

VCS JOINT VALIDATION & VERIFICATION REPORT TEMPLATE



RIO MADEIRA GROUPED REDD+ PROJECT



Document Prepared by RINA Services S.p.A.

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Summary:

RINA Services S.p.A. (RINA), commissioned by Fazenda Rio Madeira S/A (Grupo Rovema); José Marcos Leite Junior (Grupo Leite); Túlio Villela Lemos Baptista da Costa (Grupo Tupá), has validated and verified the project design and greenhouse gas emission reductions reported for the project activity Rio Madeira Grouped REDD+ Project in Brazil, with regards to relevant requirements for VCS rules. The objective of the grouped project activity is to avoid unplanned deforestation (AUD) of a region within the municipalities of Porto Velho and Lábrea. The first three Project activity instances have 52,274.05ha project area, which is within two private properties in Porto Velho owned by Grupo Rovema and Grupo Leite (hereafter, PAI 1 and PAI 2, respectively) and one private property in Lábrea owned by Grupo Tupã (hereafter, PAI 3) consisting of 100% Amazon rainforest.

This Grouped project utilizes the approved VCS Methodology VM0015: Methodology for Avoided Unplanned Deforestation, version 1.1 of 03/12/2012, and corresponding modules/ tools are applied to quantify the GHG removals achieved in this project.

The Fazenda Rio Madeira S/A (Grupo Rovema); José Marcos Leite Junior (Grupo Leite); Túlio Villela Lemos Baptista da Costa (Grupo Tupá) have requested RINA to perform the joint validation and the 1st verification audit, for which a joint Project Description & Monitoring Report, a Non-Permanence-Risk Report and supporting documents were provided. RINA, acting as an independent third party, has assessed the documents and evidence provided, and performed desk assessment and virtual and presential assessment, which included a desk review, inspection of project site, interviews with stakeholders, interviews with the top management of PP and interviews with the technical and field staff of the project activity. RINA team verified the information contained and the emissions reductions and/or removals claimed in the Project Implementation Report, calculated in compliance with the requirements of the Verified Carbon Standard (VCS) and the requirements of the methodology applied.

The objective/scope of the validation is the independent assessment of the project to determine whether the project complies with the VCS Program rules. The objective/scope of the verification is to have an independent review ex post determination of the monitored reductions in GHG emission reductions, verification was conducted using RINA procedures in line with the requirements specified in the VCS version 4.4 and applying standard auditing techniques.

The verification shall ensure that reported emission reductions are complete and accurate in accordance with applicable VCS requirements in order to be certified.

This is the first verification assessment of “Rio Madeira Grouped REDD+ Project” for the monitoring period of 23-October-2019 to 31-December-2021.

Method and Criteria: Validation and Verification was conducted using RINA procedures in line with the requirements specified in the VCS Requirements, i.e. VCS Program Guide, VCS Version 4.3 of 21/12/2022, and VCS Standard, VCS Version 4.4 of 21/12/2022. The GHG emission reductions are on the basis of the approved Baseline and monitoring methodology VM0015: Methodology for Avoided Unplanned Deforestation version 1.1 of 03/12/2012.

Any uncertainties associated with the validation/verification: carbon stocks per hectare of initial forest classes existing in the project area and leakage belt, uncertainties at confidence interval of 90%, and final values after discounts for uncertainties were considered in the ER calculations, which is as

per the uncertainty assessment requirements of the methodology. The estimation of the total uncertainty of the REDD Project Activity was conducted in compliance with the VCS methodology by quantifying the uncertainty for the projection of baseline rate of deforestation as well as the estimation of stocks in carbon pools.

During this validation/verification 10 Clarification Requests (CRs) and 1 CAR (Corrective Actions) and 4 FAR (Forward Action Request) were identified related to the monitoring, implementation or operations of the proposed VCS project activity (Joint PD and MR version 1.0 of 26/08/2022) in relation to all relevant VCS requirements v 4 for the project activity and the applied baseline and monitoring methodology; these findings have been discussed in appendix 2 of this report and were correctly addressed by PPs. After successful validation/verification, RINA confirms that the project complies with all the requirements of the Verified Carbon Standard, having estimated 16,053,622 tCO₂ equivalents net emission reductions during the crediting period of (23-October-2019 to 22-October-2049). The VCUs verified is 1,256,609 tCO₂ after discounting 12% for buffer for the current monitoring period 23-October-2019 to 31-December-2021

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1 INTRODUCTION

1.1 Objective

RINA has been commissioned by Fazenda Rio Madeira S/A (Grupo Rovema); José Marcos Leite Junior (Grupo Leite); Túlio Villela Lemos Baptista da Costa (Grupo Tupá) to perform an independent validation/verification of its VCS REDD project, “Rio Madeira Grouped REDD+ Project”.

The objective of the Validation and Verification is to have an independent evaluation of a project activity by a VVB against the requirements of the VCS standard version 4.4, on the basis of the project design. In particular, the project's baseline, monitoring plan, and the project's compliance with relevant VCS requirements, VCS Program Guide, Registration & Issuance Process, Validation & Verification Manual, methodology & tools and host Party criteria are validated in order to confirm the correctness of the application of the approved baseline methodologies for the determination of the baseline and estimation of the emission reductions for the applicable crediting period. Validation is a requirement for all VCS projects and is necessary to provide assurance to stakeholders of the quality of the project and its intended generation of the Verified Carbon Units (VCUs).

The reported GHG emission reductions for the given monitoring period must undergo independent third- party verification and certification of emission reductions as the basis for issuance of Verified Carbon Units (VCUs).

The objectives of this verification exercise are, by review of objective evidence, to establish that:

- The project activity has been implemented and operated as per the project description (PD) and that all physical features (technology, project equipment, and monitoring and metering equipment) of the project are in place.
- Monitoring report and other supporting documents are complete.
- The data is recorded and stored as per the monitoring methodology and approved monitoring plan.
- To confirm that the monitoring system is implemented and fully functional to generate Verified Carbon Units (VCUs) without any double counting, and
- To establish that the data reported are accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation.

1.2 Scope and Criteria

The validation scope is to review the VCS-PD against the VCS criteria which refer to VCS Version 4.4 standard and all the GHG program requirements. Validation is not meant to provide any consultancy towards the project participants.

The verification scope is:

- to verify that actual monitoring systems and procedures are in compliance with the monitoring systems and procedures described in the monitoring plan;
- to evaluate the GHG emission reduction data and express a conclusion with a reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement.
- to verify that reported GHG emission data is sufficiently supported by evidence.

The project is assessed against the of VCS program guide v 4.3, VCS standard v4.4. RINA has, based on the recommendations in the latest version of VCS Validation and Verification Manual v 3.2, and employed a rule-based approach (as criteria) in the verification, focusing on the identification of significant reporting rules and the reliability of project monitoring.

The joint Validation & Verification 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 joint Project Description and Monitoring Report.

1.3 Reasonableness of Assumptions and Level of Assurance

The final joint validation/verification report before being submitted to the client were subjected to an independent internal technical review to confirm that all validation/verification activities had been completed according to the pertinent RINA's instructions. The validation has a limited level of assurance, as some data was based on literature, interview, estimative. For the verification, monitored data is used, the reasonable level of assurance about whether the reported GHG emission reduction data is free from material misstatement. The audit team concludes, with reasonable assurance, that the quantification of the net GHG removals, during the verification period, is free of material misstatement and complies with the verification criteria.

In addition, RINA applies materiality threshold of 1 per cent with respect to omission or misstatement concerning reported quantities as per VCS Standard for large project.

The technical review is performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for VCS validation and verification.

The validation/verification team and the technical reviewers consist of the following personnel.

Role	Last Name	First Name	Country
Team Leader	Carvalho	Thaís	Brazil
Validator/Verifier and Technical Expert	Goes	Gustavo	Brazil
Technical Expert -Trainee	Ribeiro	Vanessa	Brazil
Technical reviewer	Amalorpavanathan	Cyril	India
Technical reviewer-TE 14	Baêso	Gustavo	Brazil

1.4 Summary Description of the Project

Project Proponent	Future Carbon International LLC
Title of the project activity	Rio Madeira Grouped REDD+ Project
Baseline and monitoring methodology	VM0015: Methodology for Avoided Unplanned Deforestation, version 1.1 of 03/12/2012,
Location of the project activity	The Grouped Project covers a region in the municipalities of Porto Velho in the State of Rondônia and Lábrea, in the State of Amazonas, both in north of Brazil.
Brief description of the project	The project is a grouped project that avoid unplanned deforestation (AUD). The first three Project activity instances has 52,274.05 ha project area , which is within two private properties in Porto Velho owned by Grupo Rovema and Grupo Leite (hereafter, PAI 1 and PAI 2, respectively) and one private property in Lábrea owned by Grupo Tupã (hereafter, PAI 3) consisting of 100% Amazon rainforest. The predicted deforestation area is 34,681.91 ha and emission reduction over the 30-year project lifetime (23-October-2019 to 22-October-2049) is 16,053,622 tCO2
Projects crediting period	23-October-2019 to 22-October-2049 (30 years)
Projects monitoring period	23-October-2019 to 31-December-2021

2 VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

Validation and Verification is conducted using RINA procedures in line with the requirements specified in the VCS Standards and applying standard auditing techniques. The Validation/verification consisted of the following three phases:

- Document review.
- Follow-up actions – presential audits, remote meetings including interviews and site assessments using satellite imagery, GIS, shape files of PA, RR and LB. Dates of the meeting are described in the section 2.3. The stakeholders interviewed, roles, dates of interview, the Organization that they represent are also detailed in Section 2.3. For the stakeholders selection, it was selected landowners of each instance and also employees of Instance 1 and 2, the environmental agencies representatives (SEMA, SEDAM-RO), educational centers (Flor do Cupuaçu

school-Instance 1; School Rondon-instance 2 and RECA cooperative- Instance 3); UBS- an health center; Community leaders. RINA considered different stakeholders groups to have possibility to comment in the project activity, as detailed in the section 2.3

- The resolution of outstanding issues and the issuance of the final joint Validation & Verification report.

The following sections outline each step in more detail.

2.2 Document Review

The joint Project Description & Monitoring Report, version 8 of 15/04/2024 and previous versions /01/, in particular the applicability of the methodology, the baseline determination, emission reduction calculations provided in the form of a spreadsheet ex-ante estimative /2/, and ex-post ER emission spreadsheet /3/, investment analysis sheet /12/, non-permanence risk report /13/ and the documents listed in the table below, were reviewed during the validation/verification.

The following table lists the documentation that were reviewed during the validation/verification

/01/	FUTURE Carbon Group: VCS joint Project Description & Monitoring report for the project activity “Rio Madeira Grouped REDD+ Project”, version 1.0 of 26/08/2022 version 2 of 10/02/2023, version 3 of 22/03/2023, version 4 of 23/05/2023, version 5 of 12/06/2023, version 6 of 20/10/2023, version 7 of 10/01/2024 version 8 of 15/04/2024.
/02/	FUTURE Carbon Group: Ex ante emission reductions calculation spreadsheet: VCS-PD Calculation_RioMadeira_v01.xlsx VCS-PD Calculation_RioMadeira_v02.xlsx VCS-PD Calculation_RioMadeira_v03.xlsx VCS-PD Calculation_RioMadeira_v04.xlsx VCS-PD Calculation_RioMadeira_v05.xlsx VCS-PD Calculation_RioMadeira_v06.xlsx VCS-PD Calculation_RioMadeira_v07.xlsx VCS-PD Calculation_RioMadeira_TF_v08.xlsx
/03/	FUTURE Carbon Group: monitored emission reductions calculation spreadsheet: VCS MR Calculation RioMadeira_v01.xlsx; version 1 VCS MR Calculation RioMadeira_v02.xlsx, version 2 VCS MR Calculation RioMadeira_v03.xlsx, version 3 VCS MR Calculation RioMadeira_v04.xlsx VCS MR Calculation RioMadeira_v05.xlsx VCS MR Calculation RioMadeira_v06.xlsx VCS MR Calculation RioMadeira_TF_v08.xlsx
/04/	VCS: VCS Program Guide, VCS Version 4.2 of 22/06/2021 and version 4.3 of 21/12/2022 (final version)

/05/	VCS: VCS Standard, Version 4.3 of 22/06/2021 and version 4.4 of 21/12/2022 (final version)
/06/	VCS: Approved consolidated baseline and monitoring methodology VM0015: Methodology for Avoided Unplanned Deforestation version 1.1 of 03/12/2012
/07/	VCS: Validation and Verification Manual version 3.2 of 19/10/2016
/08/	Website: https://verra.org/project/rina-services-s-p-a/ VCS: List of sectoral scopes RINA S.p.A is accredited Language: English Retrieved on: 24/08/2022
/09/	VCS Project Database: https://registry.verra.org/ , last accessed on 08/12/2022
/10/	CDM: https://cdm.unfccc.int/Projects/projsearch.html , last accessed on 08/12/2022
/11/	Gold Standard: https://registry.goldstandard.org/projects?q=&page=1&countries=BR last accessed on 08/12/2022
/12/	FUTURE Carbon Group: Cashflow_Grouped Rio Madeira_v4_inst1_ROVEMA.xlsx Cashflow_Grouped Rio Madeira_v4_inst2_LEITE.xlsx Cashflow_Grouped Rio Madeira_v4_inst3_TUPÁ.xlsx Cashflow_Grouped Rio Madeira_v1.xlsx
/13/	FUTURE Carbon Group: NPRR_RioMadeira_v8.pdf NPRR_RioMadeira_v5.pdf VCS-Non-Permanence-Risk-Report_RioMadeiraGroupedProject_Joint PD-MR_v4.pdf VCS-Non-Permanence-Risk-Report_RioMadeiraGroupedProject_Joint PD-MR_v3.pdf VCS-Non-Permanence-Risk-Report_RioMadeiraGroupedProject_Joint PD-MR_v2 VCS-Non-Permanence-Risk-Report_RioMadeiraGroupedProject_Joint PD-MR_v1
/14/	FUTURE Carbon Group: VCS-Risk-Report-Calculation-Tool_RioMadeiraGroupedProject_v05.xls VCS-Risk-Report-Calculation-Tool_RioMadeiraGroupedProject_v02.xls VCS-Risk-Report-Calculation-Tool_RioMadeiraGroupedProject_v01.xls
/15/	VCS project details web site: https://registry.verra.org/app/projectDetail/VCS/2878
/16/	Future Carbon Group (Future Carbon Holding S.A.): social carbon report for the Rio Madeira Grouped REDD+ Project- point zero, Version 3.1 of 22/09/2023.
/17/	VCS: VCS-Risk-Report-Calculation-Tool-v4.0.xls
/18/	Brasil Law n°. 12.651, of 25 May 2012: Forest Code.
/19/	Brasil Decree n°. 10.088 of 05 November 2019.
/20/	Brasil Decree n°. 6.040 of 07 February 2007
/21/	Brasil Decree n°. 10.144 of 28 November 2019.
/22/	Rondonia Govern Decree 23.431 of 28/12/2018
/23/	Amazon resolution 7 of 21/06/2011 (Cemaam- Conselho Estadual de meio ambiente do estado do Amazonas)

/24/	ASSEMBLEIA LEGISLATIVA DO ESTADO DO AMAZONAS law nº 3785 of 24/07/2012
/25/	Köppen, w.; geiger, r. Klimate der erde. Gotha: verlag justus perthes. 1928.
/26/	Sustainable Development Goals: Brazilian Indicators for the Sustainable Development Goals, 2021.
/27/	VT0001 – Tool for demonstration and assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities, v3.0, published on 01-February-2012
/28/	Contract signed: Future Carbon Group (Future Carbon Holding S.A.), Grupo Rovema, Grupo Leite and Grupo Tupá, signatures concluded on 29/05/2022 (2022 03 29 - Rio Madeira Redd - FUTURE FOREST - PARCERIA.pdf) Concession signed contract (FUTURE CARBON CONSULTORIA E PROJETOS FLORESTAIS LTDA and FUTURE CARBON INTERNATIONAL LLC), also signed by the instances owners, dated 26/09/2022 (2022-09-26---CONTRATO-DE-CESSÃO---RIO-MADEIRA-REDD+-PROJECT-V-01-pdf-D4Sign.pdf)
/29/	Ana Maria Leite, José Marcos Leite Junior (Grupo Leite) and “Verine Projetos e Assessoria Ltda – ME” signed contract on 08/01/2020 (Contrato_Prestação de Serviços de Monitoramento_8012020) and satellite images from January to October 2020 (Fazenda Santa Carmem – Cartas Imagem Monitoramento 2020)- GRUPO Leite starting date Ana Maria Leite (Grupo Leite) and Impactual Vigilância e Segurança Ltda. Contract signed on 19/05/2021 (CONTRATO.pdf) and payment invoices from 10/2021 and 11/2021 (2022-01-06_001.pdf
/30/	Contract between Mr Tulio Villela Baptista da Costa and Mr. Elso Santo de Oliveira signed on 02/01/2020 (Contrato mateiro elso santos.pdf) and payment receipts from January 2020 to December 2021 (Recibos 2020 e 2021.pdf)- Grupo Tupá starting date
/31/	Private partnership instrument for the development of a project to generate environmental assets, 2022.
/33/	Instrumento particular de parceria para desenvolvimento de projeto de geração de ativos ambientais
/34/	CIA Agropecuária Tupa Ecológica: Sustainable Forest Management Plan – Fazenda Beleza,
/35/	Nogueira, Euler: Wood Density And Tree Allometry In Forests Of Brazil's ‘Arc Of Deforestation’: Implications For Biomass And Emission Of Carbon From Land-Use Change In Brazilian Amazonia, 2008.
/36/	IPCC: Good Practice Guidance For Land Use, Land-Use Change And Forestry, 2003.
/37/	Fearnside, Philip M.: Amazonian Deforestation And Global Warming: Carbon Stocks In Vegetation Replacing Brazil's Amazon Forest, 1996.

/38/	Feldpausch et al.: When big trees fall: Damage and carbon export by reduced impact logging in southern Amazonia. Forest Ecology and Management 21, 2005.
/39/	World Bank Institute: Worldwide Governance Indicators, 2021.
/40/	Governors Climate & Forests Task Force website: https://www.gcftf.org/who-we-are/member-states/ , last accessed on 02 January 2023.
/41/	Zanuncio Junior, José Salazar et al Agroecological pest management: Alternatives for a sustainable agriculture, 2018.
/42/	Brazilian Institute for Geography and Statistics (IBGE): http://www.ibge.gov.br/home/ . Available at: https://cidades.ibge.gov.br/brasil/pa/portel/pesquisa/24/76693?localidade1=150110&localidade2=150520 .
/43/	Dinamica Ego Software. Available at: https://csr.ufmg.br/dinamica/ . Last accessed on 02/01/2023.
/44/	Anderson LO, Aragão LE, Gloor M, et al. Disentangling the contribution of multiple land covers to fire-mediated carbon emissions in Amazonia during the 2010 drought. Global Biogeochem Cycles. 2015; 29 (10):1739-1753. Doi: 10.1002/2014GB005008. Available at https://agupubs.onlinelibrary.wiley.com/doi/10.1002/2014GB005008 . Last visited on December 2022.
/45/	SILVESTRE, E. A.& GUERINI, I. M. F. M. A: Livestock as an economic determinant of occupation in Campo Grande, Mato Grosso do Sul: 1870 To 1929, 2014.
/46/	Gomes, Eliane Teodoro: Colonization in Rondônia (1970 - 1980): Study of the current landscape configuration of the PIC Ji-Paraná area, 2019.
/47/	Margulis, Sergio: Causes of Deforestation in the Brazilian Amazon, 2003.
/48/	Franco, M.H.M.: Social conflict and the creation of extractive reserves in the municipality of Lábrea – AM. Viçosa, 2017.
/49/	IBGE Cities Database, 2020. < https://cidades.ibge.gov.br/brasil/mt/colniza/pesquisa/18/16459?tipo=grafico&indicador=16533 > Last visited on August 03rd, 2022
/50/	ABIEC: Beef Report - Profile of livestock in Brazil, 2020.
/51/	REYDON, Bastiaan Philip. O desmatamento da floresta amazônica: causas e soluções. Economia Verde: Desafios e Oportunidades, Campinas, v. 8, p.143-155, jun. 2011
/52/	Fearnside, P. M.; Deforestation in Brazilian Amazonia: history, rates and consequences. Conservation Biology 19(3):680-688, 2005.
/53/	BROADBENT et al. Forest fragmentation and edge effects from deforestation and selective logging in the Brazilian Amazon. Biological Conservation. Volume 141, Issue 7, July 2008
/54/	Köppen, w.; geiger, r. Klimate der erde. Gotha: verlag justus perthes. 1928.
/55/	Food and Agriculture Organization of the United Nations: Box 1.2 Definitions of Forests FRA 2000 Main Report.

/56/	Project boundary – Reference Region, Leakage Belt and Project Area shapefiles and kml files
/57/	IBGE: Vegetation types shapefile, 2019
/58/	IBGE: Roads and Urban Areas shapefile, 2019
/59/	SRTM: Elevation and slope shapefiles,
/60/	Fick, S.E. and R.J. Hijmans, 2017. WorldClim 2: new 1km spatial resolution climate surfaces for global land areas. International Journal of Climatology 37 (12): Precipitation shapefile, 2020
/61/	Mapbiomas: LU/LC shapefile 2009- 2022
/62/	Mapbiomas: https://mapbiomas.org/en Last visited on December 2022.
/63/	Fazenda Rio Madeira and S.S.M – Serviços de Segurança Eireli contract for patrolling routine, signed on 23/10/2019- Grupo ROVEMA starting date (CONTRATO SSM 23-10-2019). Receipt of payment from October 2019 (Recibo_ROVEMA_PSD)
/64/	Receipt Notifications Of Letters Sent To Stakeholders, 2022 Folder “LSC_Presencial”- pictures, folder, signed list Video of online consultation
/65/	IBGE: Solos database, 2023. https://geoftp.ibge.gov.br/informacoes_ambientais/pedologia/vetores/escala_250_mil/ Last visit on 15/January/2023.
/66/	CCIR (Rural Property Registry) before INCRA, from 2022
/67/	Brazilian Institute for Geography and Statistics (IBGE): < http://www.ibge.gov.br/home/ >. Available at: Municipality of Lábrea: < https://cidades.ibge.gov.br/brasil/am/labrea/panorama > Municipality of Porto Velho: < https://cidades.ibge.gov.br/brasil/ro/porto-velho/panorama > Municipality of Nova Mamoré: < https://cidades.ibge.gov.br/brasil/ro/nova-mamore/panorama >.
/68/	INMET (National Institute of Meteorology Platform): < http://www.inmet.gov.br/portal/index.php?r=home2/index >
/69/	National Weather Service (USA): weather categories determined using Saffir-Simpson Hurricane Wind Scale < http://www.nhc.noaa.gov/aboutsshws.php >.
/70/	INPE: Queimadas Program. < https://queimadas.dgi.inpe.br/queimadas/bdqueimadas#exportar-dados >
/71/	Fazenda Rio Madeira: Purchase and sale contract for wood from a management plan, 2020.
/72/	CIA Agropecuária Tupa Ecológica: Private instrument of rural lease for forest exploitation purposes, 2017.
/73/	Feldpausch et al.: When big trees fall: Damage and carbon export by reduced impact logging in southern Amazonia. Forest Ecology and Management 219 (2005) 199 215

/74/	Third National Communication from Brazil to the United Nations Framework Convention on Climate Change: "Biomass combustion factors by phytophysiological groups in the Amazon biome", 2017 < http://www.ccst.inpe.br/publicacao/terceira-comunicacao-nacional-do-brasil-a-convencao-quadro-das-nacoes-unidas-sobre-mudanca-do-clima-portugues/ >
/75/	SILVA, Jéssika Luane. Danos florestais e estimativa da redução no estoque de carbono em áreas de manejo florestal sob concessão pública: Floresta Nacional do Jamari. 2014
/76/	MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATIONS: 3rd National GHG Inventory , 2019 < https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/estimativas-anuais-de-emissoes-gee >
/78/	Grupo Rovema, Leite and Tupá: Implementation plan for socio-environmental activities, 2022.
/79/	Verine Projetos e Assessoria Ltda: SFMP Logging Monitoring Report – 1st Quarter, 2020.
/80/	Verine Projetos e Assessoria Ltda: SFMP Logging Monitoring Report – 2nd Quarter, 2019.
/81/	Verine Projetos e Assessoria Ltda: SFMP Logging Monitoring Report – 2nd Semester, 2022.
/82/	BERG, Weberson: SFMP Logging Monitoring Report - 4th Quarter, 2019.
/83/	Tecflora Assessoria, Planejamento e Consultoria Ambiental: Activity report and end of exploitation UPF3, 2022.
/84/	CIA Agropecuária Tupa Ecológica: Operational Plan of Exploitation, 2017.
/85/	SHIRAI, Henrique; COELHO, João: Study for determining the baseline and dynamics of deforestation for the RioMadeira REDD Project, 2022.
/86/	SHIRAI, Henrique; COELHO, João: Modelling resulting maps 2020-2049.
/87/	Ownership analysis Grupo Leite 1-Real State Record 591-Assinado.pdf; 592-Assinado.pdf;593-Assinado.pdf 2- Certificate issued by the relevant Real Estate Registry Office with the complete chain of domain (CADEIA DOMINIAL) its transfer from Public Domain to Private. -land title 591: matrícula 591 - certidão de cadeia dominial.pdf; Matrícula nº 7533 - Certidão de cadeia dominial.pdf; Matrícula nº 7674 - Certidão de cadeia dominial.pdf; Matrícula nº 7675- Certidão de cadeia dominial.pdf; Matrícula nº 7676 - Certidão de cadeia dominial.pdf; Matrícula nº 7677 - Certidão de cadeia dominial.pdf; Matrícula nº 7678 - Certidão de cadeia dominial.pdf; Matrícula nº 7679 - Certidão de cadeia dominial.pdf; Matrícula nº 10635 - certidão de cadeia dominial.pdf; Matrícula nº

