido, 2012) and flood (Camargo and Sanchés, 2021) is unlikely to impact the project area. CL is closed.

CAR from this Validation

CAR ID	01	Section no.	3.2.5	Date: : 15/08/2023
Description of CL				
Section 2.5 (AFOLU-Specific Safeguards): 1. PD is not transparent on the risks to local stakeholder resources due to project implementation (e.g., trade-offs with food security, land loss, loss of yields and climate change adaptation). Also describe how the project will mitigate such risks, including the plans to ensure the project will not impact local stakeholder’s property rights without the free, prior and informed consent. In the case of “no risk” to the stakeholders, as stated in the PD, PP is requested to justify the same along with supporting evidence. 2. PD is not transparent on the grievance redressal mechanism, which should include: processes for receiving, hearing, responding and attempting to resolve grievances within a reasonable time period, taking into account culturally-appropriate conflict resolution methods. 3. PD doesn't identify the location of communities, local stakeholders and areas outside the project area that are predicted to be impacted by the project. 4. PD doesn't state that neither the project proponent nor any other entity involved in project design or implementation are involved in any form of discrimination or sexual harassment.				

5. PD doesn't describe how communication and consultation are performed in a culturally appropriate manner, including language and gender sensitivity, directly with local stakeholders or their legitimate representatives when appropriate. 6. PD is not transparent if there are any ongoing or unresolved conflicts over property rights. If there are, PD should discuss how the project will mitigate/take into account these conflicts and demonstrate they will not impact the implementation of the project.	
Project participant response	Date: 05/10/2023
Item 1. Section 2.5 of the PD version 02 of 05/10/2023 is updated. Please refer to Risks to local stakeholders and their resources due to Project implementation. Item 2. Section 2.5 of the PD version 02 of 05/10/2023 is updated. Please refer to Communication and consultation, including grievance redress. Item 3. Section 2.5 of the PD version 02 of 05/10/2023 is updated. Please refer to Local Stakeholder Identification and background. Item 4. Section 2.5 of the PD version 02 of 05/10/2023 is updated. Please refer to Free, Prior and Informed consent. Item 5. Please refer to section 2.2. of the PD version 02 of 05/10/2023. Item 6: Section 2.5 of the PD version 02 of 05/10/2023 is updated. Please refer to Local Stakeholder Identification and background.	
Documentation provided by project participants	
PD_FBV_version 02_05102023_tc hl.pdf	
DOE assessment	Date: 17/01/2024
1. Section 2.5 has been updated with information on the risks to stakeholders' resources and property rights, and also the mitigation plan for the risks in the revised PD v2. CAR is closed. 2. Section 2.2 and 2.5 of the revised PD version 2 have been updated to provide detail information on the grievance redressal mechanism. CAR is closed. 3. Section 2.5 of the revised PD v3 has been updated with information on the identified communities. Communities within the radius of 20 km outside the project boundary have been identified and included in the revised PD. It is confirmed from the community map provided in the PD, and GIS check in the Google Earth that no communities are located within 20 km radius. There are four communities present between >20 km and 50 km– Itaobim, São Pedro do Jequitinhonha, Santana do	

Araçuaí, and São João Grande; however, it is unlikely to be impacted by the project due to their distant location. CAR is closed.	
4.	Section 2.5 of the revised PD has been updated with information that neither project proponent nor any other entity involved in project design or implementation are involved in any form of discrimination or sexual harassment. CAR is closed.
5.	Section 2.2 of the revised PD version 2 has updated with the concerned information. CAR is closed.
6.	It has been clarified and mentioned in the revised PD v2 (section 2.5) that there are no ongoing or unresolved conflicts over property rights. CAR is closed.

CAR ID	02	Section no.	3.3.5	Date: : 15/08/2023
Description of CAR				
Section 3.5 (Additionality) of PD: Sub section 3.5.4 Step 4b (Common Practice analysis) is not demonstrated as per the requirements of Step 4a/ Step 4b “Combined tool to identify baseline scenario and demonstrate additionality in A/R CDM project activities (Version 07)”. It is further noticed that PP has used version 02 of the tool-02. PP is requested to update the same with latest version.				
Project participant response			Date: 05/10/2023	
The common practice analysis is updated in accordance with the applied methodological combined tool to identify baseline scenario and demonstrate additionality in A/R CDM project activities version 01 of 19 October 2007 (the latest available version).				
Documentation provided by project participant				
PD_FBV_version 02_05102023_tc hl.pdf				
DOE assessment			Date: 17/01/2024	
Section 3.5 of the revised PD v3 has been updated. It is checked that Common Practice Analysis has been detailed as per the requirements of Step 4 “Combined tool to identify baseline scenario and demonstrate additionality in A/R CDM project activities”. CAR is closed.				