12567 - Certidão de cadeia dominial.pdf; Matrícula nº 12568 - Certidão de cadeia dominial.pdf; Matrícula nº 12569 - Certidão de cadeia dominial.pdf; Matrícula nº 12570 - Certidão de cadeia dominial.pdf; Matrícula nº 12571 - Certidão de cadeia dominial.pdf; Matrícula nº 12572 - Certidão de cadeia dominial.pdf; Matrícula nº 12573 - Certidão de cadeia dominial.pdf; Matrícula nº 15704 - Certidão de cadeia dominial.pdf -land title 592: 10635 - 1725-Assinado.pdf; 37618-VINTENARIA M-592-Assinado.pdf; Certidão de cadeia dominial de matrícula - Pedido 88403 - M. 17487-Assinado.pdf; Matrícula nº 7921 - Certidão de cadeia dominial.pdf; Matrícula nº 12588 - Certidão de cadeia dominial.pdf -land title 593: 10635.pdf; 37618-VINTENARIA M-593-Assinado.pdf; Certidão de cadeia dominial de matrícula - Pedido 88403 - M. 24331-Assinado.pdf; Matrícula nº 16784 - Certidão de cadeia dominial.pdf; Matrícula nº 34412 - Certidão de cadeia dominial.pdf 3-CCIR (Rural Property Registry) before INCRA CCIR - MATRICULA 591.pdf; CCIR - MATRICULA 592.pdf; CCIR - MATRICULA 593.pdf 4-Geodesic Survey approved by INCRA, if applicable -land title 591: Cópia de Certificação Faz Santa Carmem.pdf; MEMORIAL 5.501.pdf -land title 592: Cópia de Certificação Faz Santa Carmem.pdf; MEMORIAL 6.899.pdf -land title 593: Certificação Faz Santa Carmem.pdf; MEMORIAL 7.494.pdf 5-Rural Real Property Tax (ITR) Return and proof of payment of ITR -land title 591: Certidão de Regularidade Fiscal - 591.pdf; FAZENDA SANTA CARMEN II 2021.pdf; RECIBO FAZENDA SANTA CARMEM II 2021.pdf -land title 592: Certidão de Regularidade Fiscal - 592.pdf; FAZENDA SANTA CARMEN I.pdf; RECIBO FAZENDA SANTA CARMEM I 2021.pdf -land title 593: FAZENDA SANTA CARMEM 2021.pdf; Certidão de Regularidade Fiscal - 593.pdf; RECIBO FAZ SANTA CARMEM 2021.pdf 6-CAR CAR - MATRICULA 591.pdf; CAR - MATRICULA 592.pdf; CAR - MATRICULA 593.pdf 7-Clearance Certificate (CERTIDAO NEGATIVA DE DEBITOS E AUTO DE INFRAÇÃO AMBIENTAL) CERTIDÃO DE AUTOS DE INFRAÇÃO - ANA MARIA LEITE.pdf; CERTIDÃO DE AUTOS DE INFRAÇÃO - FABIO RICARDO LEITE.pdf; CERTIDÃO DE AUTOS DE INFRAÇÃO - JOSE

	MARCOS LEITE.pdf; CERTIDÃO DE AUTOS DE INFRACAO - LEANDRO LUIS LEITE.pdf; CERTIDÃO DE EMBARGOS - ANA MARIA LEITE.pdf; CERTIDÃO DE EMBARGOS - FABIO RICARDO LEITE.pdf; CERTIDÃO DE EMBARGOS - JOSE MARCOS LEITE.pdf; CERTIDÃO DE EMBARGOS - LEANDRO LUIS LEITE.pdf; ESCLARECIMENTOS - GRUPO LEITE.pdf 8- Certificates issued by the Federal and State Prosecutors Office - Attorneys / Environmental Attorneys indicating the (in)existence of procedures 25 05 2022 CERTIDÃO MINISTERIO PUBLICO ESTADUAL - FABIO RICARDO LEITE.pdf; 25 05 2022 CERTIDÃO MINISTERIO PUBLICO ESTADUAL - JOSE MARCOS LEITE.pdf; 25 05 2022 CERTIDÃO MINISTERIO PUBLICO ESTADUAL - LEANDRO LUIS LEITE.pdf; 25 05 2022 CERTIDÃO MINISTERIO PUBLICO ESTADUAL ANA MARIA LEITE.pdf; CERTIDÃO MINISTERIO PUBLICO FEDERAL - ANA MARIA LEITE.pdf; CERTIDÃO MINISTERIO PUBLICO FEDERAL - FABIO RICARDO LEITE.pdf; CERTIDÃO MINISTERIO PUBLICO FEDERAL - JOSE MARCOS LEITE.pdf; CERTIDÃO MINISTERIO PUBLICO FEDERAL - LEANDRO LUIS LEITE.pdf 9- Certificates issued by the Federal and State Court of Justice, of the location of the Property(s) and the domicile of the Owner(s), covering a period of 10 (ten) years. CERTIDÃO DO DISTRIBUIDOR CÍVEL (AÇÕES CIVEIS) - PRIMEIRA INSTÂNCIA - ANA MARIA LEITE.pdf; CERTIDÃO DO DISTRIBUIDOR CIVEL (ACOES CIVEIS) - PRIMEIRA INSTANCIA - FABIO RICARDO LEITE.pdf; CERTIDÃO DO DISTRIBUIDOR CÍVEL (ACOES CIVEIS) - PRIMEIRA INSTÂNCIA - JOSÉ MARCOS LEITE JR.pdf; CERTIDÃO DO DISTRIBUIDOR CIVEL (ACOES CIVEIS) - PRIMEIRA INSTANCIA - LEANDRO.pdf; CERTIDÃO DO DISTRIBUIDOR CIVEL (AÇÕES CIVEIS E CRIMINAIS) - SEGUNDA INSTANCIA - ANA MARIA LEITE.pdf; CERTIDÃO DO DISTRIBUIDOR CIVEL (ACOES CIVEIS E CRIMINAIS) - SEGUNDA INSTANCIA - FABIO RICARDO LEITE.pdf; CERTIDÃO DO DISTRIBUIDOR CÍVEL (AÇÕES CIVEIS E CRIMINAIS) - SEGUNDA INSTÂNCIA - JOSÉ MARCOS LEITE JR.pdf; CERTIDÃO DO DISTRIBUIDOR CÍVEL (AÇÕES CIVEIS E CRIMINAIS) - SEGUNDA NSTÂNCIA - LEANDRO.pdf Grupo ROVEMA 1-Real State Record Matrícula 67_.pdf; Matrícula 68_.pdf; Matrícula 5674_.pdf; Matricula 6749.pdf; Matrícula 7509_.pdf; Matricula 9793.pdf; Matricula 9794.pdf; Matricula 9795.pdf; Matrícula 9888.pdf; Matrícula 15124_.pdf; Matrícula 23477_.pdf; Matricula 23479.pdf 2- Certificate issued by the relevant Real Estate Registry Office wicth the complete chain of domain (CADEIA DOMINIAL) its transfer from Public Domain to Private. Land title 9795: Certidao de Cadeia Dominial - 9.795.pdf; Certidão de cadeia dominial de matrícula 10689 - Pedido 93203-Assinado.pdf
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Land title 67: Matrícula 67 .PDF Land title 68: Matrícula 68 .PDF Land title 5674: Certidao de Cadeia Dominial - 5.674.pdf; Certidão de cadeia dominial de matrícula 10.148 - Pedido 93203-Assinado.pdf Land title 7509: Certidao de Cadeia Dominial - 7.509.pdf Land title 9793: Certidao de Cadeia Dominial - 9.793.pdf; Certidão de cadeia dominial de matrícula 69 - Pedido 93203-Assinado.pdf Land title 9794: Certidao de Cadeia Dominial - 9.794.pdf; Certidão de cadeia dominial de matrícula 70 - Pedido 93203-Assinado.pdf 3-CCIR (Rural Property Registry) before INCRA CCIR - 7509.pdf; CCIR52530498220 - LOTES 42-43A 44-B 44-C 61-B 62 62A SERRA VERDE (1).pdf 4-Geodesic Survey approved by INCRA, if applicable Land title 9795: Lt 61B-Memorial Descritivo.pdf Land title 67: Lt 44C-Memorial Descritivo.pdf Land title 68: Lt 44B-Memorial Descritivo.pdf Land title 5674: Lt 42 43A-Memorial Descritivo.pdf Land title 7509: FARM-Memorial Descritivo.pdf Land title 9793: Lt 62-Memorial Descritivo.pdf Land title 9794: Lt 62A-Memorial Descritivo.PDF Land title 6749: Lt 60-Memorial Descritivo.pdf Land title 23477: Lt 41B-Memorial Descritivo.pdf Land title 23479: Lt 59-Memorial Descritivo.pdf 5-Rural Real Property Tax (ITR) Return and proof of payment of ITR Land title 9795: 05 12 2022 - CERTIDÃO ITR - CENTRAL ADMINISTRAÇÃO - FAZENDA SERRA VERDE LOTE UNIFICADO.pdf; Cópia de Lt 42 43A, 44B, 44C, 61B, 62 e 62A 44190085 -ITR-2021 - Declaração.pdf; Lt 42 43A, 44B, 44C, 61B, 62 e 62A 44190085 -ITR-2021 - Recibo.pdf Land title 67: 05 12 2022 - CERTIDÃO ITR - CENTRAL ADMINISTRAÇÃO - FAZENDA SERRA VERDE LOTE UNIFICADO.pdf; Cópia de Lt 42 43A, 44B, 44C, 61B, 62 e 62A 44190085 -ITR-2021 - Declaração.pdf; Lt 42 43A, 44B, 44C, 61B, 62 e 62A 44190085 -ITR-2021 - Recibo.pdf Land title 68: 05 12 2022 - CERTIDÃO ITR - CENTRAL ADMINISTRAÇÃO - FAZENDA SERRA VERDE LOTE UNIFICADO.pdf; Cópia de Lt 42 43A, 44B, 44C, 61B, 62 e 62A
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	CENTRAL ADMINISTRAÇÃO.pdf; CERTIDÃO DE EMBARGOS - FAZENDA RIO MADEIRA.pdf 8- Certificates issued by the Federal and State Prosecutors Office - Attorneys / Environmental Attorneys indicating the (in)existence of procedures 01 06 2022 CERTIDAO MINISTERIO PUBLICO ESTADUAL - FAZENDA RIO MADEIRA SA FARM.pdf; CERTIDÃO MINISTERIO PUBLICO FEDERAL - CENTRAL ADMINISTRAÇÃO.pdf; CERTIDÃO MINISTERIO PUBLICO FEDERAL - FAZENDA RIO MADEIRA.pdf 9- Certificates issued by the Federal and State Court of Justice, of the location of the Property(s) and the domicile of the Owner(s), covering a period of 10 (ten) years. Grupo Tupá 1-Real State Record Inteiro Teor 1201-Assinado.pdf; Inteiro Teor 1202-Assinado.pdf; Inteiro Teor 1686-Assinado.pdf; Inteiro Teor 1921-Assinado.pdf; Inteiro Teor 1922-Assinado.pdf; Inteiro Teor 2054-Assinado.pdf 2- Certificate issued by the relevant Real Estate Registry Office with the complete chain of domain (CADEIA DOMINIAL) its transfer from Public Domain to Private. Land title 1201: Cadeia Dominial 1201-Assinado.pdf; land title 1202: Cadeia Dominial 1202-Assinado.pdf; land title 1686: Cadeia Dominial 1686-Assinado.pdf; land title 1921: Cadeia Dominial - 1203-Assinado.pdf, Cadeia Dominial 1921-Assinado.pdf; land title 1922: Cadeia Dominial - 1203-Assinado.pdf, Cadeia Dominial 1922-Assinado.pdf; land title 2054: Cadeia Dominial 2054-Assinado.pdf 3-CCIR (Rural Property Registry) before INCRA CCIR 2021 - MATRICULA 1201.pdf; CCIR 2021 - MATRICULA 1202.pdf; CCIR 2021 - MATRICULA 2054.pdf; CCIR 2021- MATRICULA 1921.pdf; CCIR 2021- MATRICULA 1922.pdf; CCIR 2021-MATRICULA 1686.pdf 4-Geodesic Survey approved by INCRA, if applicable Land title 1201: Cópia de Certificacao Sering Santo Antonio - Rio novo A e B, Fronteira.pdf, Memorial Descritivo Rio Novo Parte A.pdf; land title 1202: Cópia de Certificacao Sering Santo Antonio - Rio novo A e B, Fronteira.pdf, Memorial Descritivo Rio Novo Parte B.pdf ; land title 1686: Certificacao FAzenda Beleza.pdf, Memorial Descritivo Faz Beleza.pdf; land title 1921: Cópia de Certificacao Iracema I e II.pdf, Memorial Descritivo Iracema II.pdf; land title 1922: Certificacao Iracema I e II.pdf, Memorial Descritivo Iracema I.pdf; land title 2054: Cópia de Certificacao Sering Santo Antonio - Rio novo A e B, Fronteira.pdf, Memorial Descritivo Fronteira.pdf 5-Rural Real Property Tax (ITR) Return and proof of payment of ITR
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	Land title 1201: CERTIDAO ITR - FAZENDA RIO NOVO PARTE A.pdf, ITR 2021 - RIO NOVO PARTE A.pdf; land title 1202: CERTIDAO ITR - FAZENDA RIO NOVO PARTE B.pdf, ITR 2021 - FAZENDA RIO NOVO - PARTE B.pdf; land title 1686: CERTIDAO ITR - FAZENDA BELEZA.pdf, ITR 2021 - FAZENDA BELEZA.pdf ; land title 1921: CERTIDAO ITR - FAZENDA IRACEMA II.pdf, ITR 2021 - IRACEMA II.pdf ; land title 1922: CERTIDAO ITR - FAZENDA IRACEMA.pdf, ITR 2021 - IRACEMA.pdf ; land title 2054: CERTIDAO ITR - FAZENDA FRONTEIRA.pdf, ITR 2021 - FRONTEIRA.pdf 6-CAR Land title 1201: CAR - Seringal Rio Novo Parte A.pdf; land title 1202: CAR - Seringal Rio Novo Parte B.pdf ; land title 1686: CAR - FAZENDA BELEZA.pdf; land title 1921: CAR - FAZENDA IRACEMA II.pdf ; land title 1922: CAR - Fazenda Iracema I.pdf; land title 2054: CAR - Fazenda Fronteira.pdf 7-Clearance Certificate (CERTIDAO NEGATIVA DE DEBITOS E AUTO DE INFRAÇÃO AMBIENTAL) CERTIDAO DE AUTOS DE INFRAÇÃO IBAMA - TULIO VILLELA LEMOS BAPTISTA_.pdf; CERTIDAO DE AUTOS DE INFRAÇÃO IBAMA - COMPANHIA AGROPECUARIA TUPA ECOLOGICA_.pdf; CERTIDAO DE AUTOS DE INFRAÇÃO IBAMA - DIOGO VILLELA LEMOS BAPTISTA DA COSTA.pdf; CERTIDAO DE AUTOS DE INFRAÇÃO IBAMA - INTER-OCEANICA HOTELARIA E TURISMO LTDA.pdf; CERTIDAO DE AUTOS DE INFRAÇÃO IBAMA - LUCIANA VILLELA LEMOS BAPTISTA DA COSTA_.pdf; CERTIDAO DE EMBARGOS IBAMA - TULIO VILLELA LEMOS BAPTISTA (1).pdf; CERTIDAO DE EMBARGOS IBAMA - COMPANHIA AGROPECUARIA TUPA ECOLOGICA (1).pdf; CERTIDAO DE EMBARGOS IBAMA - DIOGO VILLELA LEMOS BAPTISTA DA COSTA.pdf; CERTIDAO DE EMBARGOS IBAMA - INTER-OCEANICA HOTELARIA E TURISMO LTDA.pdf; CERTIDAO DE EMBARGOS IBAMA - LUCIANA VILLELA LEMOS BAPTISTA DA COSTA.pdf 8- Certificates issued by the Federal and State Prosecutors Office - Attorneys / Environmental Attorneys indicating the (in)existence of procedures 25 05 2022 CERTIDAO MINISTERIO PUBLICO ESTADUAL- COMPANHIA AGROPECUÁRIA TUPÁ ECOLÓGICA (1).pdf; 25 05 2022 CERTIDAO MINISTERIO PUBLICO ESTADUAL- DIOGO VILLELA LEMOS BAPTISTA DA COSTA (1).pdf; 25 05 2022 CERTIDAO MINISTERIO PUBLICO ESTADUAL- LUCIANA VILLELA LEMOS BAPTISTA DA COSTA (1).pdf; 25 05 2022 CERTIDAO MINISTERIO PUBLICO ESTADUAL- TULIO VILLELA LEMOS BAPTISTA DA COSTA (1).pdf; 25 05 2022 CERTIDAO MINISTERIO PUBLICO ESTADUAL-INTER-OCEÂNICA HOTELARIA E TURISMO LTDA.pdf; CERTIDAO DE MINISTERIO PUBLICO FEDERAL - LUCIANA VILLELA LEMOS BAPTISTA DA COSTA (1).pdf; CERTIDAO DE MINISTERIO PUBLICO FEDERAL - TULIO VILLELA LEMOS
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	BAPTISTA (2).pdf; CERTIDAO MINISTERIO PUBLICO FEDERAL - COMPANHIA AGROPECUARIA TUPA ECOLOGICA (1).pdf; CERTIDAO MINISTERIO PUBLICO FEDERAL - DIOGO VILLELA LEMOS BAPTISTA DA COSTA (1).pdf; CERTIDAO MINISTERIO PUBLICO FEDERAL - INTER-OCEANICA HOTELARIA E TURISMO LTDA.pdf 9- Certificates issued by the Federal and State Court of Justice, of the location of the Property(s) and the domicile of the Owner(s), covering a period of 10 (ten) years. Documents to address CR 1: 1. CERTIDAO DE INTEIRO TEOR - 591.pdf; 1. CERTIDAO DE INTEIRO TEOR - 592.pdf; 1. CERTIDAO DE INTEIRO TEOR - 593.pdf; 1. CERTIDAO DE INTIRO TEOR 23478.pdf; 2- CERTIDAO DE CADEIA DOMINIAL 3474.pdf; 2. CERTIDAO DE CADEIA DOMINIAL 2145.pdf; 2. CERTIDAO DE CADEIA DOMINIAL 3374.pdf; 3. ESCLARECIMENTOS CARs.pdf; 4. CERTIDÃO DO IBAMA - ANA MARIA.pdf; 4. CERTIDÃO DO IBAMA - FABIO.pdf; 4. CERTIDÃO DO IBAMA - JOSE MARCOS.pdf; 4. CERTIDÃO DO IBAMA - LEANDRO.pdf; 5 - CERTIDAO DO MINISTERIO PUBLICO ESTADUAL - ANA.pdf; 5. CERTIDÃO DO MINISTERIO PUBLICO ESTADUAL - FABIO.pdf; 5. CERTIDÃO DO MINISTERIO PUBLICO ESTADUAL - JOSE MARCOS.pdf; 5. CERTIDÃO DO MINISTERIO PUBLICO ESTADUAL - LEANDRO.pdf; 6. INTEIRO TEOR - 1921.pdf; 6.1. INTEIRO TEOR - 2054.pdf; 6.2. INTEIRO TEOR - 1202.pdf; 6.3. INTEIRO TEOR - 1201.pdf; 6.4. INTEIRO TEOR - 1686.pdf; 6.5. INTEIRO TEOR - 1922.pdf; 7. CCIR FAZENDA FRONTEIRA.pdf; 7.1. CCIR RIO NOVO PARTE A.pdf; 7.2. CCIR RIO NOVO PARTE B.pdf; 7.3. CCIR IRACEMA II.pdf; 7.4. CCIR IRACEMA.pdf; 7.5. CCIR BELEZA.pdf; 8. RESCISAO ST MANEJO.pdf; 9. JUSTIFICATIVAS CAR.pdf; 10. 1. CERTIFICADO IBAMA.pdf; 10. 2. CERTIFICADO IBAMA.pdf; 10. CERTIFICADO IBAMA.pdf; 11. CERTIDAO MP.pdf; 11.1. CERTIDAO MP.pdf; 11.2. CERTIDAO MP.pdf; 11.3. CERTIDAO MP.pdf; 11.4. CERTIDAO MP.pdf; 12. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.1. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.2. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.3. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.4. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.5. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.6. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.7 CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.8 CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.9 CERTIDAO DO DISTRIBUIDOR.pdf; 12.2. CERTIDAO DO DISTRIBUIDOR.pdf; 12.3. CERTIDAO DO DISTRIBUIDOR.pdf; 12.4. CERTIDAO DO DISTRIBUIDOR.pdf; 12.5. CERTIDAO DO DISTRIBUIDOR.pdf; 12.6. CERTIDAO DO DISTRIBUIDOR.pdf; 12.7. CERTIDAO DO DISTRIBUIDOR.pdf; 12.8. CERTIDAO DO DISTRIBUIDOR.pdf; 12.9. CERTIDAO DO DISTRIBUIDOR.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 5674.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 7509.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 9793.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 9794.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 9795.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 23477.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 23479.pdf; 15 - TITULO DEFINITIVO 9793.pdf; 15 - CCIR 7509.pdf; 15 - CCIR MATRICULA 23477 - LOTE 41 B.pdf; 15 - CCIR MATRICULAS 5674, 9793, 9794 E 9795 - LOTES 42 43A, 62, 62A e 61B.pdf; 15 - TITULO DEFINITIVO 9794.pdf; 15 - TITULO DEFINITIVO 9795.pdf; 16 - GEO - n. 9793, n. 9794, n. 9795.pdf; 16 - GEO - 23479.9888.pdf; 17 - CERTIDAO IBAMA - CENTRAL ADMINISTRAÇÃO.pdf; 17 -
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	CERTIDAO IBAMA - FARM.2.pdf; 17 - CERTIDAO IBAMA - FARM.pdf; 19 - CERTIDAO NEGATIVA CIVEL E CRIMINAL - CENTRAL.pdf; 19 - CERTIDAO NEGATIVA CIVEL E CRIMINAL - FARM.pdf; Auto de infração e termo de embargo.pdf; Decisão que homologou o ANPP.pdf; Defesa-Leandro -IBAMA.pdf; MATRICULA 9888 - ENCERRADA.PDF; MATRICULA 23479.pdf; Pagamento ANPP.pdf; Pedido de Homologação + ANPP (Leandro e Carlos).pdf; Termo de Compromisso Ambiental TCA - PRA - Carlos.pdf; CADEIA DOMINIAL - 23476.pdf; CADEIA DOMINIAL - 23478].pdf; Certidão de cadeia dominial de matrícula 2145 - Pedido 95943-Assinado.pdf; Certidão de cadeia dominial de matrícula 3374 - Pedido 95938-Assinado.pdf; Certidão de cadeia dominial de matrícula 9888 - Pedido 95943-Assinado.pdf; Certidão de cadeia dominial de matrícula 15124 - Pedido 95943-Assinado.pdf; CERTIDÃO DE DÉBITO IBAMA - INTEROCEANICA.pdf; CERTIDÃO DE DÉBITO IBAMA - LUCIANA.pdf; Certidão de débitos tributários matrícula 23.479.pdf; Certidão Ministério Público Estadual - FAZENDA RIO MADEIRA.pdf; Certidão Minsitério Público Estadual - CENTRAL ADMINISTRAÇÃO.pdf; Matrícula 508 - Certidão de cadeia dominial - Serra Verde.pdf; Matrícula 608 - Certidão de cadeia dominial - Serra Verde.pdf; Declaração de Conformidade - CARs - Clicksign.pdf (Grupo ROVEMA); proposta_georreferenciamento_serra_verdeassinado (1).pdf; SEI_0037879859_Certidao_578.pdf; SEI_0037881793_Certidao_579.pdf; CERTIDÃO DE EMBAGROS ESTADUAL - ANA MARIA.pdf; CERTIDÃO DE EMBARGOS ESTADUAL - COMPANHIA AGROPECUÁRIA; CERTIDÃO DE EMBARGOS ESTADUAL - DIOGO.pdf; CERTIDÃO DE EMBARGOS ESTADUAL - FABIO.pdf; CERTIDÃO DE EMBARGOS ESTADUAL - INTER OCEANIC.pdf; CERTIDÃO DE EMBARGOS ESTADUAL - JOSE.pdf; CERTIDÃO DE EMBARGOS ESTADUAL - LEANDRO.pdf; CERTIDÃO DE EMBARGOS ESTADUAL - LUCIANA.pdf; CERTIDÃO DE EMBARGOS ESTADUAL - TULIO.pdf
/88/	DDSA report for the ownership analysis
/89/	Brazil's 3rd National Communication To The United Nations Framework Convention On Climate Change. https://www.gov.br/mcti/pt-br/acompanhe-o-mcti/sirene/publicacoes/comunicacoes-nacionais-do-brasil-a-unfccc/arquivos/3tcn_volume_3.pdf
/90/	Pereira, Izaura Cristina Nunes. Forest biomass and carbon stocks in Amazonian landscape units: an analysis based on the methodological approach. Universidade Federal do Pará, , Belém, 2013. Available at: https://ppgdstu.prosp.ufpa.br/ARQUIVOS/teses/TESES/2013/IZAURA%20CRISTINA%20NUNES%20PEREIRA.pdf
/91/	ILO- International Labour Organization, Brazil ratification C045 - Underground Work (Women) Convention, on 22 Sep 1938 and C111 - Discrimination (Employment and Occupation) Convention on 26 Nov 1965 (available at: https://www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11200:0::NO::P11200_COUNTRY_ID:102571, accessed on 24/10/2023)
/92	Future Carbon Group: code of conduct, version 1 Of 2022 (1- B) CÓDIGO DE CONDUTA - Future Carbon Holding.pdf)

/93/	Grupo Rovema: ethic code version 03 of July/2022 (available at https://gruporovema.com.br/grupo , accessed on 24/10/2023)
/94/	NATIONAL INDIGENOUS FOUNDATION (FUNAI). Indigenous Lands. Geographic data in shapefile format. Brazil, 2024. Available at: < https://geoserver.funai.gov.br/geoserver/Funai/ows?service=WFS&version=1.0.0&request=GetFeature&typeName=Funai%3A%20terras_indigenas&maxFeatures=10000&outputFormat=SHAPE-ZIP >. Last visit on January 15, 2024.
/95/	NATIONAL INDIGENOUS FOUNDATION (FUNAI). Indigenous Settlements. Geographic data in shapefile format. Brazil, 2024. Available at: < https://geoserver.funai.gov.br/geoserver/Funai/ows?service=WFS&version=1.0.0&request=GetFeature&typeName=Funai:aldeias_pontos&outputFormat=SHAPE-ZIP >. Last visit on January 15, 2024.
/96/	NATIONAL INSTITUTE OF COLONIZATION AND AGRARIAN REFORM (INCRA). Quilombola territories. Geographic data in shapefile format. Brazil, 2024. Available at: < https://certificacao.incra.gov.br/csv_shp/zip/%C3%81reas%20de%20Quilombolas.zip >. Last visit on January 15, 2024.
/97/	NATIONAL INSTITUTE OF COLONIZATION AND AGRARIAN REFORM (INCRA). Rural Settlements. Geographic data in shapefile format. Brazil, 2024. Available at: < https://certificacao.incra.gov.br/csv_shp/zip/Assentamento%20Brasil.zip >. Last visit on January 15, 2024.
/98/	MINISTRY OF THE ENVIRONMENT (MMA). Specially Protected Areas. Geographic data in shapefile format. Brazil, 2024. Available at: < http://mapas.mma.gov.br/i3geo/datadownload.htm >. Last visit on January 15, 2024.
/99/	Patrols: CNPJ (VAT)_Impactual Federal Police: Business License nº 2350.pdf Federal Police: Business License nº 2987-2023 Military Fire Department: Fire inspection report Federal Police: Security Guard Training Course Manual. ALVARÁ Nº 3.537, DE 8 DE JUNHO DE 2021 - ALVARÁ Nº 3.537, DE 8 DE JUNHO DE 2021 - DOU - Imprensa Nacional.pdf ALVARÁ Nº 2.787, DE 15 DE JUNHO DE 2020 - ALVARÁ Nº 2.787, DE 15 DE JUNHO DE 2020 - DOU - Imprensa Nacional
/100/	BRASIL DE FATO: Who are the deforesters in the Amazon? https://www.brasildefato.com.br/2020/07/02/quem-sao-os-desmatadores-da-amazonia Last visit on 26-December-2023

/101/	GeoPortal SEDAM: https://geoportal.sedam.ro.gov.br/ Last visit on 26-December-2023
/102/	IPAM: Solutions for deforestation in the Amazon. < https://ipam.org.br/wp-content/uploads/2023/03/Amazoniar-Solucoes-para-o-desmatamento-na-Amazonia-VF.pdf > Last visit on 19-April-2024.

2.3 Interviews

A complete desk review of the submitted Joint PD and MR (version 1) and subsequent versions /2/ and supportive evidences have been checked by the Validation/Verification Team. On 30/08/2022 to 02/09/2022, the RINA conducted the audit to the Rio Madeira Grouped REDD+ Project and performed interviews with project proponents' staff and the three project owners. Also a meeting with Future Carbon team was performed on 08/12/2022. The entity involved in the project and stakeholders were also interviewed. The key personnel interviewed, and the main topics of the interviews are summarized in the table below.

	Date	Name and Role	Organization	Topic
/a/	30/08/2022 31/08/2022 01/08/2022 02/08/2022 08/12/2022	Gabriel Fernandes de Toledo Piza (Technical coordinator)	Future Carbon Consultoria e Projetos Florestais LTDA	Spatial and temporal boundaries, Reference region, Project Area, Leakage Belt, leakage management areas, LU/LC analysis, agents and drivers of deforestation, emission reduction calculations ex-ante and ex-post, forest inventory, measurement procedures, data recording and data archiving, actual deforestation, and non-permanence risk report.
/b/	08/12/2022	Lyara Carolina Montone Amaral (Technical coordinator)	Future Carbon Consultoria e Projetos Florestais LTDA	
/c/	30/08/2022 31/08/2022 01/08/2022 02/08/2022	Marcelo Haddad (Head)	Future Carbon Consultoria e Projetos Florestais LTDA	
/d/	30/08/2022	Fábio Barbosa Garça (Shared Services Manager)	Grupo Rovema	Ownership, start date of the project Land tenure rights, Pre-project conditions, Forest management plan/conservation plan.
/e/	30/08/2022	Gilvan Guidin (CFO)	Grupo Rovema	
/f/	30/08/2022	Lediania Ghedin Lopes (Head of Sustainability)	Grupo Rovema - Project Activity Instance 1 owner	

/g/	30/08/2022	Adelio Barofandi (CEO)	Grupo Rovema	
/h/	30/08/2022	Álvaro Mendonça (Municipal Secretary of Integration)	SEMA	Local Stakeholder Consultation, on-going methods of communication, Baseline Scenario, illegal logging, indigenous communities, sources of livelihood, complaints and benefits to stakeholders.
/i/	30/08/2022	Juliana Infante (Technical Advisor for Special Projects)	SEMA	
/j/	30/08/2022	Roberval Zurijsa (Coordinator of Environmental Recovery)	SEMA	
/k/	30/08/2022	Renata de Paula Afonso (Director of Environmental Recovery)	SEMA	
/l/	30/08/2022	Kelves Souza Silva (Advisor)	SEMA	
/m/	30/08/2022	Joana Oliveira (Director Of Environmental Public Policy Management)	SEMA	
/n/	30/08/2022	Leandro Barbosa (Advisor)	SEDAM-RO	
/o/	30/08/2022	Diogo Martins Rosa (Geoscience Coordinator)	SEDAM-RO	
/p/	30/08/2022	Maria Helena Oliveira (Director)	Flor do Cupuaçu School	Local Stakeholder Consultation, on-going methods of communication, Baseline Scenario, sources of livelihood, complaints and benefits to stakeholders.
/q/	31/08/2022	Marceline Alves Dutra (Security)	Flor do Cupuaçu School	

/r/	31/08/2022	Roseline Araujo (Local resident)	UBS	
/s/	31/08/2022	Ismael Eduardo (Local resident)	UBS	
/t/	31/08/2022	Mario de Oliveira (Community leader)	District Administrator (Community leader)	
/u/	01/09/2022	José Marcos Leite Junior (Owner)	Grupo Leite - Project Activity Instance 2 owner	Ownership, start date of the project Land tenure rights, Pre-project conditions, Forest management plan/ conservation plan
/v/	01/09/2022	Edgar Lacerda de Souza (community leader)	Administrador	Stakeholder interviews, stakeholder consultation, on -going methods of communication, grievance mechanism, capacity building, trainings, land disputes, illegal logging, indigenous communities, sources of livelihood, complaints and benefits to stakeholders.
/w/	01/09/2022	Nézia Martins (Director)	School Rondon	
/x/	01/09/2022	Edilma Oliveira (Educational Coordinator)	School Rondon	
/y/	02/09/2022	João Paulo (Researcher)	Belterra Agroflorestas	
/z/	02/09/2022	Dielison Furtunato (Production Coordinator)	RECA	
/aa/	02/09/2022	Tulio Villela Lemos Batista da Costa (Owner)	Grupo Tupã - Project Activity Instance 3 owner.	Ownership, start date of the project Land tenure rights, Pre-project conditions, Forest management plan/ conservation plan
/ab/	/02/09/2022	Carlos Alberto Santos (Farm manager)	Grupo Tupã - Project Activity Instance 3 owner.	Stakeholder interview, project activity.

During the interviews, the VVB raised questions on the general livelihood scenario of the communities, land type (private/Govt.), where the communities are settled, participation in the meetings conducted by project owner, information on the proposed project, indigenous communities living close to project areas, benefits from the projects, current or past land disputes, relocation of human settlements because of the project , employments generation, grievance mechanism and the time taken to resolve the complaints. During the interaction, the stakeholders did not have any negative comments on the project.

2.4 Site Visits

A site visit to the project area (located within the municipalities of Porto Velho and Lábrea, State of Amazonas, Brazil) was conducted from 30/08/2022-02/09/2022 during which time the following events took place:

- Observational assessment of the implementation and execution of 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.
- Confirmation that described quality assurance quality control procedures were applied.

2.5 Resolution of Findings

The objective of this phase of the validation/verification is to resolve any outstanding issues which need to be clarified for RINA's positive conclusion on the project description and monitoring. To guarantee transparency any findings raised during the audit are incorporated in the Appendix 2 to this 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 (CR) is raised if information is insufficient or not clear enough to determine whether the applicable VCS Version 4.4 standard have been met.

The No. of CARs/CRs raised by RINA are the following

CAR: 1, CR:10. All CAR and CRs were correctly addressed by PP.

2.5.1 Forward Action Requests

A forward action request (FAR) is raised during 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.

A forward action request (FAR) should be issued, where:

1. the actual project monitoring and reporting practices requires attention and /or adjustment for the next consecutive verification period, or
 2. an adjustment of the MP is recommended.
- 4 forward action requests (FAR) were identified.

3 VALIDATION FINDINGS

3.1 Project Details

- ***Project type, technologies and measures implemented, and eligibility of the project***

The project is a grouped project that avoid unplanned deforestation (AUD). The first three Project activity instances has 52,274.05ha project area, which is within two private properties in Porto Velho owned by Grupo Rovema and Grupo Leite (hereafter, PAI 1 and PAI 2, respectively) and one private property in Lábrea owned by Grupo Tupã (hereafter, PAI 3) consisting of 100% Amazon rainforest. The areas are located within three instances as follows:

1- Grupo Rovema: Fazenda Rio Madeira and Fazenda Serra Verde

2- Grupo Leite: Fazenda Santa Carmem; Fazenda Santa Carmem I and Fazenda Santa Carmem II

3- Grupo Tupã: Fazenda Beleza; Fazenda Fronteira; Fazenda Iracema I; Fazenda Iracema II; Fazenda Seringal Novo A and Fazenda Seringal Novo B.

The project activities expected to avoid predicted deforestation of 34,681.91 ha and emission reduction over the 30-year project lifetime (23-October-2019 to 22-October-2049) of 16,053,622 tCO₂

The project activity consists in conservation measures in the project's area, to avoid illegal deforestation:

- **Patrimonial Surveillance and Local Patrolling:** Security services hired by the owners, guaranteeing the adherence of the work. This measure was evidenced through contracts /29//30/ and payment invoices /30/. This measure guarantees property and project security, preserving the forest and reducing emissions.
- **Satellite Monitoring in the Project Area:** Security services hired by the owners. This measure was evidenced through contracts /29/ and payment invoices /29/. This activity allows periodic monitoring of deforestation to prevent invasions and subsequent deforestation in the project area.
- **Enhancing Community Livelihoods and Infrastructure:** Control access to collection. This measure was evidenced through the interview with the farm administrator /ab/, Carlos Alberto Santos, responsible for authorizing the entry of collectors and preventing the

illegal collection of material. This activity mitigates the risks of deforestation associated with commercial interests in the region's timber species due to the constant presence of collectors.

Project measures include intensification of patrimonial surveillance, implementation of the Forest Fire Prevention and Combat Plan, implementation and strengthening of communication with neighboring farms, partnerships to provide technical training, diagnosis of fauna and flora, etc. The conservation measures were also confirmed during the onsite inspection and interview with project owners.

The PP provided the “General Guidelines for Management of the Socio-Environmental Fund” /93/, which details the guidelines of the socio-environmental fund governed by Future Carbon and owners. This fund will be implemented after the project generates revenue, because part of the resources will be allocated to an exclusive fund for the purpose of financing socio-environmental and forest protection activities.

According to the VCS Standard version 4.4 the project can be considered eligible under VCS, since it meets the following criteria's, confirmed as described below:

Para 3.1.1: The project meets all applicable rules and requirements set out under the VCS Program, as detailed in this section and are assessed by RINA in the section 3.4 below

Para 3.1.2: the project applies the approved methodology VM0015: Methodology for Avoided Unplanned Deforestation version 1.1 of 03/12/2012. The applicability conditions of the methodology are assessed by RINA in the section 3.4 below.

Para 3.1.3 The project applies the approved methodology VM0015: Methodology for Avoided Unplanned Deforestation version 1.1 of 03/12/2012 and related tools.

Para 3.1.4: Projects and the implementation of project activities shall not lead to the violation of any applicable law, regardless of whether or not the law is enforced. The project activity involves the conservation of native Tropical Rainforest, including sustainable forest management plan or not. These activities are eligible under the Brazilian law according to conditions set out in section 1.14 and 3.5.

Para 3.1.5; 3.1.6; 3.1.7; 3.1.8: Not applicable. The project applies the approved methodology VM0015: Methodology for Avoided Unplanned Deforestation version 1.1 of 03/12/2012 and related tools.

Para 3.1.9: Project was designed under VCS Standard version 4.4 and VM0015: Methodology for Avoided Unplanned Deforestation version 1.1 of 03/12/2012. Any new requirements will be re-assessed under the renewal crediting period.

AFOLU-Specific Matters

Para 3.2.1: RINA confirmed that it falls into category reduced emissions from deforestation and degradation (REDD)

Para 3.2.2: The project area, where the proposed REDD project is implemented, no jurisdictional REDD+ Program is developed, though a jurisdictional REDD+ strategy is under development

Para 3.2.3: RINA verified that implementation partners are described in the project description and sections 1.5 and 1.6.

Para 3.2.4 The activities implemented do not convert native ecosystem generate GHG credits. The project area only contains native forested land for a minimum of 10 years before the project start date, which was confirmed from the satellite images /61/.

Para 3.2.5: The activities implemented do not drain or degrade hydrological function to generate GHG credits. The area is not a wet land area and does not drain native ecosystems or degrade hydrological functions, confirmed during the onsite inspection.

Para 3.2.6: RINA confirmed that the PD describes that PP will demonstrate that project activities that lead to the intended GHG benefit have been implemented during each verification period in accordance with the project design.

Para 3.2.7: as it is an AUDD project the baseline will be reassessed every six years.

Para 3.2.8: No forested wetlands were observed during the remote assessment, nor from review of the satellite imagery /57//65/.

Para 3.2.9: The non-permanence risk report /13/ was analyzed in accordance with the latest available AFOLU Non-Permanence Risk Tool, version 04 /17/

RINA confirmed that the grouped project activity is in accordance with VCS Standard version 4.4- APPENDIX 1 ELIGIBLE AFOLU PROJECT CATEGORIES, the Rio Madeira Grouped REDD+ Project is within category AUDD: Avoided Unplanned Deforestation and/or Degradation and it is designed to stop unplanned (unsanctioned) deforestation as described throughout the PD.

RINA confirmed that the 3 instances included in the project activity complies with the eligibility requirements, as described in the table below.

- **Project design, including eligibility criteria for grouped projects**

The Rio Madeira Grouped REDD+ Project is designed as a grouped pro Grouped Project Activity structured to allow the expansion of a project activity subsequent to project validation. At least one set of eligibility criteria for the inclusion of new project activity instances shall be provided for each combination of project activity and geographic area specified in the project description. PP clearly demonstrated in the VCS PD that the project activity instance and new project activity instances comply with the set of eligibility criteria provided in the VCS Standard.

Eligibility criteria for the inclusion of new project activity instances	Instance 1 (Grupo ROVEMA)	Instance 2 (Grupo Leite)	Instance 3 (Grupo Tupá)

Projects shall meet the applicability conditions set out in the methodology applied to the project.	The Instance 1, 2 and 3 complies with this requirement because it adopts the Methodology VM0015: Methodology for Avoided Unplanned Deforestation, version 1.1, published on 03-December-2012.		
Projects shall use the technologies or measures specified in the project description.	Instance 1 applies the same technologies or measures specified in the Project description: forest conservation by avoiding unplanned deforestation, <u>with</u> forest management in project scenario.	Instance 2 applies the same technologies or measures specified in the Project description: forest conservation by avoiding unplanned deforestation, <u>without</u> forest management in project scenario.	Instance 3 applies the same technologies or measures specified in the Project description: forest conservation by avoiding unplanned deforestation, <u>with</u> forest management in project scenario.
Projects shall apply the technologies or measures in the same manner as specified in the project description.			
Projects are subject to the baseline scenario determined in the project description for the specified project activity and geographic area.	Instance 1, 2 and 3 Project Activity complies with this criterion because it was the instance that originated the baseline scenario and the development of the Rio Madeira Grouped REDD+ Project.		
Projects must have characteristics with respect to additionality that are consistent with the initial instances for the specified project activity and geographic area. For example, the new project activity instances have financial, technical and/or other parameters (such as the size/scale of the instances) consistent with the initial instances, or face the same investment, technological and/or other barriers as the initial instances.	Since the PD was developed based on the characteristics of the initial instance, the Grupo ROVEMA, Grupo Leite and Grupo Tupá, as instance 1,2 and 3, complies with this additionality criterion.		
New Project Activity Instances shall occur within one of the designated geographic areas specified in the project description.	The areas referring to instance 1, 2 and 3 are located within the project's reference region		

Instances shall comply with at least one complete set of eligibility criteria for the inclusion of new project activity instances. Partial compliance with multiple sets of eligibility criteria is insufficient.	Instances 1, 2 and 3 complies with all eligibility criteria for the inclusion of new project activity.		
Instances must be included in the monitoring report with sufficient technical, financial, geographic and other relevant information to demonstrate compliance with the applicable set of eligibility criteria and enable sampling by the validation/verification body.	Instance 1 complies with this criterion, as it is included in this Joint PD as the first project activity instance.	Instance 2 complies with this criterion, as it is included in this Joint PD as the second project activity instance.	Instance 3 complies with this criterion, as it is included in this Joint PD as the third project activity instance.
New Project Activity Instances must be validated at the time of verification against the applicable set of eligibility criteria	Instance 1 complies with this criterion, as it is included in this Joint PD as the first project activity instance.	Instance 2 complies with this criterion, as it is included in this Joint PD as the second project activity instance.	Instance 3 complies with this criterion, as it is included in this Joint PD as the third project activity instance.
New Project Activity Instances must have evidence of project ownership, in respect of each project activity instance, held by the project proponent from the respective start date of each project activity instance (i.e., the date upon which the project activity instance began reducing or removing GHG emissions).	Instance 1 is in accordance with this criterion. The evidence of Project ownership and Project start date were provided	Instance 2 is in accordance with this criterion. The evidence of Project ownership and Project start date were provided	Instance 3 is in accordance with this criterion. The evidence of Project ownership and Project start date were provided
New Project Activity Instances must have a start date that is the same as or later than the grouped project start date	This instance 1 (Grupo ROVEMA) Project Activity has the same start date of the grouped Project	This instance (Grupo Leite) Project Activity has a posterior start date of the grouped Project, as described in section 1.8 of the VCS PD.	This instance 3 (Grupo Tupá) Project Activity has a posterior start date of the grouped Project, as described in section 1.8 of the VCS PD.

Instances shall be eligible for crediting from the start date of the instance through the end of the project crediting period (only). Note that where a new project activity instance starts in a previous verification period, no credit may be claimed for GHG emission reductions or removals generated during a previous verification period and new instances are eligible for crediting from the start of the next verification period.	Instance 1 has the same start and end date of the grouped Project, as described in section 1.8 of the VCS PD.	Instance 2 has a posterior start date of the grouped Project, as described in section 1.8 of the VCS PD. Nevertheless, the end of the instance 2 crediting period is limited by instance 1.	Instance 3 has a posterior start date of the grouped Project, as described in section 1.8 of the VCS PD. Nevertheless, the end of the instance 3 crediting period is limited by instance 1.
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- **Project proponent and other entities involved in the project**

As per the information available in the final PD /1/ the project proponent is Future Carbon International LLC.

The other Entities involved in the project are Grupo ROVEMA, as Project Activity Instance 1 owner; Grupo Leite as Project Activity Instance 2 owner and Grupo Tupá as Project Activity Instance 3 owner.

RINA verified that the project proponent has a contract signed with owners of Instance 1, instance 2 and instance 3 /28/. FUTURE FOREST is a member of the Future Carbon Group, operating in the of climate change, with the know-how and specialized experience to invest, develop and commercialize certified projects to reduce greenhouse gas emissions greenhouse and provide strategic climate advice. Moreover, the concession signed contract (FUTURE CARBON CONSULTORIA E PROJETOS FLORESTAIS LTDA and FUTURE CARBON INTERNATIONAL LLC), also signed by the instances owners were provided to RINA /28/.

Mini bio of management team was included in the Non permanence risk report version 2 /13/, including instances representatives and Contractors related to the AUD project to confirm team include individuals with significant experience in all skills necessary to successfully undertake all project activities (i.e., any area of required experience is covered by at least one individual with at least 5 years' experience in the area).

- **Ownership**

For the validation of the project ownership RINA was supported by legal consultancy that analyzed the documents provided to verify that the project activity will be implemented in an area, rural property, in which the project holder is linked to such area and has possession of the property, whether as an owner or as a holder of possession (through a free-lease, rural lease, concession of the right to use a public property, usufruct, rural partnership, surface rights or any other legal and lawful possession of the area where the Project will be developed), as to confirm the good

stand of property title and contractual right in the land (as the case may be), in accordance with VCS Standard v.4.4, para 3.7.1.

The VVB's juridical consultants provided a report that comprises the analysis of titles (and relevant title chain) of Properties in the States of Rondônia and Amazonas in areas targeted for RIO MADEIRA PROJECT, as well as the possession of the RIO MADEIRA PROJECT Proponent over the land. To do so, it was examined the quality of the title and ownership, as well as the existence of proper rem obligations (obligations attached to the property) and contingent liabilities that could restrict or hinder the development of the carbon credit projects, understood as a risk, any event that depends on a triggering event to turn it into an actual loss, resulting in project holders' lack of clear and valid legal right to the carbon credits.

Based on applicable Law, doctrine, precedents and VVB's juridical consultants experience, it was classified each identified risk as follows: (i) Probable contingent liability or obligation - highly likely to occur before the Project is implemented or throughout its development; (ii) Possible contingent liability or obligation - more-likely-than-not chance of being realized, but are not necessarily considered unlikely either, including while the Project is in development; and (iii) Remote contingent liability - not likely to occur at this moment and throughout the development of the Project. For the risks classified as "Possible", FAR 1 was raised.

The analysis was prepared based on Due Diligence Documents, which it was assumed (i) they are true, complete, and up to date; (ii) copies faithfully reflect the originals, and (iii) the signatory parties of the documents presented have the necessary powers to sign them.

RIO MADEIRA PROJECT is divided into 3 different group of properties owned by the following individuals and organizations, also proponents of the Project: **Grupo Leite:** 1- Ana Maria Leite; 2- José Marcos Leite Junior; 3- Fabio Ricardo Leite; and 4- Leandro Luis Leite; **Grupo ROVEMA:** 1- Central Administração Participações S/S LTDA; 2- Fazenda Rio Madeira S/A – FARM; **Grupo Tupá:** 1- Companhia Agropecuária Tupã Ecológica; 2- Diogo Villela Lemos Baptista; 3- Luciana Villela Lemos Baptista da Costa; 4- Túlio Villela Lemos Baptista da Costa; 4- Inter-oceânica Hotelaria e Turismo Ltda. ("Owners").

Owners of the following Properties, comprising the areas of RIO MADEIRA PROJECT, divided into 3 clusters (instances) **Grupo Leite:** 1- Fazenda Santa Carmem – rural land plots, Setim, Gleba Gainsa, with an area of 5.501,6021 hectares, enrolled under n. 591 at the Real Estate Registry Office of Porto Velho, State of Rondônia; 2- Fazenda Santa Carmem – plot of rural land n. 01, Gleba Gainsa, with an area of 6.899,2930 hectares, enrolled under n. 592 at the Real Estate Registry Office of Porto Velho, State of Rondônia 3- Fazenda Santa Carmem, with an area of 7.494,2146 hectares, enrolled under n. 593 at the Real Estate Registry Office of Porto Velho State of Rondônia; **Grupo ROVEMA:** 1-Fazenda Serra Verde – plots of rural land n. 042/043-A, Gleba Garças, with an area of 1.002,6300, enrolled under n. 5.674 at the Real Estate Registry Office of Porto Velho, State of Rondônia; 2- Fazenda Rio Madeira S/A, with an area of 24.821,4861 hectares, enrolled under n. 7.509 at the Real Estate Registry Office of Porto Velho, State of Rondônia; 3- Fazenda Serra Verde – plot of rural land n. 62, Gleba Garças, with an area

of 233,8743 hectares, enrolled under n. 9.793 at the Real Estate Registry Office of Porto Velho, State of Rondônia; 4 Fazenda Serra Verde – plot of rural land n. 62-A, Gleba Garças, with an area of 229,9879 hectares, enrolled under n. 9.794 at the Real Estate Registry Office of Porto Velho, State of Rondônia; 5- Fazenda Serra Verde – plot of rural land n. 61-B, Gleba Garças, with an area of 233,8686 hectares, enrolled under n. 9.795 at the Real Estate Registry Office of Porto Velho State of Rondônia ; 6 - Plot of rural land n. 41-B, Setor Garças, with an area of 370,5905 hectares, enrolled under n. 23.477 at the Real Estate Registry Office of Porto Velho, State of Rondônia; 7- Lote de terras rural n. 59, Gleba Garças, with an area of 793,6011 hectares, enrolled under n. 23.479 at the Real Estate Registry Office of Porto Velho, State of Rondônia; **Grupo Tupá:** 1Fazenda Beleza, with an area of 5.615,2898 hectares, enrolled under n. 1.686 at the Real Estate Registry Office of Lábrea, State of Amazonas; 2 Fazenda Fronteira, with an area of 3.576,3568 hectares, enrolled under n. 2.054 at the Real Estate Registry Office of Lábrea, State of Amazonas; 3 Fazenda Rio Novo Remanescente, with an area of 2.781,8890 hectares, enrolled under n. 1.201 at the Real Estate Registry Office of Lábrea State of Amazonas; 4Fazenda Seringal Rio Novo “SectionB”, with an area of 2.963,9737, enrolled under n. 1.202 at the Real Estate Registry Office of Lábrea, State of Amazonas; 5) Fazenda Seringal Iracema, with an area of 4.924,3193 hectares, enrolled under n. 1.922 at the Real Estate Registry Office of Lábrea, State of Amazonas; 6- Fazenda Seringal Iracema II with an area of 4.175,2086 hectares, enrolled under n. 1.921 at the Real Estate Registry Office of Lábrea, State of Amazonas (together “Properties”). In view of the Scope, it was reviewed documents provided by Client directly and/or by Owners, made available to VVB up to May 2023 in a virtual Data Room; pursuant to the list of required documentation. /88/

The following aspects were analyzed:

- 1- Update Real Estate Records indicating liens, debt, or attachments and or any other encumbrances relating to the Property(ies) regarding the 20 (twenty) past years. ((Law 10,406/2002 - Brazilian Civil Code; Law 6,015/1973 - Law of Public Records)
- 2- Certificate issued by the relevant Real Estate Registry Office with the complete chain of domain its transfer from Public Domain to Private. ((Federal Constitution/1988 - Brazilian Federal Constitution; Law 10,406/2002 - Brazilian Civil Code; Law 6,015/1973 - Law of Public Records.)
- 3-CCIR (Rural Property Registry) before INCRA (Law 4,504/1964 - Rural Land Statute)- It was provided to the VVB the CCIR for the year of 2021/2022 of the Properties, that are valid and updated
- 4-Geodesic Survey approved by INCRA and recorded with title. (Law 6,015/1973 - Law of Public Records)
- 5- ITR Debt Clearance Certificate. (Law 9,393/1996 - Law Of ITR - Rural Property Tax)-VVB received the ITR Debt Clearance Certificate of all the Properties.