FAR from this Validation

FAR ID	01	Section no.	3.3.6	Date: 15/08/2023
Description of FAR				
1. PP to provide a description on the method for estimating the ex-post calculations of the carbon stocks as per the requirements of AR-TOOL-14 in the first verification. Allometric equation/volume equations used in the first verification needs to be demonstrated as per the requirements of AR-TOOL -17 and 18. The same needs to be checked and assessed in the first verification by the VVB.				
Project participant response			Date: dd/mm/yyyy	
Documentation provided by project participant				
DOE assessment			Date: dd/mm/yyyy	

FAR ID	02	Section no.	3.2	Date: 16/01/2024
Description of FAR				
1. PD section 2.5, sub-section "Risks to Local Stakeholders and their Resources due to Project Implementation": The PD states that "In the future, anti-discrimination protocols will be implemented and included in the manual of good relations and procedures". PP to provide evidence for the same.				
Project participant response			Date: dd/mm/yyyy	
Documentation provided by project participant				
DOE assessment			Date: dd/mm/yyyy	

FAR ID	03	Section no.	2.3	Date: 16/01/2024
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Description of FAR	
To ensure a larger proportion of stakeholders are consulted, the neighbouring farms should be interviewed by the VVB in the second verification.	
Project participant response	Date: dd/mm/yyyy
Documentation provided by project participant	
DOE assessment	Date: dd/mm/yyyy

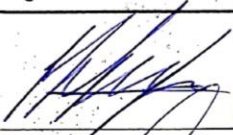
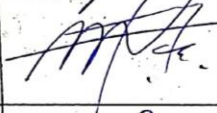
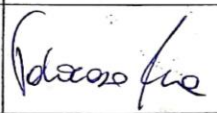
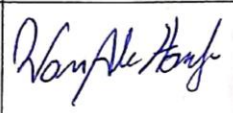
APPENDIX 2: ABBREVIATIONS

Abbreviations	Full Text
ARR	Afforestation, Reforestation, Revegetation
BFEFL	Brazilian Forestry Empreendimentos Florestais Ltda
CAR (related to findings)	Corrective Action Request
CAR (related to land documents)	Rural Environmental Registry
CCCL	Carbon Credits Consultoria Brasil Ltda
CCCS	Carbon Credits Consulting SRL
CCIR	Rural Property Registration Certificate
CH ₄	Methane
CL	Clarification Request
CO ₂	Carbon dioxide
CO _{2e}	Carbon dioxide equivalent
EPL	EcoLance Private Limited
ER	Emission Reduction
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IEF	Instituto Estadual de Florestas
IPCC	Intergovernmental Panel on Climate Change
INCRA	National Institute for Colonization and Agrarian Reform
MR	Monitoring Report
PAI	Project Activity Instances
PP	Project Participant
SEDAM	Secretaria de Estado do Desenvolvimento Ambiental (State Secretariat for Environmental Development)

SEMA	Secretaria de Estado do Meio Ambiente (Secretary of State for the Environment)
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard
VVB	Validation and Verification Body

APPENDIX 3: LIST OF PARTICIPANTS



EPL/FR/2 Audit Participant List			
Project No:	EPL-VCS-2023-0030 (VCS ID 4072)		
Scheme	VCS		
Type of Audit	Validation: Yes Verification: Yes		
Client/ Company	Carbon Credits Consulting S.R.L.		
Project Title	Fazenda Boa Vista Afforestation Project		
Audit Dates	26/07/2023 to 28/07/2023		
Audit Location	Ponto dos Volantes Municipality, State of Minas Gerais, Brazil		
PARTICIPANTS			
Name	Organization	Designation	Signature
CARLO ROVERANO	BRAZILIAN FORESTRY	OWNER	
MARILIA RODRIGUES	-a-	-m-	
Hindelin Basunetay	Ecolance	GHG Auditor (Training) & T.E	
RITA VALOROSO	CARBON CREDITS CONSULTING SPA	HEAD OF PROJECT DEVELOPMENT	
Vanessa A. Stamberg	Carbon Credits Consulting	Project Analyst	
Felipe Góes de Moraes	Carbon Credits Consulting	Project Analyst	

ECOLANCE PRIVATE LIMITED

ECOLANCE

EPL/FR/2

Audit Participant List

Name	Organization	Designation	Signature
DAVIDE ROSSI	CCC	PARTNER	
marcelo Ribeiro de Souza	FAZENDA BOA	Fazendeiro	marcelo Ribeiro de Souza
José Batista das Neves	Fazenda Boa	Fazendeiro	José Batista das Neves
Julio Antonio Costa Lima	Fazenda Boa Vista	Fazendeiro	Julio Antonio Costa Lima
Luiz Claudio Pena Ferreira	IEF	Supervisor Regional	
Lariane Chaves Junker	IEF	Coord. de Regulamentação Fundiária	
Landerson Gomes Galvão	IEF	Coord. de Biodiversidade	
Thalles Victor Lopes de Souza	INCRA Secretaria de Meio Ambiente	Director	
Antonio Mario Almeida	Prefeitura	Assessor	
João Rui Borges Mota	PREFEITURA	SECRETARIO	