6- Proof of Enrollment 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. (Law 12,651/2012 - Brazilian Forest Code)

7- Clearance Certificate issued by the competent Federal and State Environmental Authority. (Law 9,605/1998 - Federal Environmental Crimes Law)

8- Certificates issued by the Federal and State Prosecutors Office - Attorneys / Environmental Attorneys indicating the (in)existence of procedures (Law 7,347/1985 - Law of Civil Action).

9- Certificates issued by the Federal and State Court of Justice, of the location of the Property(s) and the domicile of the Owner(s), covering a period of 10 (ten) years. (Please note that, due to the scope of the present analysis, it was do not analyzed the Labor Court certificates).

CONCLUSION¹

As per the analysis of the Due Diligence Documents, Owners hold regular titles to the Properties. As of the date of this analysis on May/2023, in view of the Due Diligence Documents, It was not identified any legal actions about Properties' origins, nor third parties' claims related to the Owners' capacity as property holders and legitimate possessors, that could hinder the legitimate development of the Project.

FAR 1:

- (i) For the next monitoring period it should be verified the status of the land titles, including the mortgages
- (ii) As some CARs of farms included in the project activity are pending approval/update in the CAR system (Grupo ROVEMA and Grupo Tupá), it shall be confirmed the status in the next verification.

- ***Project start date***

For group ROVEMA, RINA verified the contract signed with a monitoring team ("S.S.M – Serviços de Segurança Eireli") on 23/10/2019 and its receipt of payment for October 2019 /63/, to increase surveillance activities, patrolling routine in the property named Rio Madeira, and thus guarantee the conservation of the forest areas.

¹ The analysis presented by the VVB's legal consultancy did not aim to analyze the existence of protected areas, overlap of properties in Conservation Units, in areas of historical and cultural heritage, in indigenous lands, or in areas occupied by traditional communities (this was validated/verified by the validation/verification team). The existence of third-party mining rights affecting the properties was also not the subject of the analysis, which demands a technical evaluation of information made available by competent authorities.

For Grupo Leite (Instance 2), RINA verified that the contract between Ana Maria Leite and José Marcos Leite Junior (Grupo Leite) and Verine Projetos e Assessoria Ltda – ME (specialized in forest coverage satellite images monitoring service) was signed on 08/01/2020 for the farms Santa Carmen I, Santa Carmen II and Santa Carmen III /29/. The satellite images were also provided from January 2020 to October 2020 /29/. For Tupá, PP have presented the services contract with a local provider to surveillance the farms areas, signed on 02/01/2020 and and payment receipts from January 2020 to December 2021 /30/.

It is RINA's opinion that the starting date of the grouped project, 23/10/2019, is in accordance with the VCS definitions and corresponds to the date on which activities that led to the generation of GHG emission reductions or removals are implemented (protection plans) for the first instance.

- ***Project crediting period***

The project's crediting period is established as 30 years from 23-October-2019 to 22-October-2049 . The project lifetime is 30 years and the same is the GHG accounting period. It is assumed that both the accounting period and the project lifetime begin on the project start date. RINA verified that the 30-year project crediting period is in full compliance with the requirements of Section 3.9.3 of the VCS Standard v 4.4, as it falls between the 20 year minimum and 100 maximum for AFOLU projects.

- ***Project scale and estimated GHG emission reductions or removals***

In accordance with para 3.10.1 of VCS Standard v 4.4 the project is large scale, as it has an estimated average annual GHG emissions generates is 535,121 tCO₂e, greater than 300,000 tonnes of CO₂e per year.

- ***Project location***

The proposed Rio Madeira Grouped REDD+ Project Rio Madeira Grouped REDD+ Project Rio Madeira Grouped REDD+ Project is located in the municipalities of Porto Velho in State of Rondônia and Lábrea, in State of Amazonas, both in the north of Brazil, Southern Amazon. The total project area considered is 52,274.05 ha, after excluding non-forest area (such as planned roads and non-forest vegetation or rock formations. The validation team checked the same against the KML files /56/ and found to be consistent. The same was checked with the google earth and with a field GPS during the site visit and confirmed to be accurate. The project boundaries were checked through GIS analysis using the shapefiles /56/. The validation team confirms that the description of the project location complies with the requirements of clause 3.11 of the VCS Standard v4.4.

- ***Conditions prior to project initiation***

RINA verified the remote sensing images /61/ and confirmed that areas within the project area have been forest for a minimum of ten years, therefore, it was possible to confirm that the project was not initiated to generate GHG emissions for the purpose of their subsequent reduction, removal or destruction

In addition to contributing to the long-term conservation of the region, this project also functions to establish a barrier against the advancement of the Brazilian Arc of Deforestation, creating a Northeast Amazon biodiversity corridor in vulnerable region. The project aims to combine REDD and SFMP activities, which will promote forest conservation combined with alternative income generation from sustainable practices, associated with a greater surveillance against deforestation agents. The project region is classified as Tropical Forest climate type – according to the Köppen climate classification /54/. The present and prior environmental conditions of the project area, including as appropriate information on the climate, hydrology, topography, relevant historic conditions, vegetation and ecosystems have been discussed in section 1.13 of the PD, which was further crosschecked with the evidence /57/ /58/ /59/ /60/ and confirms to be appropriate.

- **Project compliance with applicable laws, statutes and other regulatory frameworks**

RINA team was able to confirm that the project complies with all applicable laws, statutes and other regulatory frameworks. Evidence to this effect includes a review of all pertinent legislation identified in the VCS PD and of compliance with the same, then confirmed through interviews with project personnel and other relevant stakeholders /64/. A list of the most pertinent legislature identified by the project proponents is as follows:

Relevant Law and/or Regulatory Framework	Description	Project Compliance
<i>Brazilian Forest Code (Law N° 12.651, 25/05/2012) /18/</i>	As per the Forest Code all rural estates located in forest zones should have: a. Permanent preservation area: protected areas covered or not by native vegetation, with the environmental function of preserving water resources, landscape, geological stability, biodiversity, gene flow of plants and animals, protecting the soil and ensuring the well-being of human populations b. Legal Reserve (LR): an area located within a rural property or possession which is required to be segregated, as well as the permanent preservation area, for the sustainable use of natural	Despite the legal provisions intended to preserve at least 80% of the Amazon Forest coverage, lack of law enforcement by local authorities along with public policies seeking to increase commodities production and encourage land use for agricultural, bio energy and cattle breeding purposes created a scenario of complete disregard of the mandatory provisions of the Forest Code. In addition to that, to cover vast distances of areas with low demographic density makes tracking of illegal activities

	resources, conservation and rehabilitation of ecological processes, biodiversity conservation and shelter, and protection of native flora and fauna. In the Brazilian Legal Amazon, eighty percent (80%) of a rural property should be preserved as LR.	and land surveillance very difficult for the authorities ² . Therefore, all calculations were made assuming that the reference region has a general non-compliance with the Brazilian Forest Code. Thus, the baseline scenario considers the potential of unplanned deforestation in the project area to surpass the limits stipulated by the Law./87/ <i>Also refer to FAR 1</i>
<i>Decree No. 10,088, of 5/11/2019 /19/</i>	The decree aims to create a binding international instrument dealing specifically with the rights of culturally traditional people.	The proposed project area does not have indigenous areas. The same was also confirmed during the site visit by interviewing the stakeholders. The land is private property owned by Grupo Rovema, Grupo Leite and Grupo Tupá.
<i>Decree No. 6,040, of 7/02/2007 /20/</i>	Institutes the National Policy for the Sustainable Development of Traditional Peoples and Communities.	As discussed above the land are a private property, owned by Grupo Rovema, Grupo Leite and Grupo Tupá and one the objective of the project owners is community welfare and improving environmental and social conditions of the region.
<i>Federal Decree No. 10,144/2019 of 28/11/2019 /21/</i>	National Commission for Reducing Emissions of Greenhouse Gases from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Management of Forests and Increase of	The proposed project complies with the Decree.

² MOUTINHO, P. et al. REDD no Brasil: um enfoque amazônico: fundamentos, critérios e estruturas institucionais para um regime nacional de Redução de Emissões por Desmatamento e Degradação Florestal – REDD. Brasília, DF: Instituto de Pesquisa Ambiental da Amazônia, 2011.

	Forest Carbon Stocks - REDD+	
<i>Rondonia Govern Decree 23.431 of 28/12/2018 /22/</i>	defines technical procedures regarding SFMP	The proposed project complies with the Decree.
<i>Amazon resolution 7 of 21/06/2011 /23/</i> <i>law n° 3785 of 24/07/2012 /24/</i>	defines procedures for small scale forest exploitation defines the license process for forest exploitation	The proposed project complies with the Decree

The team confirms that there are no enforced mandatory applicable laws and regulations that prohibit the proposed REDD and the same in compliance with the Law no 12.651 -25/05/2012 New Brazilian Forest code /18/.

The project area assessment was carried out to confirm that the project does not overlap with indigenous /94/, quilombola /96/, settlement /97/, protected and public areas /98/. This analysis involved overlaying KML files /56/ representing the project area with data from the aforementioned areas. It should be noted that the source of these maps is duly recognized as coming from government websites (FUNAI, INCRA and Ministry of the Environment), guaranteeing the reliability and accuracy of the information used in the verification process. This thorough procedure aims to ensure the project's compliance with legal and environmental requirements, mitigating potential impacts on sensitive and protected areas.

- **Participation under other GHG programs:**

The project is not participating in any other GHG program nor was rejected by other programs. This is verified through interviews with project proponents during the onsite visit and internet research of VCS, CDM and GS databases /09/ /10/ /11/.

- **Other forms of credit:**

Net GHG removals generated by the project activity will not be used for compliance with emissions trading programs and other binding limits. The project does not receive other forms of environmental credits. This is confirmed by interacting with the project owner during the onsite inspection. The present REDD project's GHG emission reductions are not in a supply chain, i.e., there is no network of organizations (e.g., manufacturers, wholesalers, distributors, and retailers) involved in the production, delivery, and sale of a product or service to the consumer. Therefore, there are no organizations upstream and downstream of the goods and services whose GHGs are impacted by the present REDD project activit

- **Additional information relevant to the project, including:**

- **Leakage management for AFOLU projects**

The project is a grouped project. The project establishes leakage management areas as required by the selected methodology. Under VM0015 /06/, these consist of non-forest areas that are located outside the project boundary. The leakage management areas were confirmed by

examination of remote sensing imagery provided by the project proponent /56//61/. Since the same is not a forested area, it is accepted as per the methodology requirements.

The landowners developed a leakage management plan in order to register their plans to develop environmental and social activities within such areas. Such plan /78/ was made available to the VVB team.

– **Commercially sensitive information**

No commercially sensitive information has been excluded from the public version of the project description.

• **Sustainable development contributions**

The project contributes positively to sustainable development of the project area and aligns itself with a number of the Sustainable Development Goals (SDGs) including goals 1, 4, 8, 12, 13 and 15 /26/. Though the project contributes to multiple sustainable developmental co-benefits like quality education, skill enhancement by trainings, including technical and vocational skills, for employment, decent jobs and entrepreneurship etc. The same was checked and confirmed during the site visit by interviewing the stakeholders. The PP has confirmed to monitor the SDG indicators as part of the Social Carbon Standard /16/. In summary, the audit team concludes that the project's sustainable development contributions as written in the PD are accurate, complete, and provide an understanding of how the project will contribute to sustainable development goals. The project has provisions to monitor and report the SDGs via Social Carbon report /16/.

RINA was able to verify all the documented evidence listed above during the validation process and can confirm that data and considerations are complete and accurate. Moreover, RINA confirms that the description of the proposed project activity, as contained in the PD /1/ sufficiently covers all relevant elements, is accurate and complete and that it provides the reader with a clear understanding of the nature of the project.

3.2 Participation under Other GHG Programs

The project is not participating in any other GHG program. This is verified through interviews with project proponents during the onsite visit and internet research of VCS, CDM and GS databases /09/ /10/ /11/.

3.3 Safeguards

3.3.1 No Net Harm

The potential negative environmental and socio-economic impacts identified by the project proponent as well as the positive ones have been identified in the Social Carbon Report and are shown in the table below. All mitigation actions to such impacts are discussed in the Social Carbon Report /16/.

Main social, economic, and environmental impacts of the Rio Madeira Grouped REDD+ Project.

Activity	Aspect	Impact	Effect		Comments/ Observation
			Benefi cial	Adver se	
REDD: Carbon credit project	Environment al - Conservation of Amazon Rainforest	Greenhouse Gas Emissions Reductions	X		Monitored by the Carbon resource: - Project performance Monitored by the Natural resource: - Quality control
REDD: Carbon credit project	Environment al - Conservation of Amazon Rainforest	Monitoring and supervision to avoid deforestation of forest within the project area.	X		Monitored by the Biodiversity resource: - Impact on remaining flora Monitored by the Natural resource: - Quality control
REDD: Carbon credit project	Social - Conservation of Amazon Rainforest	Conflict management with communities in the project area, due to banning of timber product extraction.		X	Monitored by the Carbon resource: - Stakeholder consultation Monitored by the Human resource: - Conflict management

REDD: Carbon credit project	Social/Economic - Empowerment	Increased independence of the communities in the project area.	X		Monitored by the Social resource: - Associations and cooperatives - Expansion of community activities - Women inclusion Monitored by the Human resource: - Community education and training Monitored by the Financial resource: - Alternative income sources Monitored by the Natural resource: - Social and environmental investments Monitored by the Biodiversity resource: - Non timber forest products (NTFPs)
REDD: Carbon credit project	Social/economic - Application of the Social Carbon methodology	Encouragement and investment in social, economic and environmental aspects in the project region.	X		Monitored by the Social resource: - Expansion of community activities Monitored by the Human resource: - Community education and training Monitored by the Financial resource: - Carbon credit benefits Monitored by the Natural resource: - Social and environmental investments Monitored by the Carbon resource: - Project performance

The PD/MR describes the risks of negative impacts described in the table below, for which the project proponent takes appropriate measures to mitigate /16/. As per the SCR, "The foreseen

improvements are establishing and documenting conflict management procedures, including internal communication, amicably resolutions, and authorities enforcement such as police and/or legal system if necessary”, to be implemented in 2023.

Risk	Mitigation action	Assessment
Non permanence of carbon	Promote income sources through non-timber forest products.	This initiative is currently implemented in instance 3 through non-timber product harvesting and has the potential for expansion to the other instances
Conflicts with communities in the project area, due to banning of timber product extraction	Promote income sources through non-timber forest products.	This initiative is currently implemented in instance 3 through non-timber product harvesting and has the potential for expansion to the other instances
Risk of land invasion by deforestation agents	Surveillance activities, alongside sustainable income generation.	Surveillance activities have been initiated since the project's inception, and there is also the potential for expanding sustainable income-generating initiatives involving the local population
Risk of non-performance of the sustainable forest management plan	Revenue from carbon credits.	After the end of the management cycle, the revenue from credits will be the only source of income. This makes carbon credits an incentive for maintaining conserved areas, ensuring a consistent income until the next management cycle.

In addition to the above-mentioned risks non- permanence of carbon is also identified as another risk, which is addressed in the buffer reduction as part of the VCS requirements. The above-mentioned aspects and impacts would be monitored at each monitoring as part of the Social Carbon Standard.

3.3.2 Local Stakeholder Consultation

PP has conducted the stakeholder’s consultation in 2 phases 1. Online and 2. in physical.

Online meeting was conducted on 05/09/2022, at 4 pm (Brasília time zone) on a Virtual Conference Platform. The online meeting was conducted to stakeholders located in urban areas and mostly government agencies. The validation team checked the copies of email and invitation letters sent to the government agencies /64/. RINA has also joined the online meeting. RINA verified that the shareholders invited to the virtual meeting is correctly listed in the PD. Noted that the Stakeholders did not have any negative comments on the project. The same was confirmed from the meeting recordings /64/.

The physical meeting with nearby communities close to the project area and reference area took place from 31/08/2022 to 02/09/2022 /64/. The validation team, confirmed that the information presented in the PD, by interviewing the stakeholders, during the presential meeting, noted that the stakeholders are of the positive opinion and do not have any concerns about the project /64/.

As per the interactions with the PP and the stakeholders, the PP has established a permanent channel to interact with the stakeholders. The stakeholders have access to email ids of the concerned personnel from Future Carbon and Grupo ROVEMA, Grupo Leite and Grupo Tupá representatives, in case of any comments or any feedback (picture of the folder with information from the project in Portuguese and contacts is available in the PD document). The PP confirmed that the complaints received from the stakeholders will be recorded and documented and necessary actions would be taken on the same. No complaints received in the proposed monitoring period /64/.

Therefore, RINA could assess the stakeholders' input received during the stakeholder consultation, through the meeting recordings (also the Team Leader- Thaís Carvalho) was online and participate in the virtual meeting and RINA representatives also participate in the presential meeting. Evidences of the stakeholders consultation were also available to the VVB /64/. The steps that have been taken to reach the assessment conclusion were participation in the meetings, interview stakeholders and documental evidences analysis. No concerns/complaints were identified.

3.3.3 Environmental Impact

No EIA is required for a SFMP /34/ in Brazil. After the SFMP is produced by the project owner, it is approved by SEDAM. The regulators then issue the authorisation for harvest for the parcel of land which that annual operational plan is related to.

Expected environmental impacts are described in detail in section 2.3 of the joint PD. The project does not appear to have a negative environmental impact as compared to the baseline, as evidenced by the project activities designed to prevent future deforestation through securing land tenure, preventing the encroachment of unauthorized deforestation agents, and promote the development of sustainable incomes in local communities.

3.3.4 Public Comments

The project was submitted for public commenting from 05/04/2022 to 05/05/2022. The same was checked from the VERRA website /15/. The comments mainly refer to the draft PD, that had filled only the mandatory sections (not all sections were filled, as it was not required for the PD listing), RINA verified that comments received were properly addressed in the final version of the PD, that is complete as per the VCS requirements.

It is VVB opinion that the comments received in the public comments period are fully addressed in the final version of the joint PD&MR. RINA' opinion is based on the validation of project activity that was conducted on documental analysis, presential visits, stakeholders' interview and review of PP's responses to findings raised during the validation/verification process.

3.3.5 AFOLU-Specific Safeguards

Requirements	Steps taken by the audit team to assess the element
Local Stakeholder Identification and Background	Through interviews with project personnel and the remote consultation videos with local government stakeholders, NGOs and communities, the audit team confirmed that the process of stakeholder identification as indicated in section 2.2 of the PD and the monitoring of social carbon indicators throughout the project monitoring periods /16/ have been accurately represented. RINA team has also participated in the local stakeholders' meetings. The stakeholders identification was based on the criteria's of Geographic location, social and technical relevance. During the project implementation, PPs expect strengthen local governance and capacity building through environmental education workshops to promote alternative income sources that fulfill the goals of conservation and preservation of the area.
Risks to Local Stakeholders	The project proponent has provided risk mitigation matrix of local stakeholders in section 2.5 of the joint PD and MR. The audit team verified the aspects/impacts and the measures in places. It is confirmed that the aspects/impacts will be monitored at every verification, which is part of social carbon report /16/. Due to VERRA review, joint PD&MR also provides detailed information wheather the project proponent nor any other entity involved in project design or implementation are involved in any form of discrimination or sexual harassment, including that

	Future Carbon perform due diligence in the project instances (confirmed through interview), information about the Brazil has signed in the ILO convencion 45 and 111 /91/. Future Carbon Group and Grupo Rovema have conduct code /92/ and ethic code /93/ respectively. The contract with the armed security company /29/ unequivocally stipulates that surveillance will be restricted to the project area, ensuring that there will be no interference in local communities. The surveillance company has valid and active licenses /99/ that attest to the company's regularity and compliance with legal requirements, which includes training security personnel in the use of firearms and the progressive application of force, as well as storage protocols.
Respect for Local Stakeholder Resources	The audit team verified documentation demonstrating that a process for identification of risks to local stakeholder resources has been established /16/. The audit team confirmed via interviews with PP and document review that the project proponent has full legal ownership over the project area, as described in the section 3.1 and therefore the project will not impact local stakeholders' property rights, thus precluding the need for the free, prior, and informed consent. Moreover, in the project activity, it is not foreseen the use of non-native species, nor other inputs or use of fertilizers, chemical pesticides, biological control agents.
Communication and Consultation	the project intends to carry out local stakeholders' consultations (in loco or online), which will be monitored by social-environmental certification by additional standards. Furthermore, a permanent communication channel with local stakeholders was created in order to receive any comments or suggestions regarding the present REDD project. All

	communities received Future Carbon Group contact channel during the Local Stakeholder Consultation. All comments received will be responded, and grievances will be resolved in a suitable time frame whenever possible, taking into account culturally appropriate conflict resolution methods. PD clearly describes that all communication and consultation will be conducted in a culturally appropriate manner, which includes language and gender sensitivity, with local stakeholders or their legitimate representatives when appropriate.
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It is RINA's opinion that the Project activity has been designed and is implementing plans and process to ensure the project will not create any negative impacts on local stakeholders or mitigates such impacts where necessary. RINA has participated in the stakeholder consultation (virtual and presential meetings), has personally interviewed stakeholders and project proponents, assessed the documents/evidences related to stakeholder consultations /64/. In addition, RINA checked evidences to confirm that project proponent has full legal ownership over the project area /87/ /88/. Moreover, RINA checked that the project is developed with Social Carbon Standard-co Benefits and has a process to monitor the impacts in the local stakeholders /16/. It is RINA's opinion that the AFOLU-Specific Safeguards are correctly addressed and described in the joint PD&MR.

The Ministry of Justice and Public Security has issued operating licenses /99/ authorizing IMPACTUAL VIGILANCIA E SEGURANÇA LTDA to operate throughout the monitoring period. These permits serve as tangible evidence that the company adheres to the standards outlined in Decree No. 89,056/83, which delineates the requirements for the establishment and operation of private companies offering surveillance services. In order for the company to obtain authorization licenses from the competent bodies, it is necessary to comply with a series of requirements, including the training of security guards in the use of weapons and the progressive use of force according to the incident. By presenting the appropriate valid and active licenses, the company demonstrates regularity and compliance with legal requirements.

These operating licenses guarantee that rangers have received adequate training in the use and storage of firearms, incident reporting procedures

3.4 Application of Methodology

3.4.1 Title and Reference

The methodology and tools applied are as follows: The approved VCS Methodology VM0015: Methodology for Avoided Unplanned Deforestation version 1.1 of 03/12/2012/06/, Sectoral Scope 14 Agriculture, Forestry, Land Use has been applied. The methodology and tools and the specific versions of them applied by the project, were valid at the time of validation.

The following tools were also used:

- VT0001 – Tool for demonstration and assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities, v3.0, published on 01-February-2012 /27/.
- AFOLU Non-Permanence Risk Tool v4.0, published on 19-September-2019 /17/.

3.4.2 Applicability

Applicability Condition	RINA Assessment
Baseline activities may include planned or unplanned logging for timber, fuel-wood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU requirements.	The main baseline land use scenarios for unplanned deforestation activities are cattle ranching for producing beef cattle, unplanned logging for timber both legal and illegal, which are mainly attracted due to infrastructure expansion like roads, highway construction and water ways, which are also one of the causes for increasing unplanned deforestation.
Project activities may include one or a combination of the eligible categories defined in the description of the scope of the methodology (Table 1 and Figure 2).	According to the table in section 3.2 of the PD, not all instances have a sustainable forest management plan and after interviews with the PP, it was identified that there are instances that include logging in the baseline case. The project falls within category C “Avoided Deforestation without Logging” or D, “Avoided Deforestation with Logging”. The three instances of the project contain forest and degradation is not included in either the baseline or project scenario. The first and third project instance falls in category D: presents a SFMP. The second project instance falls in category C: no longer executes SFMP (activity ended before project start date).
The project area can include different types of forest, such as, but not limited to, old growth forest, degraded forest,	Remote sensing /61/ imagery was provided to confirm that all areas within the project area constitute forest according to the definition

secondary forests, planted forests and agro-forestry systems meeting the definition of “forest”.	applied in Brazil (as per FAO definition of forest) /55/.
At project commencement, the project area shall include only land qualifying as “forest” for a minimum of 10 years prior to the project start date.	Remote sensing imagery /61/ was provided to confirm that all areas within the project area have been forest for a minimum of ten years.
The project area can include forested wetlands (such as bottomland forests, floodplain forests, mangrove forests) as long as they do not grow on peat. Peat shall be defined as organic soils with at least 65% organic matter and a minimum thickness of 50 cm. If the project area includes forested wetlands growing on peat (e.g. peat swamp forests), this methodology is not applicable.	The project proponent has stated that the project area does not include forested wetlands. The soil types present in the project area are mineral soils, was also confirmed from the IBGE-Soil maps/65/ and LU/LC maps /61/. Wetlands were excluded, ensuring the requirement of no peat within the project area.

The proposed project meet also meets the following applicability condition of the tool “Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) project activities, Version 3.0 of 01/02/2012 /27/.

Applicability Condition	RINA Assessment
AFOLU activities the same or similar to the proposed project activity on the land within the proposed project boundary performed with or without being registered as the VCS AFOLU project shall not lead to violation of any applicable law even if the law is not enforced.	The proposed REDD project does not lead to violation of any applicable law even if the law is not enforced. The project is in compliance with the forest code (Law N° 12.651,25/05/2012) /18/.
The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario . Project proponent(s) proposing new baseline methodologies shall ensure consistency between the determination of a baseline scenario	Stepwise approach has been used in justifying the determination of the most plausible baseline scenario. The same has been discussed in more detail in section 3.5 of the joint PD&MR /01/.

and the determination of additionality of a project activity.	
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3.4.3 Project Boundary

Spatial Boundaries

As per the methodology the project consists of different project related areas. These include:

- Project Area (PA): 52,274.05 ha /56/
- Reference Region (RR): 1,155,116.88 ha /56/.
- Leakage Belt (LB): 60,258.95 ha /56/
- Leakage Management Areas: 372.5 ha /56/.
- Geographic boundary within which future project activity instances may be developed: 1,155,116.88 ha /56/.

The boundary delineation and area size are based on the assessment of satellite images in line with the methodology requirements and described in detail in the in the PD and supporting documents as discussed below:

The audit team went through the boundary delineation shape files (GIS format data) /56/ and recalculated the extents in the UTM coordinate system and verified each project activity boundaries such as PA, RR, LB and Leakage Management Area.

Overlap between project areas and neighbouring projects was assessed using the VCS database. It was found that the leakage belts of the Rio Madeira REDD+ Grouped Project and project ID2508 overlap. However, the proponents of the two projects did not reach an agreement on how to split the overlapping areas of the leakage belts. Therefore, in accordance with item e) in Section 1.1.3 of VM0015, each project must include the overlapping areas within its leakage belt. Furthermore, it was observed that the project area of the Rio Madeira REDD+ Grouped Project also overlaps with the leakage area of project ID2508. In response, it is the responsibility of the Project Proponent (PP) of project ID2508 to undertake the necessary actions to meet the requirements of the methodology, once the Rio Madeira project is registered.

Project Area

The project areas is located within a private property: Fazenda Rio Madeira; Fazenda Serra Verde; Fazenda Santa Carmem; Fazenda Santa Carmem I; Fazenda Santa Carmem II; Fazenda Beleza; Fazenda Fronteira; Fazenda Iracema I; Fazenda Iracema II; Fazenda Seringal Novo A and Fazenda Seringal Novo B. Which is located in the municipalities of Porto Velho in State of Rondônia and Lábrea, in State of Amazonas, both in the Southern Amazon. The Project area overlayed and checked with MAPBIOMAS and confirmed it does not have any polygon classified as Hydrology in the mapbiomas. /62/. The KML files of the project area /56/ were cross-referenced with the

Mapbiomas land use and classification maps /61/. This assessment aimed to confirm that the project area does not include non-eligible areas (non-forest areas) for a minimum of 10 years prior to the project start date. Further, based on the mapbiomas, classification ensuring the presence of forest cover. Further, it is confirmed by crosschecking the ownership boundaries /64/ /f//u//aa/ to ensure the project area is within the ownership of project proponent.

Reference Area

The RR was delimited by, hydrographic basins within an area of more than 27 million hectares around the PA, from the drainage network produced by the SRTM digital elevation model /59/. For each one of these basins the average values of altitude, taken from SRTM /59/, slope, calculated with the “Slope” tool of the ArcGis, and precipitation, from WorldClim /60/, were determined. The percentages of different types of vegetation, obtained from IBGE /57/ too.

According to the Methodology for projects below 100,000 ha, the reference region should be 20-40 times the size of the project area. In this case it is 22.097 times larger than Project Area and hence accepted by the validation team.

The project area and reference region must have the similarities. The methodology specifies four types of landscape configuration and ecological condition in that at least three must be satisfied as per the Methodology requirement.

The altitude in the project area ranges from 97 to 217 meters which is extracted from SRTM data /59/ and these values are within 95.42% of the variation in the reference region. Thus, meeting the methodology requirements.

As per the methodology requirement the average slope of at least 90% of the project area shall be within $\pm 10\%$ of the average slope of at least 90% of the rest of the reference region. In the average slope in the project area is 4.86%, while in the reference region it is 4.77%. The slope is calculated and verified using the SRTM data /59/. Thus, meeting the methodology requirements.

Further, the methodology requires, the average annual rainfall in at least 90% of the project area shall be within $\pm 10\%$ of the average annual rainfall of at least 90% of the rest of the reference region. The annual precipitation in the project area is, on average, 1,809.77 millimetres per year, while in the rest of the reference region varies between 1,691.8 and 2,067.76 mm /60/. Hence, meeting the requirements of the methodology.

Based on the above it is confirmed that out of the 4.3 has been meeting the requirements as mentioned in the methodology.

About the socio-economic and cultural conditions, the audit team also confirms as well as agents and drivers of deforestation provided in the PD /01/. The census and relevant economic data presented for the municipalities Lábrea-AM, Porto Velho-RO and Nova Mamoré were crosschecked and confirmed/67/. It is presented according to the requirement by VM0015.

Leakage Belt

For defining the boundary of Leakage belt, Methodology proposes two options, in the proposed project the PP has adopted the Opportunity Cost method because the main deforestation driver is cattle ranching. The cattle ranching production is direct correlation with the transportation cost. Hence, the distance between production and market point will determine the deforestation. Therefore, the selection is acceptable.

The audit team validated that the variables used in the formula were credible and verifiable. The distances from each pixel in the RR to the nearest town, where cattle can be commercialised were calculated using available tools in ArcGis. The distances were summed up by the software R and a raster map of the added distances was generated and is shown in Figure 28 of the PD&MR.

To produce the map of costs of transportation (Fig. 29 of the PD&MR/1/), the last part of the formula 1 of the methodology ($TD_v * TC_v$) was entered in the “Raster Calculator” of the ArcMap. The file raster of distances estimated was transformed to a file of values, transformed to km. The next step was to input the rest of the data needed to complete equation 1 of the methodology into the “Raster Calculator” to generate the potential profitability map (or opportunity cost map) shown in figure 31 of the PD /1/.

Considering the profitability shown in figure 30 of the PD&MR and a radius of 3km around the project area, the consultants determined the area of the leakage belt shown in figure 31 of the PD&MR /1/. This is because it was assumed that this 3km radius would reflect leakage due to the actions of the project near the project area.

Leakage Management Area

The leakage management area defined as non-forest area, has 372.5ha and is close by communities on instance 1, 2, and 3 which are within the Reference Region, figure 36 of the PD v2 /1/. The landowners defined a management plan to develop environmental and social activities within such areas. Such plan was made available to the VVB team /78/. The leakage management plan involves various partners and actions, including the Marechal Rondon school in Abunã district, the Flor do Cupuaçu school, the Santa Rita health center, the RECA association, the União Bandeirantes district, and the farm-school FIMCA. Activities encompass renovations, book provision, technology integration, and environmental education, all aimed at promoting environmental awareness, preventing deforestation, and enhancing the quality of life for local residents. Promoting associations of small producers and local communities is an effective means of generating alternative incomes and reducing deforestation practices beyond the project area. Since the same is not a forested area, it is accepted as per the methodology requirements.

Temporal boundaries

Temporal boundaries are defined in compliance with the methodology applied.

- Starting date and end date of the historical reference period: The historical reference period was defined as the November 2009 until Octobre 2019; accordingly, remote sensing imagery of

the RR was acquired for the years 2009 and 2019. Further, the historical Landcover changes extracted from mapbiomas. (Mapbiomas: Brazilian Annual Land Use and Land Cover Mapping Project)/61/.

- Starting date of the project-crediting period of the project activity: The project crediting period of the Rio Madeira Grouped REDD+ Project commenced on 23th October 2019. More information on the same is provided in section 3.1 of the report.

Carbon Pools

The project's selected carbon pools are defined as follows:

Carbon Pools	Included/Excluded	Justification
Above Ground Biomass	Tree: Included	Carbon stock change in this pool is always significant. Since the same is as per the requirement of the methodology, it is accepted by the VVB.
	Non-tree: Excluded	The VVB confirms that none of the categories have final land cover of perennial crop. For more information, please refer to section 3.4.4 of the report.
Below Ground Biomass	Included	Stock change in this pool is significant and included as recommended by the methodology.
Dead wood	Excluded	It is envisaged that in the baseline the dead wood is not removed or used for any other purpose and is left to decay and left to burn in the baseline. Thus, exclusion of dead wood is conservative and the same was accepted by the VVB.
Harvested wood products	Excluded	Stock change in the pool is not considered to be conservative. Since the carbon stock in this carbon pool is higher in project scenario than the baseline, exclusion of this pool is acceptable.
Litter	Excluded	Allowed by methodology and recommended when significant.

		Conservatively excluded. The exclusion of litter is conservative as the baseline validated is cattle ranching.
Soil Organic Carbon	Excluded	Not to be measured when forest is converted to pastures in the baseline scenario according to VCS VM0015 methodology /06/. The justification included in the PD is as per the requirements of the methodology.

The project's selected emissions sources are defined as follows:

Sources		Gas	Included/ Excluded	Justification
Baseline	Biomass Burning	CO ₂	Excluded	Excluded as recommended by the applied methodology.
		CH ₄	Included	Fires are the main technology as it is common practice to burn the forest in order to prepare the land for pastures in the project's region. The same is included as non-CO ₂ emissions from biomass burning in the baseline scenario, according to the methodology.
		N ₂ O	Included	Fires are the main technology as it is common practice to burn the forest in order to prepare the land for pastures in the project's region. The same is included as non-CO₂ emissions from biomass burning in the baseline scenario, according to the methodology.
		Other	Excluded	No other GHG gases were considered in the project activity
	Livestock emissions	CO ₂	Excluded	Excluded as recommended by the applied methodology.

		CH ₄	Excluded	Conservatively excluded – expected to be greater under the baseline scenario as compared to the project scenario. There will be no livestock introduced in leakage management areas.
		N ₂ O	Excluded	Conservatively excluded – expected to be greater under the baseline scenario as compared to the project scenario. There will be no livestock introduced in leakage management areas.
		Other	Excluded	No other GHG gases were considered in the project activity
Project emissions	Biomass Burning	CO ₂	Excluded	No biomass burning increase is predicted to occur in the project scenario compared to the baseline case. Thus, considered insignificant.
		CH ₄	Included	Included as non-CO ₂ emissions from biomass burning in the project scenario, according to the methodology.
		N ₂ O	Included	Included as non-CO ₂ emissions from biomass burning in the project scenario, The same is according to the methodology.
		Other	Excluded	No other GHG gases were considered in the project activity
	Livestock emissions	CO ₂	Excluded	Not a significant source as no livestock or agriculture increase is predicted to occur in the project scenario compared to the baseline case. Thus, considered insignificant.
		CH ₄	Excluded	Not a significant source as no livestock or agriculture increase is predicted to occur in the project scenario compared to the baseline case. Thus, considered insignificant.

		N ₂ O	Excluded	Not a significant source as no livestock or agriculture increase is predicted to occur in the project scenario compared to the baseline case. Thus, considered insignificant.
		Other	Excluded	No other GHG gases were considered in the project activity

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 VM0015 /06/.

3.4.4 Baseline Scenario

Analysis of historical land-use and land-cover change

To determine land use and land cover (LU/LC) change prior to project initiation, remote sensing, GIS, Dinamic Ego and R analysis were carried out. During the audit, the mapping consultants of the PP informed that the raster images with land use classes used to determine land use change during the reference period were downloaded from MapBiomass /61/. The collection 6.0 of raster images from MapBiomass was used together with MapBiomass land use classification. The PP shared the downloaded raster files and converted shapefiles with audit team/61/.

The Mapbiomas is renowned monitoring system for all biomes in Amazon region. It, is a collaborative effort of renowned tech companies, Non-Governmental organizations and research institutions. As per the Mapbiomas Documentations its accuracy confidence is above 95%. /62/ However, the PP carried out the Image classification, accuracy assessment. The results are presented in the Table 12. According to the methodology the minimum overall accuracy should be 90%. Hence, this case can be acceptable.

Please note that the MapBiomass dataset uses 30-meter resolution Landsat imagery, and thus complies with the resolution requirements of the methodology. Furthermore, the audit team confirms that MapBiomass is a multi-institutional initiative of the Greenhouse Gases Emissions Estimation System promoted by the Climate Observatory, and a renowned deforestation watchdog of all biomes in Brazil/62/ and thus accepted.

Analysis of agents, drivers and underlying causes of deforestation and their likely future development.

In the section 4.1 of the PD /1/ the project proponent has well described the baseline Scenario and has also demonstrated the information as per the requirements of the methodology. The

audit team confirms that the agents, drivers and events leading to deforestation is consistent with the understanding and practical knowledge of the audit team regarding the project area.

It is very important, at this point, to remember that the reference period is stipulated by the applied methodology to be no longer than 10-15 years in the past and the end date as close as possible to the project start date, in this case October 2019.

Identification of agents of deforestation

PP identified that the main agents of deforestation during the reference period, between 2009 and 2019, are cattle ranching, mainly producing beef cattle; acting legally and illegally /44/to /50/. Cross checking the statistical data and land cover change the pattern can be logically acceptable by the audit team.

The cattle ranching agent group could be divided into three subgroups:

Land Grabbers: Involve in criminal land grabbing, deforesting unregularized lands, and using livestock farming to mask irregularities. CI3C confirmed them as the main threat to forest conservation.

Illegal Landowners: Purchase deforested lands at risk, lacking regularization and vulnerable to actions by land grabbers.

Regular Landowners: Hold official land titles, but engaging in deforestation can lead to criminal penalties, market bans, and loss of rural credits.

Although illegal deforestation can be attributed to illegal and legal landowners and the three subgroups represent risk to the project area, the Federal Public Ministry /100/ points out that a large part of the deforestation is carried out by land grabbers.

Identification of deforestation drivers

The methodology classified the deforestation drivers in two categories:

a. Driver variables explaining the quantity (hectares) of deforestation: The population growth and prices of timber logs and livestock per arroba are the one which, directly drive the deforestation quantity. The logical argument with the support of statistics make sense on the assumption. /42/.

b. Driver variables explaining the location of deforestation: PP identified three drivers of deforestation: Distance from deforested areas, Roads, highways, access roads and navigable rivers and Presence of protected areas. The audit team confirms the assumptions while cross checking the evidence and statistics /51//52//53/.

In line with the methodology, the PD&MR /01/ has identified that the most likely land use scenario is the continuation and proliferation forest encroachment by pioneer activities, eventually leading to an expansion of deforestation. In this scenario, deforestation would be initiated by increased access to the forest by expansion of unofficial roads constructed by illegal

selective loggers, followed by land clearing to support activities such as cattle ranching by agents who are facilitated by the access resulting from the loggers' actions.

Relevant national and sectoral policies and circumstances have been considered and are listed in the PD&MR /01/.

The procedures for identifying the baseline scenario have been correctly followed and the identified scenario reasonably represents what would have occurred in the absence of the project.

The MapBiomas Alert platform was used to analyse the legal deforestation in the region. This database cross-references the deforestation permits issued since 2018 by local environmental agencies with the deforested areas identified by Mapbiomas. For the state of Rondônia, Mapbiomas Alert showed that 99.8% of deforested areas were illegal. For Amazonas, the illegal portion corresponds to 100% of deforested areas. This confirms that the observed deforestation within the reference region is indeed illegal.

The execution of VM0015 Step 3 – Analysis of agents, drivers, and underlying causes of deforestation, along with their anticipated future developments, and the consideration of available evidence, enables us to conclude that the most probable trajectory of deforestation within the reference region and project area is indeed conclusive and increasing.

3.4.5 Additionality

The project has applied VCS Tool VT0001 /9/ to demonstrate additionality, also including the selection of baseline scenario. Section 3.5 of the PD&MR /01/ includes the details of the project proponent's application of the tool. The application included the identification of alternative scenarios, documentation of baseline determination, and comparison of the potential baseline scenarios against applicable laws, investment analysis, and a common practice analysis.

In order to demonstrate additionality the project uses the VCS Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities (Version 3.0) /9/. As a first check, the audit team made sure that the project complied with the applicability conditions in order to use the aforementioned tool. This was further justified in section 3.4.2 of this report.

The tool next requires the project proponents to carry out the following four steps to determine if their project is additional:

- a) STEP 1. Identification of alternative land use scenarios to the AFOLU project activity;
- b) STEP 2. Investment analysis to determine that the proposed project activity is not the most economically or financially attractive of the identified land use scenarios; or
- c) STEP 3. Barriers analysis; and

d) STEP 4. Common practice analysis.

STEP 1. Identification of alternative land use scenarios to the AFOLU project activity.

In line with the methodology and the aforementioned tool, the VCS PD has identified two alternative land use scenarios.

1. Continuation of the existing land-use scenario: This scenario may or may not involve sustainable forest management plans within the project boundaries of the proposed VCS REDD project, depending on the historical land use of each instance, without involving additional social/environmental activities and forest conservation measures. Despite the contribution to forest preservation and carbon stock maintenance, SFMP areas are subject to unplanned deforestation and loss of carbon stock due to external agents, similar to non-SFMP areas in the baseline scenario. This risk is evident in deforestation rates observed both within and outside SFMP areas in the Reference Regions, particularly in Porto Velho municipality, where the project is concentrated. Analysis of data from the local Environmental Agency (SEDAM) /101/ and MapBiomass /61//62/ land use via the GeoPortal platform highlights that the presence of SFMP alone does not guarantee forest preservation. A comparison of deforestation rates within and outside SFMP areas in the Reference Region polygons in the State of Rondônia reveals a striking similarity, as detailed in VCS PD Section 3.3 and sources cross-checked by VVB.

2. Implementation of the Project activity on the land within the project boundary, performed without being registered as the VCS AFOLU project: In this scenario, the project activity would be conducted within the project boundary, albeit without formal registration as a VCS REDD project.

All the above-mentioned scenarios are in compliance with the applicable laws and regulations. It is checked that scenario 1 and 2 both are in compliance with sustainable forest management plan is regulated in Brazil by the laws No. 12,651 /18/.

STEP 2. Investment analysis

Since the development of the project does not generate no financial or economic benefits other than VCS related income, simple cost analysis (Option I) was applied as sub-step 2b.

Appropriateness of selection of simple cost analysis: The contracts /71/ between Grupo Rovema (Instance 1) and Grupo Tupá (Instance 3) with logging companies, establish a fixed price determined by conditions outlined in the Sustainable Forest Management Exploitation Licenses (AUTEX in Portuguese). Consequently, any financial gains resulting from project activities, such as increased timber volumes due to deforestation prevention or price premiums resulting from the carbon project and/or additional certification, would accrue to the SFMP-operating companies rather than the landowners. For instance 2, where no economic activity is performed on the Project Area, the VCS AFOLU project also does not generate financial or economic benefits. Thus, the VVB confirms that the selection of simple cost analysis of the proposed project is appropriate.

Table below provides an estimate of expenses for the landowner, without considering the costs involved for the VCS project and the certification of VCU:

Instance 1

Costs considering no project development expenses	Estimated costs (R\$)
TOTAL EXPENSES	-R\$ 4,564,823.85
Property taxes	-R\$ 151,974.40
Surveillance costs	-R\$ 2,516,695.43
Socio environmental activities	-R\$ 1,896,154.02

The future surveillance costs were estimated from the contract signed on 23/10/2019 between Fazenda Rio Madeira and S.S.M – Serviços de Segurança Eireli and payment receipt /63/.

Instance 2

Costs considering no project development expenses	Estimated Annual Costs of Conservation (R\$)
TOTAL EXPENSES	-R\$ 28,320,842.66
Taxes and accountability costs	-R\$ 263,541.85
Surveillance costs	-R\$ 26,453,336.00
Satellite images monitoring consultancy	-R\$ 358,789.04
Socioenvironmental activities	-R\$ 1,245,175.77

The surveillance costs were estimated from the contract signed on 05/19/2021 with the company Impactual Vigilância e Segurança LTDA and payment invoices from 10/2021 and 11/2021 /29/. The cost of satellite image monitoring consulting was estimated from the contract with the company Verine Projetos e Assessoria Ltda /29/.

Instance 3

Costs considering no project development expenses	Estimated costs (R\$)
TOTAL EXPENSES	-R\$ 1,960,454.67

Property taxes	-R\$ 102,799.50
Surveillance costs	-R\$ 158,000.00
Socio environmental activities	-R\$ 1,699,655.17

The surveillance costs were estimated from the contract signed on 02/01/2020 with Mr. Elso Santo de Oliveira and payment invoices from 01/2020 and 12/2021 /30/.

According to the additionality tool applied: If it is concluded that the proposed VCS AFOLU project produces no financial benefits other than VCS related income then proceed to Step 4 (Common practice analysis).

STEP 3. Barriers analysis.

Step 3, the barriers analysis, was not applicable to the project because the additionality tool /27/ allows for the application of either STEP 2 or STEP 3 and does not require that both be applied.

STEP 4. Common practice analysis.

Although there are other Sustainable Forest Management Plans and logging authorizations in the municipalities of the instances and in the reference region, as noted in the SEMAs database, these activities do not involve additional measures to avoid deforestation and forest degradation.

The Joint PD & MR presents an analysis of deforestation data from Mapbiomas, combined with data on areas with Sustainable Forest Management Plans (SFMPs) obtained from environmental agencies, revealed that deforested areas within SFMP zones, varying from 10% to 100% of their total area, indicate that the presence of this activity alone is insufficient to guarantee the preservation of forested areas.

The practice of conservation of privately-owned forest areas in the Rondônia State as a whole, is extremely rare. Conservation activities in larger areas are usually made in public areas, such as Conservation Units, federal and state protected areas.

It is possible to note that, for the aforementioned reasons, the project does not characterize as a common practice due to the presented barriers, such as lack of investment and opportunity cost from other land uses.

The notable distinctions in scale and financial challenges between the current REDD+ project and comparable conservation initiatives in the region lead to the conclusion that the project is not a common practice in the area. As such, it is deemed additional for all three instances included at this time.

Thus, the VVB is of the opinion that the proposed project is not common practice in the area. RINA concurs with the project proponent's assertion that the project is not common practice. In conclusion, RINA verified that the project proponents have employed the correct use of the VCS

Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities /27/), that they have followed all of its respective steps correctly, and that thus the project can be considered to be additional.

3.4.6 Quantification of GHG Emission Reductions and Removals

Baseline emissions:

Projection of future deforestation

With the data of the land use change /61/ obtained according to explanation in step 3 deforestation rates for each year were calculated and a regression curve found and fed into R.

The Joint PD & MR /01/ effectively follows VM0015 Step 3, analysing the agents, drivers, and underlying causes of deforestation in the reference region. This analysis offers a likely future evolution, and based on the available evidence, it is evident that the most probable trend for deforestation in both the reference region and the project area is a conclusive and increasing one along the years and thus the selection of the time function approach is considered correct.

The appropriation of the Time function approach is well documented in the PD&MR /01/

Time function approach: With this approach, the rate of baseline deforestation is estimated by extrapolating the historical trend observed within the reference region (or its strata) as a function of time using either linear regression, logistic regression, or any other statistically sound regression technique /06/.

Thus, the methodology states that any regression analysis is accepted. The regression analysis, aimed at assessing the trend in the deforestation rate, was carried out using the statistical software R (R Core Team 2021). This comprehensive analysis involved a thorough examination of historical deforestation data to determine the trajectory and patterns, and it was executed with the assistance of the robust capabilities of the R software.

The equation that describes the growth in deforestation analysed over the historical period:

$$y = 0.001877x - 3.749587$$

The graph of this equation exhibits a statistically significant trend of increase ($R^2 = 0.56$, $p = 0.0079$).

PP applied the Mann-Kendall test to analyse whether there is a monotonic trend over time. The Mann-Kendall test is a non-parametric statistical technique used to analyse temporal trends in time series data. It is widely employed to assess whether there is a monotonic (increasing or decreasing) trend over time in a specific variable, without assuming a specific distribution for the data.

The applied test resulted in a very low p-value (1.28×10^{-14}), which suggests strong statistical evidence of the presence of a significant trend.

As indicated in VM0015, in the event that ABSLRRt demonstrates a decrease as a function of time, T optimal represents the period during which ABSLRRt maintains a positive value. Analyzing the results presented in the calculation spreadsheet /02/, the ABSLRRt consistently decreases over time while ensuring the area of forest land suitable for conversion to non-forest land (optimal area) remains positive throughout the period leading up to the baseline reassessment (T optimal > 6 years), as well as during the project crediting period.

According to VM0015, since T optimal $\geq$ project crediting period, then ABSLRRi,t calculated with Equation 04 is applicable during the entire project crediting period.

Considering the limitations and challenges of projecting deforestation quantities closer to reality, given that there is no comprehensive verification process to ensure that the deforestation dynamics inside and outside Legal Reserves in the Reference Region are equivalent, nor sufficient data to allow the stratification of the deforestation rate within the Reference Region by each deforestation sub-group, a conservative discount factor of 20% was applied to projected deforestation in the Project Area and Leakage Belt. This factor was based on historical deforestation rates within legal reserves and the reference region.

The establishment of a 20% discount was based on the percentage of forestlands deforested within the reference region during the historical reference period (26%) and the percentage of forestlands deforested within legal reserves located in the reference region during the historical reference period (21%).

RINA agrees that the projection of future deforestation within the Project Area and Leakage Area, as addressed by the Time Function approach, does not differentiate between what occurs inside and outside legal reserves due to data limitations for such stratification, as described in Section 3.4 of the PD /01/. Therefore, a 20% discount is considered conservative and will better reflect reality. FAR 4 was raised.

This discount was correctly applied in the ER spreadsheet /02//03/, right at the beginning of the calculations, in Table 8 as indicated by the methodology.

FAR 4:

Considering that in section 5.1 of the Joint PD and MR, a 20% discount was applied to quantify future deforestation within the Project Area and Leakage Belt, aiming to overcome the limitations of stratifying deforestation occurring inside and outside legal reserves, and that this factor does not follow guidance established by VM0015, it will be necessary for the next verification to reassess the discount factor to ensure it remains conservative and/or to evaluate if there are alternative approaches within new versions of validated REDD methodologies that could replace this factor.

Preparation of factor maps

To find out where deforestation would occur the factor maps were prepared with ArcGIS from road, Indigenous land, conservation units, settlements, rivers, urban areas, altitude, slope, maps.

The source of each of these maps are in Table 25 of the PD /1/ and were checked by the audit team/58//59/.