ECOLANCE PRIVATE LIMITED

Prepared: 09-10-2021

Version 1

Issued: 25-10-2021

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EPL/FR/2

Audit Participant List

Name	Organization	Designation	Signature
Isolina Ramos Santana	Prefeitura Municipal de Porto dos Volantes	Secretária de Planejamento	Isolina Ramos Santana
Lucimara de Lima Cardoso Siqueira	PM PV	chefe de Gabinete	[Signature]
MOISÉS R. LIMA	PREFEITURA	SEC MUNICIPAL	[Signature]

ECOLANCE PRIVATE LIMITED

Prepared: 09-10-2021

Version 1

Issued: 25-10-2021

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APPENDIX 4: COMPETENCY CERTIFICATES OF TEAM MEMBERS



Certificate of Appointment

REKHA MENON

The qualification and appointment are done following the requirements of
ECOLANCE PRIVATE LIMITED (EPL/PR/5)

Standard/ Scheme			
☒ VCS	☒ CCBS	☒ GS4GG	☐ GCC
☐ SD Vista	☒ Social Carbon	☐ Plan Vivo	☐ Plastic Standard
☐ CerCarbono	☒ ISO 14064-1: 2018		

Role			
☒ Auditor	☒ Team Leader	☒ Reviewer	☒ Technical Expert
☒ Financial Expert	☐ Trainee	☒ GHG Verifier [Applicable to 14064-1: 2018]	

Sectoral Scopes	
☒ Energy Industries (Renewable/Non-Renewable)	
☒ Energy Demand	
☒ Waste Handling and Disposal	
☒ Forestry and Other Land Use	
☒ Agriculture	
☒ Livestock and Manure	
☒ General [Applicable to 14064-1: 2018]	

Certificate No	EPL/Cert/4
Date	15/02/2024
Validity	14/02/2025

Authorized by	Champak Buragohain
Designation	Director
	



Certificate of Appointment

HIMOLIN BASUMATARY

The qualification and appointment are done following the requirements of
ECOLANCE PRIVATE LIMITED (EPL/PR/5)

Standard/ Scheme			
☒ VCS	☒ CCBS	☒ GS4GG	☐ GCC
☐ SD Vista	☒ Social Carbon	☐ Plan Vivo	☐ Plastic Standard
☐ CerCarbono	☐ ISO 14064-1: 2018		

Role			
☒ Auditor	☐ Team Leader	☐ Reviewer	☒ Technical Expert
☐ Financial Expert	☐ Trainee	☐ GHG Verifier [Applicable to 14064-1: 2018]	

Sectoral Scopes
☐ Energy Industries (Renewable/Non-Renewable)
☐ Energy Demand
☐ Waste Handling and Disposal
☒ Forestry and Other Land Use
☒ Agriculture
☐ Livestock and Manure
☐ General [Applicable to 14064-1: 2018]

Certificate No	EPL/Cert/3
Date	15/02/2024
Validity	14/02/2025

Authorized by	Rekha Menon
Designation	Director-Technical
	



Certificate of Appointment

GUILHERME BERWERTH STUCCHI

The qualification and appointment are done following the requirements of
ECOLANCE PRIVATE LIMITED (EPL/PR/5)

Standard/ Scheme			
☒ VCS	☒ CCBS	☐ GS4GG	☐ GCC
☐ SD Vista	☒ Social Carbon	☐ Plan Vivo	☐ Plastic Standard
☐ CerCarbono	☐ ISO 14064-1: 2018		

Role			
☐ Auditor	☐ Team Leader	☐ Reviewer	☒ Technical Expert
☐ Financial Expert	☐ Trainee	☐ GHG Verifier [Applicable to 14064-1: 2018]	

Sectoral Scopes
☐ Energy Industries (Renewable/Non-Renewable)
☐ Energy Demand
☐ Waste Handling and Disposal
☒ Forestry and Other Land Use
☒ Agriculture
☐ Livestock and Manure
☐ General [Applicable to 14064-1: 2018]

Certificate No	EPL/Cert/2
Date	15/02/2024
Validity	14/02/2025

Authorized by	Rekha Menon
Designation	Director-Technical
	



Certificate of Appointment

BOUANGEUNH KHENSABAB

The qualification and appointment are done following the requirements of
ECOLANCE PRIVATE LIMITED (EPL/PR/5)

Standard/ Scheme			
☒ VCS	☒ CCBS	☐ GS4GG	☐ GCC
☐ SD Vista	☒ Social Carbon	☐ Plan Vivo	☐ Plastic Standard
☐ CerCarbono	☐ ISO 14064-1: 2018		

Role			
☒ Auditor	☒ Team Leader	☒ Reviewer	☒ Technical Expert
☐ Financial Expert	☐ Trainee	☐ GHG Verifier [Applicable to 14064-1: 2018]	

Sectoral Scopes
☐ Energy Industries (Renewable/Non-Renewable)
☐ Energy Demand
☐ Waste Handling and Disposal
☒ Forestry and Other Land Use
☒ Agriculture
☐ Livestock and Manure
☐ General [Applicable to 14064-1: 2018]

Certificate No	EPL/Cert/1
Date	15/02/2024
Validity	14/02/2025

Authorized by	Rekha Menon
Designation	Director-Technical