Preparation of risk maps for deforestation

With these base maps they were able to generate scores with the program Dinamica Ego /43/ the weight of evidence coefficient of each of the maps compared to land use change. The weights of evidence are shown in tables 17 to 26 of the PD&MR /01/.

Selection of the most accurate deforestation risk map

The ones which seemed to better correlate with deforested areas were then used in a similarity index test which compared projections of deforestation maps with the real map of deforestation of 2019. The results of the similarity index using different factor maps are in Table 27 of the PD&MR /01/ and showed that the best model was the number 17 which had an average similarity of 0.492.

According to the methodology section 4.2.3, “The best fit must be assessed using appropriate statistical techniques. Most peer reviewed modelling tools, such as Geomod, Idrisi Taiga, Land Use Change Modeler, and Dinamica Ego, include in the software package appropriate assessment techniques, which can be used under this methodology.” In the Project case, the exponential decay function was used to calculate the similarity between real and projected scenarios, which is a method indicated in the Dinamica Ego software. This is acceptable according to the methodology.

Because according to the section 4.2.3 of the methodology, it's says can be used any cited tools, or technique can be used for the assessment.

Mapping the locations of future deforestation

The risk map chosen, and the equation were fed into Dinamica Ego. These then generate the future maps of deforestation for the years of 2020 to 2049 in the RR showed in Figure 64 - 66 of the PD&MR v1.0 /01/.

The annual areas of deforestation projected by Dinamica Ego always start on the day and month of the instance's start date.

To ensure data consistency with the VM0015, the PP made an adjustment to the annual values. This adjustment was implemented to ensure that the values reflect the standard period from January 1st to December 31st of each year.

The PP provided the calculation record in the 'PSD' tab of the PD calculation ER spreadsheet /02/, detailing the adjustment process performed. Following a thorough analysis, RINA concluded that the adjustment calculation was executed according to established standards, and that the ex-ante annual areas of deforestation are in accordance with the periods specified in the standard tables.

The 20% baseline discount mentioned earlier in this section was also applied within the PSD tab. Thus, the period adapted from Dinamica Ego to report the projected deforestation already includes the conservatism discount.

Calculation of Baseline Emissions

The baseline emissions are calculated as the carbon emissions from the total deforestation in the RR, PA and LKB that would be released in the absence of the project activity. In section 4.1 of the VCS-PD /1/ baseline emissions for the project area are calculated in accordance with equations below:

$$\Delta C_{BSLPA_t} = \Delta C_{abBSLPA_{icl,t}} + \Delta C_{bbBSLPA_{icl,t}}$$

Where,

ΔC_{BSLPA_t}	Total baseline carbon stock changes in the project area at year t ; tCO ₂ e
$\Delta C_{abBSLPA_{icl,t}}$	Total baseline carbon stock change for the above-ground biomass pool in the project area for initial forest class at year t ; tCO ₂ e
$\Delta C_{bbBSLPA_{icl,t}}$	Total baseline carbon stock change for the below-ground biomass pool in the project area for initial forest class at year t ; tCO ₂ e

$$\Delta C_{abBSLPA_{icl,t}} = ABSLPA_{icl,t} \times \Delta C_{ab_{icl}}$$

Where,

$\Delta C_{abBSLPA_{icl,t}}$	Total baseline carbon stock change for the above-ground biomass pool in the project area for initial forest class at year t ; tCO ₂ e
$ABSLPA_{icl,t}$	Area of initial forest class icl deforested at time t within the project area in the baseline case; ha
$\Delta C_{ab_{icl}}$	Average carbon stock change factor per hectare in the above-ground biomass carbon pool of initial forest class icl ; tCO ₂ e ha ⁻¹

$$\Delta C_{bbBSLPA_{icl,t}} = ABSLPA_{icl,t} \times \Delta C_{bb_{icl}}$$

Where,

$\Delta C_{bbBSLPA_{icl,t}}$	Total baseline carbon stock change for the below-ground biomass pool in the project area for initial forest class at year t ; tCO ₂ e
$ABSLPA_{icl,t}$	Area of initial forest class icl deforested at time t within the project area in the baseline case; ha

ΔCbb_{icl}

Average carbon stock change factor per hectare in the below-ground biomass carbon pool of category *icl*; tCO_{2e} ha⁻¹

Average carbon stocks were calculated on the basis of biomass values from the study from Silva, 2014 /75/. The study fulfills the criteria established by the methodology applied:

- The data is less than 10 years old;
- The data are derived from multiple measurement plots;
- All species above a minimum diameter are included in the inventories;
- The minimum diameter for trees included is 30 cm or less at breast height (DBH);
- Data is sampled from good coverage of the classes over which they will be extrapolated

The methodology of the study is summarized in section 4.1 of the PD /1/.

The Open Submontane Tropical Rainforest and the Open Tropical Rainforest are the main forest type present within the project area, with around 74% of the total forest cover. Thus, due to the high representativeness of this forest types within the project area, and the very high similarity in terms of biomass stock in relation to the mean, the forest class was not stratified, i.e., the “Forest” class included only one stratum due to the low difference in average biomass stocks within the project area.

The other forest types that compose the remaining 26% of the total forest cover are Dense Submontane Tropical Rainforest and Dense Tropical Rainforest. This forest types have higher average carbon stocks, then validation team confirms that their exclusion does not negatively impact the conservativeness.

To transform biomass to carbon dioxide equivalent, the values from Silva (2014) /75/ of 0.48 for Biomass to Carbon and 44/12 from Carbon to CO₂ were used /75/ as it is more recent when compared to IPCC (2003) or IPCC (2006). In addition, average values for the below ground biomass were taken from the applied methodology VM0015 v1.1, which estimates a root-to-shoot ratio of 0.24 for tropical rainforest having above ground biomass values above 125 tons/ha.

Also in accordance with the methodology, carbon stock change factors for initial forest classes (*icl*) used method 1. That is, for the above-ground biomass 100% release of the carbon stock in the same year deforestation occurred, and for below ground biomass 10% of the initial carbon stock released in each year starting from the year of deforestation (10 years decay in total).

To determine post-deforestation carbon stocks, the Project Proponent (PP) referenced Brazil's National GHG Emissions Communication to the UNFCCC (2019) /89/ for average carbon stock data related to pastures, agriculture, and other land uses. Additionally, carbon stock in secondary forests was calculated based on a study conducted in the Amazon rainforest /90/.

Upon converting the weighted average of post-deforestation carbon stock, it was found to be considered 41.39 tCO₂e/ha for final non-forest class in the project area and 28.38 tCO₂e/ha to be considered for final non-forest class in the leakage belt.

Uncertainty Assessment

According to the applied methodology, if the uncertainty of the total average carbon stock is less than 10% of the average value, the average value, the average carbon stock value can be used.

Silva /75/, for the Open tropical and submontane rainforest, was conducted with an error of 1.85% and present an uncertainty level less than 10% of the average carbon stock value.

The average post-deforestation carbon stock was applied with discounts due to uncertainty greater than 10%. The detailed application of these discounts for each land use is described in the Joint PD&MR and in the calculation spreadsheets.

Baseline Non-CO₂ emissions from forest fires

As per the discussions in the baseline scenario and slash and burn deforestation to clear is carried out in the area, which is one of the main causes of deforestation and common practice in the project area. Thus, baseline emissions due to biomass burning is one of the important emission sources considered in the project boundary and only non-CO₂ emissions from forest fires are considered.

$$EBB_{tot_{icl,t}} = EBB_{N_2O_{icl,t}} + EBB_{CH_4_{icl,t}}$$

Where,

$EBB_{tot_{icl,t}}$	Total GHG emission from biomass burning in forest class icl at year t; tCO ₂ e/ha
$EBB_{N_2O_{icl,t}}$	N ₂ O emission from biomass burning in forest class icl at year t; tCO ₂ e/ha
$EBB_{CH_4_{icl,t}}$	CH ₄ emission from biomass burning in forest class icl at year t; tCO ₂ e/ha

$$EBB_{N_2O_{icl,t}} = EBB_{CO_2_{icl,t}} * 12/44 * NCR * ER_{N_2O} * 44/28 * GWP_{N_2O}$$

Where,

$EBB_{CO_2_{icl,t}}$	Per hectare CO ₂ emission from biomass burning in slash and burn in forest class icl at year t; tCO ₂ e/ha
NCR	Nitrogen to Carbon Ratio (IPCC default value = 0.01); dimensionless
ER_{N_2O}	Emission ratio for N ₂ O (IPCC default value = 0.007)

GWP_{N2O} Global Warming Potential for N₂O (IPCC default value)

$$EBBCH_{4icl,t} = EBBCO_{2icl,t} * 12/44 * ER_{CH4} * 16/12 * GWP_{CH4}$$

Where,

EBBCO_{2icl,t} Per hectare CO₂ emission from biomass burning in slash and burn in forest class icl at year t; tCO₂e/ha

ER_{CH4} Emission ratio for CH₄ (IPCC default value = 0.012)

GWP_{CH4} Global Warming Potential for CH₄ (IPCC default value)

$$EBBCO_{2icl,t} = F_{burnt,icl} * \sum_{p=1}^P (C_{p,icl,t} * P_{burnt,p,icl} * CE_{p,icl})$$

Where,

EBBCO_{2icl,t} Per hectare CO₂ emission from biomass burning in the forest class icl at year t; tCO₂e/ha

F_{burnt,icl} Proportion of forest area burned during the historical reference period in the forest class icl; %

C_{p,icl,t} Average carbon stock per hectare in the carbon pool p burnt in the forest class icl at year t; tCO₂e/ha

P_{burnt,p,icl} Average proportion of mass burnt in the carbon pool p in the forest class icl; %

CE_{p,icl} Average combustion efficiency of the carbon pool p in the forest class icl; dimensionless (IPCC default of 0.5)

p Carbon pool that could burn, above-ground biomass

For the F_{burnt}, it was considered default value from MCTI (Science, Technology and Innovation Ministry) /74/. According to the governmental publication, the combustion factor for the phitophisionomy Open Tropical Rainforest (Aa, Ab, As) is 45%.

For P_{burnt}, a study from the Brazilian Amazon in Cerrado vegetation /44/ reported that the total biomass consumed by fires varies from 72% to 84% (average 78%). Based on literature, an average value of 61.6 m³/ha was obtained, which would correspond to approximately 11% of the total biomass in 1 ha. In this way, the remaining is burned to clear the area, therefore, its new

value is 88.6%. The most conservative value between these two estimates were used, Pburnt was estimated as 78%.

The total actual non-CO₂ emissions from forest fire at year t in the project area at the baseline scenario (EBBBSLPA_t) were calculated as follows.

$$EBBBSLPA_t = ABSLPA_{icl,t} * EBBtot_{icl,t}$$

Where,

EBBBSLPA _t	Total actual non-CO ₂ emissions from forest fire at year t in the project area in the baseline scenario; tCO ₂ e/ha
ABSLPA _{icl,t}	Annual area of deforestation of initial forest classes icl in the project area at year t; ha
EBBtot _{icl,t}	Total GHG emission from biomass burning in forest class icl at year t; tCO ₂ e/ha

Project Emissions

Rio Madeira Grouped REDD+ Project includes instances 1 and 3 (Grupo Rovema and Grupo Tupá) with sustainable forest management plan (SFMP) activities within the project area. These carbon stock changes are estimated ex ante and shall be measured ex post.

According to the methodology VM0015 v1.1 /06/, two types of project emissions in the project area which are part of the SFMP, must be accounted for: planned activities and unplanned deforestation. Planned activities in turn are of two types, planned deforestation (i.e. infrastructure like roads and trails used for the SFMP) and planned logging (amount of wood harvested for commercialisation in the SFMP).

The ex -ante estimated carbon stock decrease due to planned deforestation in the project area was calculated using the following equation:

$$\Delta CPDdPA_t = \sum (APDPA_{icl,t} \times \Delta Ct_{icl,t})$$

Where,

$\Delta CPDdPA_t$	Total decrease in carbon stock due to planned deforestation at year t in the project area; tCO ₂ e
$APDPA_{icl,t}$	Areas of planned deforestation in forest class icl at year t in the project area; ha
$\Delta Ct_{icl,t}$	Average carbon stock change of all accounted carbon pools in forest class icl at time t; tCO ₂ e/ha

GHG emissions from logging activities include the volume of harvested timber plus the logging damage factor, as follows.

$$\Delta CLd_{icl} = (HI_{icl,t} + LDF) \times D_m \times CF \times 44 / 12$$

Where,

$\Delta CLd_{icl,t}$	Average carbon stock decrease due to logging activities in forest class <i>icl</i> at time <i>t</i> ; tCO ₂ e/ha
$HI_{icl,t}$	Harvesting intensity of timber in forest class <i>icl</i> at year <i>t</i> in the project area due to planned logging activities (i.e., sustainable forest management plan); m ³ /ha
LDF	Logging damage factor; m ³ /m ³
D_m	Mean wood density; g/cm ³
CF	Default value of carbon fraction in biomass; tC t ⁻¹ d.m.
44/12	Ratio of molecular weight of CO ₂ to carbon; dimensionless

It is checked that the MR already considers as planned deforestation the roads and decks constructions, which represent around 16% of the total damage. Therefore, the LDF is $2.4 \times (1 - 0.159) = 2.0174 / 73/$.

As discussed in carbon pools harvested wood products are not accounted as a carbon pool, thus, $\Delta Cwpt = 0$, which is conservative. Thus, the ex-ante estimated carbon stock decrease due to planned logging activities in the project area is calculated using the following equation:

$$\Delta CPLdPA_t = \sum_{icl=1}^{icl} (APLPA_{icl,t} \times \Delta CLd_{icl,t}) - \left(\sum_{icl=1}^{icl} APLPA_{icl,t} \right) \times \Delta Cwpt$$

Where,

$\Delta CPLdPA_t$	Total decrease in carbon stock due to planned logging activities at year <i>t</i> in the project area; tCO ₂ e
$APLPA_{icl,t}$	Areas of planned logging activities in forest class <i>icl</i> at year <i>t</i> in the project area; ha
$\Delta CLd_{icl,t}$	Average carbon stock decrease due to logging activities in forest class <i>icl</i> at time <i>t</i> ; tCO ₂ e/ha
$\Delta Cwpt$	Average carbon stock per hectare in the harvested wood products carbon pool at time <i>t</i> ; tCO ₂ e/ha

According to VCS AFOLU Requirements, fossil fuel emissions from transport and machinery use in REDD project activities can be considered de minimis.

No production of fuel wood or charcoal is noted within the project area under the project scenario. Due to the management plan, no carbon stock increase due to planned activities was considered.

No planned protection of secondary/degraded forests without harvest are expected to occur within the project area under the project scenario. Thus, carbon stock increase due to growth without harvest or will not be monitored. However, if any of these activities is implemented in the future, a measurement of the carbon stock changes will be carried out. According to the applied methodology, if the project activity generates a significant change in carbon stocks due to these activities, the carbon stock change shall be measured ex post. However, if the decrease is not significant, it shall not be accounted, and ex post monitoring is not required. This justification provided by the PP is acceptable.

To estimate unplanned deforestation the PP followed the formula in the methodology VM0015 v1.1 /8/:

$$\Delta CUDdPA_t = \Delta CBSLPA_t \times (1 - EI)$$

Where,

$\Delta CUDdPA_t$	Total ex ante actual carbon stock change due to unavoidable unplanned deforestation at year t in the project area; tCO ₂ e
$\Delta CBSLPA_t$	Total baseline carbon stock change in the project area at year t; tCO ₂ e
EI	Ex ante estimated Effectiveness Index; %
t	1, 2, 3 ... T, a year of the proposed project crediting period; dimensionless

The Effectiveness Index (EI) considered in the PD /1/ is 85%. The Effectiveness Index has been established by assessing the activities carried out during the initial monitoring period, the planned activities yet to be implemented, and those suggested by literature as solutions to deforestation in the Amazon /102/. Following this evaluation, the PP has determined the index to be 85%. VVB acknowledges that an 85% index is a conservative estimate, aligning with the criteria set forth in VM0015.

Project Non-CO₂ emissions from forest fires

Is calculated by multiplying the baseline emissions by the factor (1 – EI), as follows.

$$EBBPSPA_t = EBBBSPA_t \times (1 - EI)$$

Where,

EBBPSPA _t	Total <i>ex ante</i> actual non-CO ₂ emissions from forest fire due to unavoided unplanned deforestation at year t in the project area; tCO ₂ e/ha
EBBBSPA _t	Total non-CO ₂ emissions from forest fire at year t in the project area; tCO ₂ e
EI	<i>Ex ante</i> estimated Effectiveness Index; %
t	1, 2, 3 ... t, a year of the proposed project crediting period; dimensionless

It assumed that all unplanned deforestation within the project area will involve fire and all above ground biomass will be burnt. The same concept was also assumed in the calculations of baseline emissions. Thus, accepted by RINA team.

Leakage Emissions

According to the applied methodology, the following two sources of leakage are considered:

a) Decrease in carbon stocks and increase in GHG emissions associated with leakage prevention measures; this emission source is considered to be insignificant. Ex-post monitoring for the same is required only in case the reduction in carbon stocks and/or an increase in GHG emissions occur compared to the baseline case. The projected carbon stocks shall be estimated in the leakage management area under the baseline case and project scenario.

The following activities could cause decrease in carbon stocks or increase in GHG emissions.

- Carbon stock changes due to activities implemented in leakage management areas.
- Methane (CH₄) and nitrous oxide (N₂O) emissions from livestock intensification (involving a change in the animal diet and/or animal numbers).

$$\Delta\text{CLPMLKt} = \Delta\text{CBSLLKt} - \Delta\text{CPSLKt}$$

Where,

$\Delta\text{CLPMLKt}$	Carbon stock decrease due to leakage prevention measures at year t; tCO ₂ e
$\Delta\text{CBSLLKt}$	Annual carbon stock changes in leakage management areas in the baseline case at year t; tCO ₂ e
ΔCPSLKt	Annual carbon stock change in leakage management areas in the project case; tCO ₂ e

According to the planned interventions carried out by Rio Madeira Grouped REDD+ Project in the baseline case, no decrease in carbon stocks due to activities implemented in the leakage

management area were identified, thus $\Delta\text{CBSLLK} = 0$. However, during the current monitoring period, there were carbon stock changes within the leakage management area due to deforestation of regenerated forests.

Therefore, the ex post carbon stock change in leakage management areas in the project case (ΔCPSLK_t) was calculated as follows.

$$\Delta\text{CPSLK}_t = \text{APSLK}_{\text{fcl},t} * \Delta\text{Ctot}_{\text{icl}}$$

Where,

ΔCPSLK_t	Annual carbon stock change in leakage management areas in the project case; tCO ₂ e
$\text{APSLK}_{\text{fcl},t}$	Annual area of class fcl with decreasing carbon stock in leakage management areas in the project case at year t; ha
$\Delta\text{Ctot}_{\text{icl}}$	Average carbon stock change of all accounted carbon pools in forest class icl at time t; tCO ₂ e/ha

The net sum of carbon stock changes within the leakage management area during the current monitoring period is less than zero, i.e., leakage prevention measures are causing carbon stock decrease and therefore, are included as leakage emissions.

Methane (CH₄) and nitrous oxide (N₂O) emissions from livestock intensification in the leakage management areas are calculated as follows:

$$\text{EgLK}_t = \text{ECH}_4\text{ferm}_t + \text{ECH}_4\text{man}_t + \text{EN}_2\text{Oman}_t$$

Where,

EgLK_t	Emissions from grazing animals in leakage management areas at year t; tCO ₂ e/year
$\text{ECH}_4\text{ferm}_t$	CH ₄ emissions from enteric fermentation in leakage management areas at year t; tCO ₂ e/year
ECH_4man_t	CH ₄ emissions from manure management in leakage management areas year t; tCO ₂ e/year
EN_2Oman_t	N ₂ O emissions from manure management in leakage management areas at year t; tCO ₂ e/year
t	1, 2, 3, ... T years of the project crediting period; dimensionless

Leakage prevention measures carried out by the present project during the current monitoring period did not include agricultural intensification, fertilization, fodder production and/or other measures to enhance cropland and grazing land areas. As the project will not involve grazing animals or crop plantations in the leakage management area, actions to avoid leakage involves containing the displacement leakage risk. Thus, the main plan for mitigating leakage is to involve the community in monitoring and inspecting deforestation, training, alternative income generation and other actions described in the Social Carbon and Conservation Plan. Therefore, emissions from grazing animals in leakage management areas (EgLK_t), equals to zero.

$$ELPMLK_t = EgLK_t + \Delta CLPMLK_t$$

Where,

ELPMLK_t Annual total increase in GHG emissions due to leakage prevention measures at year t; tCO_{2e}

Ex-post decrease in carbon stocks and increase in GHG emissions associated with activity displacement leakage: Is calculated by multiplying the estimated baseline carbon stock changes for the project area by a “Displacement Leakage Factor” (DLF) representing the percent of deforestation expected to be displaced outside the project boundary. It is calculated as follows:

$$\Delta CADLK_t = \Delta CBSLPAt * DLF$$

Where,

$\Delta CADLK_t$ Total decrease in carbon stocks due to displaced deforestation at year t; tCO_{2e}

DLF Displacement leakage factor; %

DLF was adopted as 0.71%, which is the average of displaced leakage in all the MRs of REDD projects using the same methodology in Brazil. An assessment of 15 verified projects located in Brazil was conducted, comparing leakage due to displaced deforestation on baseline and project scenarios /02/.

It is also verified that ex ante emissions from forest fires due to activity displacement leakage was calculated by multiplying baseline forest fire emissions in the project area by the same DLF used to estimate the decrease in carbon stocks, as follows.

$$EADLK_t = EBBBSPA_t * DLF$$

Where,

EADLK_t Total ex ante estimated increase in GHG emissions due to displaced forest fires; tCO_{2e}

EBBBSPA _t	Total non-CO ₂ emissions from forest fire at year t in the project area; tCO ₂ e
DLF	Displacement leakage factor; %
t	1, 2, 3 ... t, a year of the proposed project crediting period; dimensionless

No increase in GHG emissions within the leakage belt happened, thus non-CO₂ emissions from biomass burning in the leakage belt were not associated with the project activity.

Net GHG emission reductions or removals

According to VCS: VM0015 Methodology for Avoided Unplanned Deforestation v1.1, the emission reductions are the baseline and leakage emissions subtracting project emissions and is calculated as follows:

$$\Delta REDD_t = (\Delta CBSLP_t + EBBBSLP_t) - (\Delta CPSP_t + EBBPSP_t) - (\Delta CLK_t + ELK_t)$$

Where:

$\Delta REDD_t$	Ex ante estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t; tCO ₂ e
$\Delta CBSLP_t$ tCO ₂ e	Sum of baseline carbon stock changes in the project area at year t; tCO ₂ e
EBBBSLP _t	Sum of baseline emissions from biomass burning in the project area at year t; tCO ₂ e
$\Delta CPSP_t$	Sum of ex ante estimated actual carbon stock changes in the project area at year t; tCO ₂ e Note: If $\Delta CPSP_t$ represents a net increase in carbon stocks, a negative sign before the absolute value of $\Delta CPSP_t$ shall be used. If $\Delta CPSP_t$ represents a net decrease, the positive sign shall be used.
EBBPSP _t	Sum of (ex ante estimated) actual emissions from biomass burning in the project area at year t; tCO ₂ e
ΔCLK_t	Sum of ex ante estimated leakage net carbon stock changes at year t; tCO ₂ e Note: If the cumulative sum of ΔCLK_t within a fixed baseline period is > 0, ΔCLK_t shall be set to zero.
ELK _t	Sum of ex ante estimated leakage emissions at year t; tCO ₂ e
t	1, 2, 3 ... t, a year of the proposed project crediting period; dimensionless.

The number of Verified Carbon Units (VCUs) to be generated through the proposed AUD project activity at year t is calculated as follows:

$$VCUt = \Delta REDDt - VBCt$$

$$VBCt = (\Delta CBSLPAt - \Delta CPSPAt) * Rft$$

Where:

$VCUt$ Number of Verified Carbon Units that can be traded at time t ; t CO₂e

Note: If $VCUt < 0$ no credits (VCUs) will be awarded to the proponents of the AUD project activity.

$\Delta REDDt$ Ex ante estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t ; tCO₂e

$VBCt$ Number of Buffer Credits deposited in the VCS Buffer at time t ; t CO₂e

$\Delta CBSLPAt$ Sum of baseline carbon stock changes in the project area at year t ; tCO₂e

$\Delta CPSPAt$ Sum of ex ante estimated actual carbon stock changes in the project area at year t ; tCO₂e ha⁻¹

Rft Risk factor used to calculate VCS buffer credits; %

t 1, 2, 3 ... T , a year of the proposed project crediting period; dimensionless.

The Rft was estimated using the most recent version of the VCS-approved AFOLU Non-Permanence Risk Tool and the resulting value was 12%.

The estimates on the expected anthropogenic removals which are likely to be achieved by the envisioned forest conservation under the project scenario are in compliance with the applied VCS methodology and with the respective VCS requirements.

Data and parameter applied for the calculation of biomass are listed in the PD, the data and respective sources were reviewed by the audit team and found in compliance with requirements of the methodology.

Changes in carbon stocks of tree and non-tree biomass, non-CO₂ emissions due to biomass burning, leakage emissions equations and formulas were correctly applied and the stepwise approach was followed as per applied methodology.

The estimation of the total uncertainty of the REDD Project Activity was conducted in compliance with the VCS module by quantifying the uncertainty for the projection of baseline rate of deforestation as well as the estimation of stocks in carbon pools.

Over the first fixed baseline period of 30 years, total net anthropogenic removals of 16,053,622 tCO₂ are expected. The calculations of the net anthropogenic GHG removals were carried out in an Excel spreadsheet /2/ /3/. All calculations are following the applied VCS methodology and its corresponding tools. The steps of the calculations are fully traceable and adequate for the project conditions and considered correct by RINA team:

- All assumptions and data used by the project participants are listed in the PD, including their references and sources;
- All documentation used by project participants 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 VCS project activity;
- The baseline methodology has been applied correctly to calculate project emissions, baseline emissions, leakage and emission reductions;
- All estimates of the baseline emissions can be replicated using the data and parameter value provided in the PD.

3.4.7 Methodology Deviations

No methodology deviation was applied in the proposed REDD project activity.

3.4.8 Monitoring Plan

The monitoring plan is presented in section 5 of the joint PD&MR. All of the required data and parameters relevant to the validation as of the date of this report and verification are available and provided in section 5.3 of the PD. All of the monitoring equipment and procedures specified in the monitoring plan are applicable and eligible per VCS requirements and the requirements of the methodology.

Parameters available at the time of validation:

Data/parameter	Unit	Value applied	Assessment
CF - Default value of carbon fraction in biomass	tC/tdm	0.48	SILVA, Jéssika Luane. Danos florestais e estimativa da redução no estoque de carbono em áreas de manejo florestal sob concessão pública: Floresta Nacional do Jamari. 2014 /75/.
C _{totfcl} - Average carbon stock per hectare in	tCO ₂ e/ha	34.89	A weighted average of post-deforestation carbon stocks from

anthropic areas in equilibrium of post-deforestation class fcl in tCO ₂ e/ha			pasturelands, agriculture, secondary forest and other land uses /89//90/. The value for non-forest vegetation carbon stocks in equilibrium is conservative because it is based on several land-use types in the Amazon, including agriculture, pasturelands and secondary vegetation.
EI - Ex ante estimated effectiveness index	%	85	The Effectiveness Index has been established by assessing the activities carried out during the initial monitoring period, the planned activities yet to be implemented, and those suggested by literature as solutions to deforestation in the Amazon /102/. Following this evaluation, the PP has determined the index to be 85%. VVB acknowledges that an 85% index is a conservative estimate, aligning with the criteria set forth in VM0015.
DLF - Displacement Leakage Factor	%	0.71	Average of displaced leakage in all the MRs of REDD projects using the same methodology in Brazil. An assessment of 15 verified projects located in Brazil was conducted, comparing leakage due to displaced deforestation on baseline and project scenarios /02/.
Dm	g/cm ³	0.589	The values is referred from Nogueira(2008) /35/. The value was obtained from the Brazilian Amazon, where the project region is located. The value for the average of the density values for the Dense Alluvial Tropical Rainforest and Dense Tropical Rainforest, vegetation types that are logged through SFMP.
ΔCBSLLKt - Annual carbon stock changes	tCO ₂ e	0	The leakage prevention measures proposed by the present project do not include decrease in carbon stocks due

in leakage management areas in the baseline case at year t.			to activities implemented in the leakage management area /16/.
EBBBSLPAt – baseline non-CO2 emissions from forest fire at year t in the project area	tCO2e	16,081.61	Slash and burn deforestation to clear is carried out in the area, which is one of the main causes of deforestation and common practice in the project area. The default values for NCR, ER _{N20} , ER _{CH4} , GWP _{N20} , GWP _{CH4} and CE _{p,icl} are taken as per IPCC /36/.
Fburnt- Proportion of forest area burned during the historical reference period in the forest class icl	%	45	Considered default value from MCTI (Science, Technology and Innovation Ministry) /74/.
Pburnt – Average proportion of mass burnt in the carbon pool p in the forest class icl	%	78	For Pburnt, a value of 78% is considered, which is average of 72% to 84% from the Brazilian Amazon in Cerrado biome /44/.
LDF – Logging damage factor	m ³ /m ³ of harvested timber	2.0174	Is referred from Feldpausch et al. (2005) /38/ The mean Coarse woody debris returned to the soil as necromass following logging and damage in: (1) tree felling gap formation (trees killed by treefall), (2) residual canopy from the felled tree, (3) road, (4) deck construction (whole trees plowed to the ground) and (5) skid maneuvering during logging, is about 6.9 Mg C/ha. According to section 4.3 from same study, this

			represents 2.4 times the carbon taken off site in logs. However, the MR already takes into account as planned deforestation the roads and decks constructions, which represent around 16% of the total damage. Therefore, the LDF is $2.4 * (1 - 0,159) = 2.0174$. The validation team checked the ER spread sheets /02/ /03/ and the same is found to be consistent and acceptable.
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Parameters determined Ex-post

The monitoring parameters presented in section 5.2 of the joint PD & MR complies with the requirement of the applied methodology. The assessment team checked the parameters presented in the monitoring plan against the requirements of the methodology and corresponding tools. For the monitoring of carbon stock changes, the requirements and parameter listed as per methodology were followed. The relevant parameters that need to be monitored are listed in the PD as required by the methodology and corresponding modules.

Data and parameters monitored specific to the monitoring period

Data/parameter	Value					Frequency, measurement method and assessment
abicl - Average biomass stock per hectare in the aboveground biomass pool of initial forest class icl in Mg/ha	Vegetation	Reference Region	Project Area	Leakage Belt		Average values for the above-ground biomass were taken from the following study: SILVA, Jéssika Luane. Danos florestais e estimativa da redução no estoque de carbono em áreas de manejo florestal sob concessão pública: Floresta Nacional do Jamari. 2014. /75/.
		294.16	294.16	294.16		

bbicl - Average biomass stock per hectare in the belowground biomass pool of initial forest class icl in Mg/ha	<table><tr><td>Vegetation</td><td>Reference Region</td><td>Project Area</td><td>Leakage Belt</td></tr><tr><td></td><td>70.60</td><td>70.60</td><td>70.60</td></tr></table>				Vegetation	Reference Region	Project Area	Leakage Belt		70.60	70.60	70.60	Average values for the below-ground biomass were taken from the applied methodology VM0015 v1.1. A root-to-shoot ratio of 0.24 for tropical rainforest having above ground biomass values above 125 tons/ha, and 0.20 for values below 125 tons/ha has been considered, which is as per the methodology requirements.
	Vegetation	Reference Region	Project Area	Leakage Belt									
	70.60	70.60	70.60										
ACPA _t - Annual area within the Project Area affected by catastrophic events at year t in ha.	0			Monitored and recorded by means of Remote Sensing and GIS at the each catastrophic event. Also checked through multiple sources like INMET /68/, Periodic reports of area supervisor and INPE /70/. No such events noted in the monitoring period.									
ABSLLK _t - Annual area of deforestation within the leakage belt at year t in ha.	<table><tr><td>Year</td><td>ABSLLK_t</td></tr><tr><td>2019</td><td>144.42</td></tr><tr><td>2020</td><td>755.13</td></tr><tr><td>2021</td><td>834.80</td></tr></table>				Year	ABSLLK _t	2019	144.42	2020	755.13	2021	834.80	Monitored and recorded annually. Verification team checked the analysis of satellite images and shape files of the area deforested /61/.
Year	ABSLLK _t												
2019	144.42												
2020	755.13												
2021	834.80												
ABSLPA _t - Annual area of deforestation in the project area at year t in ha.	<table><tr><td>Year</td><td>ABSLPA_t</td></tr><tr><td>2019</td><td>4.56</td></tr><tr><td>2020</td><td>52.89</td></tr><tr><td>2021</td><td>66.14</td></tr></table>			Year	ABSLPA _t	2019	4.56	2020	52.89	2021	66.14	Monitored and recorded annually. Verification team checked the analysis of satellite images and shape files of the area deforested /61/.	
Year	ABSLPA _t												
2019	4.56												
2020	52.89												
2021	66.14												
ABSLRR _t - Annual area of	<table><tr><td>Year</td><td>ABSLRR_t</td></tr></table>			Year	ABSLRR _t	Monitored and recorded annually.							
Year	ABSLRR _t												

deforestation in the reference region at year t in ha.	<table><tr><td>2019</td><td colspan="4">3,812.99</td></tr><tr><td>2020</td><td colspan="4">19,936.48</td></tr><tr><td>2021</td><td colspan="4">24,943.32</td></tr></table>					2019	3,812.99				2020	19,936.48				2021	24,943.32				Verification team checked the analysis of satellite images and shape files of the area deforested /61/.									
2019	3,812.99																													
2020	19,936.48																													
2021	24,943.32																													
APDPA _{icl,t} – Areas of planned deforestation in forest class icl at year t in the project area in ha	<table><tr><td rowspan="2">Year</td><td colspan="4">APDPA_{icl,t}</td></tr><tr><td>Instance 1</td><td>Instance 2</td><td>Instance 3</td><td>Total</td></tr><tr><td>2019</td><td>17.77</td><td>0.00</td><td>0.00</td><td>17.77</td></tr><tr><td>2020</td><td>0.00</td><td>0.00</td><td>10.40</td><td>10.40</td></tr><tr><td>2021</td><td>35.50</td><td>0.00</td><td>0.00</td><td>35.50</td></tr></table>					Year	APDPA _{icl,t}				Instance 1	Instance 2	Instance 3	Total	2019	17.77	0.00	0.00	17.77	2020	0.00	0.00	10.40	10.40	2021	35.50	0.00	0.00	35.50	Checked against the GIS, remote sensing data and SFMP reports /34/, /79/ to /83/.
Year	APDPA _{icl,t}																													
	Instance 1	Instance 2	Instance 3	Total																										
2019	17.77	0.00	0.00	17.77																										
2020	0.00	0.00	10.40	10.40																										
2021	35.50	0.00	0.00	35.50																										
APLPA _{icl,t} – Areas of planned logging activities in forest class icl at year t in the project area in ha.	<table><tr><td rowspan="2">Year</td><td colspan="4">APLPA_{icl,t}</td></tr><tr><td>Instance 1</td><td>Instance 2</td><td>Instance 3</td><td>Total</td></tr><tr><td>2019</td><td>401.36</td><td>0.00</td><td>0.00</td><td>401.36</td></tr><tr><td>2020</td><td>2,098.53</td><td>0.00</td><td>123.68</td><td>2,222.22</td></tr><tr><td>2021</td><td>3,476.13</td><td>0.00</td><td>424.73</td><td>3,900.85</td></tr></table>					Year	APLPA _{icl,t}				Instance 1	Instance 2	Instance 3	Total	2019	401.36	0.00	0.00	401.36	2020	2,098.53	0.00	123.68	2,222.22	2021	3,476.13	0.00	424.73	3,900.85	The same was confirmed from SFMP reports /34/ /79/ to /83/.
Year	APLPA _{icl,t}																													
	Instance 1	Instance 2	Instance 3	Total																										
2019	401.36	0.00	0.00	401.36																										
2020	2,098.53	0.00	123.68	2,222.22																										
2021	3,476.13	0.00	424.73	3,900.85																										
AUDPA _{icl,t} – Areas of unplanned deforestation in forest class icl at year t in the project area in ha	<table><tr><td rowspan="2">Year</td><td colspan="4">AUDPA_{icl,t}</td></tr><tr><td>Instance 1</td><td>Instance 2</td><td>Instance 3</td><td>Total</td></tr><tr><td>2019</td><td>4.56</td><td>0.00</td><td>0.00</td><td>4.56</td></tr><tr><td>2020</td><td>23.85</td><td>5.70</td><td>23.34</td><td>52.89</td></tr><tr><td>2021</td><td>27.97</td><td>0.00</td><td>38.17</td><td>66.14</td></tr></table>					Year	AUDPA _{icl,t}				Instance 1	Instance 2	Instance 3	Total	2019	4.56	0.00	0.00	4.56	2020	23.85	5.70	23.34	52.89	2021	27.97	0.00	38.17	66.14	Monitored and recorded annually. Verification team checked the analysis of satellite images and shape files of the area deforested /61/.
Year	AUDPA _{icl,t}																													
	Instance 1	Instance 2	Instance 3	Total																										
2019	4.56	0.00	0.00	4.56																										
2020	23.85	5.70	23.34	52.89																										
2021	27.97	0.00	38.17	66.14																										
ΔCADLK _t - Total decrease in carbon stocks due to displaced deforestation at year t in tCO _{2e}	0					No deforestation activity noted in the leakage belt area. The same was confirmed from GIS and remote sensing data.																								
ΔCPAdPat - Total decrease in carbon stock due to all planned activities at year t in the project area in tCO _{2e} .	<table><tr><td>Year</td><td>ΔCPAdPat</td></tr><tr><td>2019</td><td>44,986</td></tr><tr><td>2020</td><td>18,699</td></tr><tr><td>2021</td><td>178,773</td></tr></table>					Year	ΔCPAdPat	2019	44,986	2020	18,699	2021	178,773	Decrease in carbon stock due to planned deforestation noted in the monitored period. The same was confirmed from GIS, remote sensing																
Year	ΔCPAdPat																													
2019	44,986																													
2020	18,699																													
2021	178,773																													

					data and SFMP reports /79/ to /83/.
ΔCPSLKt - Total annual carbon stock change in leakage management areas in the project case at year t in tCO2e	Year		ΔCPSLKt		Monitored and recorded annually. Verification team checked the analysis of satellite images /61/.
	2019		0.00		
	2020		0.00		
	2021		5.14		
ΔCUDdPA _t - Total actual carbon stock change due to unavaoided unplanned deforestation at year t in the project area in tCO2e	Year		ΔCUDdPA _t		Monitored and recorded annually. Verification team checked the analysis of satellite images and shape files of the area deforested /61/.
	2019		2,928.62		
	2020		33,955.11		
	2021		42,463.08		
EADLKt- Total ex post increase in GHG emissions due to displaced forest fires at year t in tCO2e	0				Monitoring and recording frequency is annual. No displaced forest fires noted in the leakage belt for the proposed monitoring period /85/.
EBBPSPAT - Sum of (or total) of actual non-CO2 emissions from forest fire at year t in the project area in tCO2e.	Year		EBBPSPAT		Monitored and recorded annually. Remote sensing data, GIS and Supervisor reports are used to records the forest fires /85/.
	2019		53.94		
	2020		625.38		
	2021		782.08		
EBB _{total} cl,t - Total GHG emission from biomass burning in forest class icl at year t in tCO2e/ha	Initial Forest Class		EBB _{total} cl t CO2e/ha		This parameter is calculated according to requirements and default values established by the VM0015 v1.1 methodology. Overlapping these fire outbreaks with the deforestation
	IDcl	Name	Baseline case	Project case	
	1	Open Tropical Rainforest (Forest)	11.82	11.82	

		mapping of the same time period, it was possible to verify the tendency of fire outbreaks being directly related to areas with recent and/or consolidated deforestation. The data on heat spot and deforestation is sourced from INPE /70/. For Pburnt, a value of 78% is considered, which is average of 72% to 84% from the Brazilian Amazon in Cerrado biome /44/.
EgLKt - Emissions from grazing animals in leakage management areas at year t in tCO ₂ e.	0	No grazing activities recorded in the proposed monitoring period. The same was confirmed by interviewing the stakeholders.
Hlicl,t – Harvesting intensity of timber in forest class icl at year t in the project area due to planned logging activities in m ³ /ha	Grupo ROVEMA: 8.81 Grupo Leite: 0 Grupo Tupá: 21.56	SFMP reports /79/ to /83/.
RFt - Risk factor used to calculate VCS buffer credits in %	12	Non permanence report checked with respective evidence for each section . The score for the proposed monitoring period is appropriate. More

		information on the same is provided in section 3.5
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RINA 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.

The monitoring procedures as defined in the PD and policies used for oversight and accountability of monitoring activities discussed in the PD were reviewed by the audit team on paper and through interviews with the relevant personnel /76/; this information together with a physical inspection allows the audit team to confirm that the proposed monitoring plan is feasible within the project design /1/. RINA team concludes that the PP is able to implement the monitoring plan to report verifiable ex-post GHG net anthropogenic removals.

3.5 Non-Permanence Risk Analysis

The proposed project “Rio Madeira Grouped REDD+ Project” in Brazil applied the “AFOLU Non-permanence risk tool” to assess the risk according to internal risk, external risk, natural risk, and mitigation measures for minimizing risk /13//14/. At all levels, the audit team evaluated the rationale, appropriateness, and justifications of risk ratings chosen by project proponent. The findings and conclusion regarding the non-permanence risk analysis undertaken for the project are summarized below for each risk category and factor. Unless noted otherwise, the audit team agrees with the conclusion stated in the non-permanence risk report.

1. Internal Risks

Project management		
Risk Factor	Validation Findings	Risk Rating
a)	The proposed project is a conservation project and no plantation activities are carried out in the project area. The same is as per the description provided in the PD. Thus condition /a/ is not applicable and risk score is justified.	0 Risk rating is appropriate.
b)	It is checked that no GHG credits have been issued previously. Further no ongoing enforcement is required to prevent encroachment by outside actors to protect more than 50% of carbon stocks. Noted that in the proposed monitoring period, there was an unplanned deforestation in the project area, which results to 0.50% of the total project areas. Thus, not applicable. Risk score is justified.	0 Risk rating is appropriate.

c)	The validation team confirms that the project personnel have the necessary skills to implement and successfully carry out the management activities. /d//e//f//g//aa/. Furthermore, Instance 2 has hired a consultancy for monitoring satellite images around the property /29/.	0 Risk rating is appropriate.
d)	The instances management team (respectively: Ledian Ghedin /f/, José Marcos Leite /u/, and Tulio Lemos /aa/) are fully involved in the project. It is checked that the time to access the project area takes couple of hours, which was confirmed by the GPS coordinates. The same was confirmed during the site visit (Section 2.4) and interviews with the project representatives.	0 Risk rating is appropriate.
e)	Management team doesn't have experience in AFOLU project design and implementation, carbon accounting and reporting.	0 Risk rating is appropriate.
f)	The proposed project also applies for Social Carbon Standard /16/, which includes, processes for monitoring progress and documenting lessons learned or corrections that may be needed". At the end of each monitoring period, an action plan will be carried out for improvements in the next period.	-2
	Total Project Management (PM) Total may be less than zero.	-2

Financial Viability (FV)		
Risk Factor	Validation Findings	Risk Rating
a)	Not applicable.	0
b)	Not applicable.	0
c)	Not applicable.	0
d)	The validation team checked three cashflows (one for each instance) /12/, which was further verified with evidence of revenues and costs, such as: Lease instrument for SFMP /72/, surveillance contract /63/, satellite monitoring service provision contract /29/, wood purchase and sale contract /71/. The validation team confirms that the project cash flow breakeven point is 6 years from the current risk assessment. The	0

	audit team discussed key details with the PP regarding the cash in and cash out used to create the cash flow in which it is demonstrated where the breakeven point is reached.	
e)	The project currently does not have available callable financial resources to cover the total cash out before the project reaches breakeven, therefore the most conservative score was applied at this risk rating.	3 Risk rating is appropriate.
f)	Not applicable.	0
g)	Not applicable.	0
h)	Not applicable.	0
i)	Not applicable.	0
	Financial Viability (FV) Total may not be less than zero.	3

Opportunity Cost (OC)		
Risk Factor	Validation Findings	Risk Rating
a)	Not applicable.	0
b)	Not applicable.	0
c)	Not applicable.	0
d)	Not applicable.	0
e)	Not applicable.	0
f)	The validation team checked three cashflows (one for each instance) /12/, which was further verified with evidence of revenues and costs, such as: Lease instrument for SFMP /72/, surveillance contract /63/, satellite monitoring service provision contract /29/, wood purchase and sale contract /71/. The validation team confirms NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity.	-4

g)	The PP is not a non-profit organization.	0
h)	A partnership agreement /31/ was signed between Future Carbon and landowners, on which it is stated that they must conserve the native areas. Grupo Tupá (Instance 3) has rented part of its land for Sustainable Forest Management Plan (SFMP) activities which are operated by a third company /34/.	-2
i)	Not applicable.	0
	Opportunity Cost (OC) Total may be less than zero.	-6

Project Longevity (PL)		
Risk Factor	Validation Findings	Risk Rating
a)	Not applicable.	0
b)	Landowners have a 30-year contract /31/ signed with Future Carbon, on which they must guarantee the native forest conservation within the project area. Furthermore, instance 3 has a 30-years contract for SFMP operations in its property, from 2017 to 31 st December 2047. /72/	15
	Total Project Longevity (PL) May not be less than zero.	15

2. External Risks

Land Tenure and Resource Access/Impacts (LT)		
Risk Factor	Validation Findings	Risk Rating
a)	The Audit team has checked the ownership and right of use documents. Grupo Leite: 1- Ana Maria Leite; 2- José Marcos Leite Junior; 3- Fabio Ricardo Leite; and 4- Leandro Luis Leite; Grupo ROVEMA: 1- Central	0

	Administração Participações S/S LTDA; 2- Fazenda Rio Madeira S/A – FARM; Grupo Tupá: 1- Companhia Agropecuária Tupã Ecológica; 2- Diogo Villela Lemos Baptista; 3- Luciana Villela Lemos Baptista da Costa; 4- Túlio Villela Lemos Baptista da Costa; 4- Inter-oceânica Hotelaria e Turismo Ltda. (“Owners”) own the conservation project also the owner of the land, who has the user right, which was checked and confirmed from the land titles /87/. Ownership and resource access/use rights are not held by different entity(s).	
b)	Not applicable.	0
c)	<i>In more than 5% of the project area, there exist disputes over land tenure or ownership</i> There are no disputes over land tenure or ownership of neither instances composing the project area./87/ /88/	0
d)	<i>There exist disputes over access/use rights (or overlapping rights)</i> Within the project area, there are no disputes regarding access rights, use of land and associated resources. Moreover, the resource rights and land tenure of the property are recognized by the States of Rondônia and Amazonas, as well as by the environmental entities /87/	0
e)	Not applicable.	0
f)	As discussed above the project is protected by legally binding commitment /31/ to continue management practices that protect carbon stocks.	-2
g)	The proposed project also applies for Social Carbon Standard /16/. which uses six indicators to monitor social, environmental and other aspects of the project, and track their progress across time. At the end of each monitoring period, an action plan will be carried out for improvements in the next period. Therefore, the relevant mitigation score was applied here.	-2
	Total Land Tenure (LT) May not be less than zero.	0

Community engagement (CE)		
Risk Factor	Validation Findings	Risk Rating
a)	It is checked during the site inspections and interviews that there are no living communities within the project area	0
b)	It has been checked that there are 5 communities living close to the project area and all the 5 communities were consulted.	0
c)	Not applicable.	0
	Community engagement (CE) Total may be less than zero.	0

Political Risk (PR)		
Risk Factor	Validation Findings	Risk Rating
a)	Not applicable.	0
b)	Not applicable.	0
c)	The audit team confirmed that the 5 years (2016- 2020) mean governance score for Brazil across the six governance indicators of World Bank Institute's Worldwide Governance Indicators is -0.20 /39/. Therefore, agrees that the political risk is 2.	2
d)	Not applicable.	0
e)	Not applicable.	0
f)	The project area is located in the State of Rondônia (instances 1 and 2) and Amazonas (instance 3). The States participate in the Governors' Climate and Forest Taskforce (GCF) /40/.	-2 Risk rating is appropriate.
	Total Political Risk (PC) Total may not be less than zero.	0

3. Natural Risks

Risk Factor	Validation Findings	Risk Rating
F	The analysis was based on data from the Brazilian National Institute of Space Research, INPE /70/, with satellite images (from PRODES) and records of possible fire outbreaks. Between October 2009 and October 2019, only 68 heat spots were identified within the project area, 4 of them were considered minimum risk, 11 of them were considered low risk, 5 as medium risk, 35 high risk and 13 as critical risk. According to the monitoring report carried out by the third-party GIS team /85/. During the monitored period, 36 heat spots were identified within the project area. From the detailed analysis it was verified that most of the outbreaks detected occurred in areas that had already been deforested or in areas that did not generate forest loss and only a few fires caused forest loss. Considering the fire out breaks in the last 5 years, the likelihood of fires was put to less than 10 years. Mitigation: 1.00	2
PD	It is checked that the pests and diseases do not increase their population, as the environment does not favor the expansion of these agents, which was confirmed from the study “Alternatives for a sustainable agriculture – 2018” /41/. The project area is covered by 100% Amazon Rainforest; therefore, this system in equilibrium reduces the significance of pest and disease outbreaks. Thus , a likelihood of once every 50 to less than 100 years is being considered. Mitigation: 1.00	0 Risk rating is appropriate.
W	The significance of blow-down winds was determined using a search of the BDMEP (Meteorological Database for Research and Education) platform, created by the INMET (Meteorological National Institute) /68/. In the database of Rio Branco Station, from 2009 to 2019, the wind	1 Risk rating is appropriate.

	speed has never exceeded 6.33 m/s, which is significantly below the wind speed for the categories of tropical storm or hurricane /69/. Referring to scientific data and publications, it is unlikely that the region may affect from extreme weather conditions. Consequently, a likelihood of every 10 to 25 years is confirmed for all extreme weather events. Mitigation: 1.00	
G	No geological events damaging the project site were reported by the landowner. No events noticed in the monitoring period. Thus, a likelihood of once every 50 to less than 100 years is being considered. Hence a mitigation factor of 1.00 is reasonable.	0
ON	No other sources of natural risk were identified.	0
	Total Natural Risk (as applicable, F + PD + W + G + ON)	3

The overall non-permanence risk rating that was determined for the project, using below Table is 12.

Risk Category	Rating
a) Internal Risk	9.00
b) External Risk	0.00
c) Natural Risk	3.00
Overall Risk Rating (a + b + c)	12

In accordance with the VCS Non-Permanence Risk Tool, the overall score shall be rounded up to the nearest whole percentage, and the minimum risk rating shall be 10, regardless of the risk rating calculated.

In summary, the overall risk rating that was determined for the project, in accordance with the VCS Non-Permanence Risk Tool, is 12%. The audit team has concluded that the above risk rating is in conformance with the VCS rules.

4 VERIFICATION FINDINGS

4.1 Accuracy of GHG Emission Reduction and Removal Calculations

Forest benchmark maps of the reference region, project area, and leakage belt and factor maps were derived from GIS files and remote sensing imagery prepared by the project developer /01/. RINA validated and verified these maps by comparison with the imagery they were digitized from. These maps were used to derive the parameters related to the quantity of land use and Land cover change observed.

- Annual area of baseline deforestation in the reference region, project region, and leakage belt at year t; (parameters ABSLRR, ABSLPA, ABSLLK) RINA reviewed remote sensing data /61/.to confirm that classification had been carried out appropriately. Inputs to spatial models /61/. and resulting maps /85//86/ were reviewed to ensure that modelling was carried as described by the methodology. Land title documents /87/ were reviewed to ensure that the project area was appropriately represented in GIS models. Spreadsheets implementing methodology equations /02//03/ were reviewed to check for computational errors.
- Carbon stocks in forest class in the project area was validated based on the published and reliable studies /75//73/, reviewing spreadsheet calculations made by the project proponents /02//03/;
- Parameters CF, ER_{N2O}, ER_{CH4}, GWP_{N2O}, GWP_{CH4} and CE_{p,icl} were taken from the IPCC good practice guidance and Silva study. RINA team cross checked the documents /36/ /75/ to ensure the correct values had been applied.
- The parameters Fburnt and Pburnt were derived from the INPE and /70/ a study from the Brazilian Amazon in Cerrado vegetation /44/. RINA checked the calculations used to derive these parameters.
- The parameters DLF (based on the default value as per the VCS standard) and EI are ex-ante assumption made by the project developer, which are based on the similar projects validated and verified and based on a comparison of activities implemented in project instances and what the literature suggests /02/.

Measurement frequency and assessment of each data/parameter is also discussed in detail in section 3.4.8.

The equations/formulas used in the baseline emissions, project emissions and leakage emission calculations are detailed in section 3.4.6.

The PP submitted emission reduction calculations and other supporting calculations in excel sheets. The excel sheets are clear, un-protected and easily viewable. The calculation in the excel sheet is verified and found be correct. The methods and formulae set out in the project description for calculating baseline emissions, project emissions and leakage are correctly followed in the monitoring report and ER calculation sheet. All the values are provided in the MR and ER calculation sheet are cross verified with its sources and confirmed no manual transposition errors between data sets have occurred. Also the consistency of values within MR is checked and found to be satisfactory. Hence verification team conclude that the GHG emission

reductions and removals have been quantified correctly in accordance with the project description and applied methodology.

4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

RINA has performed the validation and the verification of the REDD project “Rio Madeira Grouped REDD+ Project” and has verified that the project is in compliance with the Verified Carbon Standard version 4.4 and VCS Validation and Verification Manual v 3.2. The project is located in Brazil and avoid the unplanned deforestation (AUD) of a subsection of the 34,681.91 ha project area.

The validation and verification process were performed on the basis of all issues and criteria of VCS. The conclusions of this report show that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation and verification.

The verification assessment covered the monitoring period from 23-October-2019 to 31-December-2021 and verified that calculated emission reductions and/or removals were achieved during the monitoring period with a reasonable level of assurance.

RINA is able to issue a positive verification opinion for the 1,256,609 tCO₂ as reported in the Joint project description and monitoring report Monitoring Report for the reporting period from 23-October-2019 to 31-December-2021.

Verification period: 23-October-2019 to 31-December-2021.

5 VALIDATION AND VERIFICATION OPINION

RINA has performed the validation and the verification of the REDD project “Rio Madeira Grouped REDD+ Project” and has verified that the project is in compliance with the Verified Carbon Standard version 04 and VCS Validation and Verification Manual v 3.2 and ISO 14064-3:2019. The project is located in Brazil and avoid the unplanned deforestation (AUD) of a subsection of the 34,681.91 ha project area.

The validation and verification process were performed on the basis of all issues and criteria of VCS. The conclusions of this report show that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation and verification. The VVB confirms that the project has been implemented in accordance with the project description.

The audit team concludes, with reasonable assurance, that the quantification of the net GHG removals, during the verification period, is free of material misstatement and complies with the verification criteria.

RINA is able to issue a positive verification opinion for the 1,256,609 tCO₂e as reported in the Joint project description and monitoring report Monitoring Report for the reporting period from 23-October-2019 to 31-December-2021

Verification period: 23-October-2019 to 31-December-2021

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
From 23 rd October to 31 st December 2019	55,580
2020	460,913
2021	594,206
2022	656,308
2023	703,283
2024	732,854
2025	777,139
2026	803,302
2027	837,224
2028	856,872
2029	865,756
2030	877,307
2031	841,934
2032	793,737
2033	734,684
2034	683,224
2035	655,122
2036	595,078
2037	527,588
2038	489,592
2039	432,001
2040	393,332

2041	338,016
2042	290,753
2043	256,939
2044	213,219
2045	182,600
2046	144,629
2047	116,803
2048	96,711
From January 1 st to October 22 nd 2049	46,916
Total estimated ERs	16,053,622
Total number of crediting years	30
Average annual ERs	535,121

Year	Baseline emissions or removals (tCO ₂ e)	Project emissions or removals (tCO ₂ e)	Leakage emissions (tCO ₂ e)	Net GHG emission reductions or removals (tCO ₂ e)	Buffer pool allocation	VCUs eligible for issuance
Year 2019 (23-October- 2019– 31- December- 2019)	90,598	47,611	33	42,955	4,927	38,028
Year 2020	729,064	51,051	0	678,013	79,531	598,482
Year 2021	918,763	216,691	5	702,067	81,968	620,099
Total	1,738,426	315,352	38	1,423,035	166,426	1,256,609

Year	Ex-ante emissions reductions/removals	Achieved emissions reductions/removals	Percent difference	Justification for the difference
Year 2019 (23-October-2019–31-December-2019)	47,481	38,028	-19.91%	The period had a total reduction in carbon stock greater than estimated due to the greater concentration of logging activities in these months.
Year 2020	394,100	598,482	51.86%	Project emissions were lower than estimated due to lower logging activities, and no leakage occurred.
Year 2021	508,381	620,099	21.97%	Leakage occurred much lower than estimated.
Total	949,962	1.256.609	32,28%	The leakage occurred during the monitoring period much lower than estimated.

6 APPENDIX: ABBREVIATIONS

Abbreviations	Full texts
ARR	Afforestation, Reforestation, Revegetation
BE	Baseline Emissions
CAR	Corrective Action Request
CDM	Clean Development Mechanism
CDM M&P	Modalities and Procedures CDM
CER(s)	Certified Emission Reduction(s)
CH ₄	Methane
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
CR	Clarification Request
DNA	Designated National Authority
DOE	Designated Operational Entity
EB	Executive Board
ER	Emission Reductions
ESMS	Environmental and Social Management System
FAR	Forward Action Request
GHG(s)	Greenhouse gas(es)
GWP	Global Warming Potential
IPCC	Intergovernmental Panel on Climate Change
LoA	Letter of Approval
MoV	Means of Verification
MR	Monitoring Report
NGO	Non-governmental Organization
ODA	Official Development Assistance
PD	Project Design
PE	Project Emission
PP(s)	Project Participant(s)
PPA	Power Purchase Agreement
Ref.	Document Reference
SS(s)	Sectoral Scope(s)
TA(s)	Technical Area(s)
UNFCCC	United Nations Framework Convention on Climate Change
VVB	Validation and Verification Body
VVS	Validation and Verification Standard

APPENDIX 2 : CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS AND FORWARD ACTION REQUEST

Table 1.CR from this validation/verification

CR ID	1	Section no.	3.1	Date: 05/01/2023
Description of CR				
For the ownership analysis the following issues need to be clarified: Grupo Leite (Titles 591, 592 and 593) 1. -the real state records (CERTIDAO INTEIRO TEOR DA MATRICULA) provided are outdated, from July 2021. Please, provide the updated ones. 2. -please, provide the annexes of the email sent with the IBAMA certificates explanation. It was sent an e-mail in pdf and attachments were not provided 3. Regarding the CAR (Cadastro Ambiental Rural), please, clarify the pending issues (and the status of the resolution of the pending issues) 4. -It was not provided Clearance Certificate (Certidão de débito emitida pelo IBAMA e da Autoridade Ambiental Estadual (Débitos e Autos de Infração) in the name of the owners (Ana Maria Leite, Leandro Luis Leite and Jose Marcos Leite Junior) 5. -It was not provided the negative certificate issued by the State Prosecutors Office from State of Rondônia (CERTIDAO NEGATIVA DO MINISTÉRIO PÚBLICO ESTADUAL-Rondônia) Grupo Tupá (titles 1686; 2054; 1201; 1202; 1922; 1921) 6. The real state records (CERTIDAO INTEIRO TEOR DA MATRICULA) provided are outdated, from March 2022. Please, provide the updated ones. 7. -the CCIR (Rural Property Registry) from 2022 were not provided 8. In registration no. 1,202 (Labrea – AM) “Fazenda Seringal Rio Novo” – A rural lease of an area of 1,594,0000 hectares was identified, in favor of Lessee S.T. Manejo de Florestas Ltda., for a period of 25 years, starting on 03/23/2004. Please, provide the contract to clarify the following: (i) if the leased area is part of the project area; and (ii) if there is a contractual provision in this contract that provides for the ownership of carbon credits in this area.				

9. Regarding the CAR (Cadastro Ambiental Rural), please, clarify the pending issues (and the status of the resolution of the pending issues)
10. -It was not provided Clearance Certificate (Certidão de débito emitida pelo IBAMA e da Autoridade Ambiental Estadual (Débitos e Autos de Infração) in the name of the owners
11. -It was not provided the negative certificate issued by the State Prosecutors (CERTIDAO NEGATIVA DO MINISTÉRIO PÚBLICO ESTADUAL)
12. -It was not provided the Certificates issued by the State Court of Justice (certidões de distribuição atualizadas em nomes dos proprietários (Local do Imóvel)).

Grupo Rovema (land titles 5674; 7509; 9793; 9794; 9795; 23477, 23479)

13. The real state records (CERTIDAO INTEIRO TEOR DA MATRICULA) provided are outdated, from December 2021 (only the n.23.479 is updated). Please, provide the updated ones.
14. -Regarding the Certificate issued by the relevant Real Estate Registry Office with the complete chain of domain (CADEIA DOMINIAL) its transfer from Public Domain to Private:

Number 5674: It was provided the chain of domain certificate for this property issued by the Real Estate Registry of Porto Velho - State of Rondônia of 2022/09/12 and dating back 1985/02/20. However, it wasn't informed the record n. 3.474, book 3, to ensure the transfer from public to private.

Number 23.477: It was provided the chain of domain certificate for this property issued by the Real Estate Registry of Porto Velho - State of Rondônia of 2022/09/12 and dating back 1976/05/18. However, it wasn't informed the record n. 3.374, to ensure the transfer from public to private.

Number 23.479: It was provided the chain of domain certificate for this property issued by the Real Estate Registry of Porto Velho - State of Rondônia of 2022/09/12 and dating back 1975/06/30. However, it wasn't informed the record n. 2.145, to ensure the transfer from public to private.

15. -It was not provided the CCIR (Rural Property Registry) from 2022 for the land title 7509 (Fazenda Rio Madeira). Moreover, please, provide the receipt of payment for the land titles 5674; 9793; 9794; 9795; 23477.
16. -it was not identified Geodesic Survey approved by INCRA for the land titles n. 9793, n. 9794, n. 9795 and n. 23479
17. -It was not provided Clearance Certificate (Certidão de débito emitida pelo IBAMA e da Autoridade Ambiental Estadual (Débitos e Autos de Infração) in the name of the owners
18. -It was not provided the updated negative certificate issued by the State Prosecutors (CERTIDAO NEGATIVA DO MINISTÉRIO PÚBLICO ESTADUAL)
19. -It was not provided the Certificates issued by the State Court of Justice (certidões de distribuição atualizadas em nomes dos proprietários (Local do Imóvel)).

Project participant response

Date: 10/February/2023

Gupo Leite:

- . 1. Documents were shared with VVB team
2. The documents that were attached in the email sent as justification was shared with VVB team
3. Documents were shared with VVB team
4. Documents were shared with VVB team
5. Documents were shared with VVB team

Grupo Tupá

6. Documents were shared with VVB team
7. Documents were shared with VVB team
8. The leasing contract was cancelled and evidence was shared with VVB team
9. Evidence with justification were shared with VVB team
10. Documents were shared with VVB team
11. Documents were shared with VVB team
12. Documents were shared with VVB team

Grupo Rovema

13. Documents were shared with VVB team
14. Documents were shared with VVB team
15. Documents were shared with VVB team
16. Documents were shared with VVB team
17. Documents were shared with VVB team
18. Documents were shared with VVB team
19. Documents were shared with VVB team

PP 2nd response (14/03/2023)

Documents sent to the VVB

Documentation provided by project participant

Grupo Leite:

1. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/2 – Leite/CERTIDÕES DE INTEIRO TEOR

File names: 1. INTEIRO TEOR – 591.pdf; 1. INTEIRO TEOR – 592.pdf; 1. INTEIRO TEOR – 593.pdf

2. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/2 – Leite/ANEXOS ENVIADOS POR E-MAIL

File names: Auto de infração e termo de embargo.pdf;Decisão que homologou o ANPP.pdf;Defesa-Leandro - IBAMA.pdf;Pagamento ANPP.pdf;Pedido de Homologação + ANPP (Leandro e Carlos).pdf;Termo de Compromisso Ambiental TCA - PRA - Carlos.pdf

3. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/2 – Leite/ESCLARECIMENTOS CARs

File names: 3. ESCLARECIMENTOS CARs.pdf

4. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/2 – Leite/CERTIDÃO DO IBAMA

File names: 4. CERTIDÃO DO IBAMA - ANA MARIA.pdf; 4. CERTIDÃO DO IBAMA - FABIO..pdf; 4. CERTIDÃO DO IBAMA - JOSE MARCOS..pdf; 4. CERTIDÃO DO IBAMA - LEANDRO..pdf

5. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/2 – Leite/CERTIDÃO DO MINISTERIO PUBLICO ESTADUAL

File names: 5 - CERTIDAO DO MINISTERIO PUBLICO ESTADUAL - ANA.pdf; 5 - CERTIDAO DO MINISTERIO PUBLICO ESTADUAL - FABIO.pdf; 5 - CERTIDAO DO MINISTERIO PUBLICO ESTADUAL - JOSE MARCOS..pdf; 5 - CERTIDAO DO MINISTERIO PUBLICO ESTADUAL - LEANDRO..pdf

Grupo Tupá

6. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/3 – Tupa/CERTIDÕES DE INTEIRO TEOR

File names: 6. INTEIRO TEOR – 1921.pdf; 6. INTEIRO TEOR – 2054.pdf; 6. INTEIRO TEOR – 1202.pdf; 6. INTEIRO TEOR – 1201.pdf; 6. INTEIRO TEOR – 1686.pdf; 6. INTEIRO TEOR – 1922.pdf

7. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/3 – Tupa/CCIR

File names: 7. CCIR FAZENDA FRONTEIRA.pdf; 7.1. CCIR RIO NOVO PARTE A.pdf; 7.2. CCIR RIO NOVO PARTE B.pdf; 7.3. CCIR IRACEMA II.pdf; 7.4. CCIR IRACEMA.pdf; 7.5. CCIR BELEZA.pdf

8. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/3 – Tupa/RECISÃO – ST MANEJO/ 8. RECISAO ST MANEJO.pdf

9. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/3 – Tupa/ JUSTIFICATIVA – CAR/ 9. JUSTIFICATIVAS CAR.pdf

10. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/3 – Tupa/ CERTIFICADO IBAMA

File names: 10. 1. CERTIFICADO IBAMA.pdf; 10. 2. CERTIFICADO IBAMA.pdf; 10. CERTIFICADO IBAMA.pdf

11. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/3 – Tupa/ CERTIDÃO MPE

File names: 11. CERTIDAO MP.pdf; 11.1. CERTIDAO MP.pdf; 11.2. CERTIDAO MP.pdf; 11.3. CERTIDAO MP.pdf; 11.4. CERTIDAO MP.pdf

12. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/3 – Tupa/ CERTIDÃO DO DISTRIBUIDOR ESTADUAL

File names: 12.1. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.1. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.3. CERTIDAO DO DISTRIBUIDOR (1).pdf; 12.1.3. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.6. CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.7 CERTIDAO DO DISTRIBUIDOR.pdf; 12.1.9 CERTIDAO DO DISTRIBUIDOR.pdf; 12.3. CERTIDAO DO DISTRIBUIDOR.pdf; 12.4. CERTIDAO DO DISTRIBUIDOR.pdf; 12.5. CERTIDAO DO DISTRIBUIDOR.pdf; 12.8. CERTIDAO DO DISTRIBUIDOR.pdf

Grupo Rovema

13. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/1 – Rovema/CERTIDÃO DE INTEIRO TEOR

Files names: 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 5674.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 7509.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 9793.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 9794.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 9795.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 23477.pdf; 13 - CERTIDAO DE INTEIRO TEOR DA MATRICULA 23479.pdf

14. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/1 – Rovema/CADEIA DOMINIAL

Files names: 14- CERTIDAO DE CADEIA DOMINIAL 3474.pdf; 14. CERTIDAO DE CADEIA DOMINIAL 2145.pdf; 14. CERTIDAO DE CADEIA DOMINIAL 3374.pdf

15. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/1 – Rovema/CCIR

Files names: 15 - CCIR 7509.pdf; 15 - CCIR MATRICULA 23477 - LOTE 41 B.pdf; 15 - CCIR MATRICULAS 5674, 9793, 9794 E 9795 - LOTES 42 43A, 62, 62A e 61B.pdf

16. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/1 – Rovema/GEO

Files names: 16 - GEO - n. 9793, n. 9794, n. 9795.pdf; 16 - GEO - 23479.9888.pdf

17. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/1 – Rovema/IBAMA

Files names: 17 - CERTIDAO IBAMA - CENTRAL ADMINISTRAÇÃO.pdf; 17 - CERTIDAO IBAMA - FARM.pdf; 17 - CERTIDAO IBAMA - FARM.2.pdf

18. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/1 – Rovema/MINISTERIO PUBLICO ESTADUAL

Files names: 18 - CERTIDAO DO MP - CENTRAL ADMINISTRAÇÃO.pdf; 18 - CERTIDAO DO MP - FAZENDA RIO MADEIRA.pdf

19. Uploaded to: REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 1/1 – Rovema/CERTIDAO DOS DISTRIBUIDORES

Files names: 19 - CERTIDAO NEGATIVA CIVEL E CRIMINAL - CENTRAL.pdf; 19 - CERTIDAO NEGATIVA CIVEL E CRIMINAL - FARM.pdf

PP 2nd response (14/03/2023)

Documents sent to VVB:

CADEIA DOMINIAL – 23476.pdf

CADEIA DOMINIAL - 23478].pdf

Certidão de cadeia dominial de matrícula 2145 - Pedido 95943-Assinado.pdf

Certidão de cadeia dominial de matrícula 3374 - Pedido 95938-Assinado.pdf

Certidão de cadeia dominial de matrícula 9888 - Pedido 95943-Assinado.pdf

Certidão de cadeia dominial de matrícula 15124 - Pedido 95943-Assinado.pdf

CERTIDÃO DE DEBÍTO IBAMA – INTEROCEANICA.pdf

CERTIDÃO DE DEBÍTO IBAMA – LUCIANA.pdf

Certidão de débitos tributários matrícula 23.479.pdf

Certidão Ministério Público Estadual - FAZENDA RIO MADEIRA.pdf

Certidão Minsitério Público Estadual - CENTRAL ADMINISTRAÇÃO.pdf

Matrícula 508 - Certidão de cadeia dominial - Serra Verde.pdf

Matrícula 608 - Certidão de cadeia dominial - Serra Verde.pdf

VVB assessment	Date: 14/03/2023
Grupo Leite Documents were provided. This item is closed Grupo Tupá It was not provided the negative certificate debit on IBAMA in the name of the Luciana Villela Lemos Baptista da Costa and the in name of the owners of Inter-oceânica Hotelaria e Turismo Ltda. Grupo Rovema (i) Certificate issued by the relevant Real Estate Registry Office with the complete chain of domain (CADEIA DOMINIAL) its transfer from Public Domain to Private: title n. 23.477 it wasn't informed the record n. 15.124 book 2, and the eventual predecessors real estate titles to ensure the transfer from public to private//tile n. 23479 it wasn't informed the record n. 508, book 2, and the eventual predecessors real estate titles, to ensure the transfer from public to private. (ii) It is pending the ITR Debt Clearance Certificate of the tile nº nº 23.479 (iii) it was not provided the Certificates issued by the State Prosecutors Office of the owners of Central Administração e Participações e Fazenda Rio Madeira S.A This CR remains open RINA 2nd response (22/03/2023) Missing documents were provided. This CR is closed	

CR ID	2	Section no.	1.8	Date: 05/01/2023
Description of CR				

Project Start Date	
1. PP is requested to clarify the starting date of Instance 1- Grupo Rovema and provide evidences in accordance with the definitions of the VCS Standard. 2. PP is requested to provide the evidences to confirm when the security services have been started/implemented to confirm the start date of the Instance 2-Grupo Leite is in accordance with definitions of the VCS standard (receipts provided are from October and November 2021). 3. The starting date of the Instance 3 (Grupo Tupá) is not correctly described in the PD. 4. Starting date of each instance is not coherent through the Joint Project Description & Monitoring Report 1) 5. in the table 1 “grouped Project eligibility criteria” there are some inconsistent information for Instance 2 and 3, for start date and instance number.	
Project participant response	Date: 10/February/2023
1. The starting date of Instance 1-Grupo Rovema was clarified in the VCS PD section 1.8. Evidences has also been provided in accordance with the definitions of the VCS Standard. 2. The PSD is characterized by satellite image monitoring services that started on 08-January-2020. Evidences will be shared to VVB team. 3. The starting date has been corrected in the VCS PD version 2. 4. The starting date has been corrected for each instance in the VCS PD version 2. 5. The table 1 “grouped Project eligibility criteria” has been corrected.	
Documentation provided by project participant	
1. pós-Draft/CR 2/Grupo Rovema/CONTRATO SSM 23-10-2019.PDF 2. pós-Draft/CR 2/Grupo Leite/Contrato_Prestação de Serviços de Monitoramento_8012020.pdf and REDD/Rio Madeira Grouped REDD+ Project/pós-Draft/CR 2/Grupo Leite/Fazenda Santa Carmem - Cartas Imagem Monitoramento 2020 For other topics, no additional evidence were shared with VVB team.	
VVB assessment	Date: 06/03/2023
1- PP has presented the contract between Fazenda Rio Madeira and S.S.M – Serviços de Segurança Eireli for patrolling routine, signed on 23/10/2019. PP has also provided the receipt of payment for services performed on October 2019 Recibo_ROVEMA_PSD). This item is closed 2-PP has presented the contract and satellite images to confirm the PSD. This item is closed 3-RINA verified that starting date was correctly revised in accordance with the evidences presented. This item is closed 4-RINA verified that the PD was correctly revised. This item is closed 5-RINA verified that the PD was correctly revised. This item is closed	

CR ID	3	Section no.	2.1	Date: 05/01/2023
Description of CR				
No Net Harm 1. PP is requested to detail the conflict management methods that will be applied in the project activity. The SCR describes that there are no actions related to conflict management in the areas of the companies and there is no foreseen improvement.				
Project participant response				Date: 10/February/2023
1. There are plans to develop conflict management procedures. Such plans are described as foreseen improvements in the indicator 4 (conflict management) and were better detailed in section 2 of the VCS PD version 2 according to VCS Standard v4.4 items 3.18.19.				
Documentation provided by project participant				
No additional evidences related to this topic.				
VVB assessment				Date: 15/03/2023
RINA verified that the SCR report was revised and includes in the Perspective: "The foreseen improvements are establishing and documenting conflict management procedures, including internal communication, amicably resolutions, and authorities enforcement such as police and/or legal system if necessary", to be implemented in 2023. This CR is closed				

CR ID	4	Section no.	2.2	Date: 05/01/2023
Description of CR				
Local stakeholder consultation 1. From the AR receipts, it is not possible to confirm that all stakeholders listed in the PD were invited to comment in the project activity. 2. The resolution of the invitation letter included in the PD is not good (not readable) 3. PP is requested to detail in the PD the local stakeholder consultation conducted, the comments received and how comments were addressed. 4. The communication channel is not available/described in the PD/MR.				
Project participant response				Date: 10/February/2023

1. Stakeholders list was updated in the PD version 2 according to the available AR receipts. 2. Resolution of the invitation letter was improved in the Joint PD version 2. 3. Local stakeholder consultation minutes was included in the PD version 2, which includes consultation participants, comments, and expectations about the AUD project. 4. Communication channel was detailed in the Joint PD version 2.	
Documentation provided by project participant	
Not applicable. No additional documentation was provided regarding this CR.	
VVB assessment	Date: 22/03/2023
1. The stakeholder list has been updated in line with AR receipts. 2. OK (The resolution of the invitation letter is readable). 3. Is detailed in the PD the local stakeholder consultation conducted with the ongoing communication method. 4. The communication channel has been described and is available in the PD. This CR is closed	

CR ID	5	Section no.	3.2	Date: 05/01/2023
Description of CR				
Applicability of Methodology				
1. Applicability condition b): According to the table in section 3.2 of the PD, all instances have a sustainable forest management plan. However, according to interviews with project proponents, the instance 2 does not have a SFMP. PP is requested to correct the same. 2. Applicability condition b): Despite the table in section 3.2 of the PD stating that the project activities fall within eligibility categories A or B, after interviews with PP, it was identified that there are instances that include logging in the baseline case (category C or D). 3. PP is requested to provide evidence that none of the instances of this grouped project maintain regions grows on peat.				
Project participant response				Date: 10/February/2023
1. Table on section 3.2 was corrected in the VCS PD version 2 regarding the SFMP activities 2. Table on section 3.2 was corrected in the VCS PD version 2 regarding the eligibility categories 3. It was added information of such requirement in sections 1.3 and 3.3, item project area in the second version of the VCS PD.				

<i>Documentation provided by project participant</i>	
No additional documents were shared with VVB team.	
VVB assessment	Date: 22/03/2023
1. Table on section 3.2 was corrected accordingly regarding SFMP activities. 2. Table on section 3.2 was corrected accordingly eligibility categories. 3. The evidence has been provided and is satisfactory. The VCS PD has been updated correctly. This CR is closed.	

CR ID	6	Section no.	3.3	Date: 05/01/2023
<i>Description of CR</i>				
Project Boundary Spatial Boundaries - Figure 19: The reference area on the map is not updated. - It is not clear from section 3.3 of the PD how the Leakage Management Areas were defined according to existing management plans or other plans related to the proposed AUD project activity. As per the methodology the boundary of such areas must be defined according to existing management plans or other plans related to the proposed AUD project activity. Such plans shall be made available to the VCS Validation/Verification Body (VVB) at the time of validation. - As per the methodology the boundary of such areas must be defined according to existing management plans or other plans related to the proposed AUD project activity. Such plans shall be made available to the VCS Validation/Verification Body (VVB) at the time of validation. Carbon pools - Although Table 6 presents the Above-ground Non-tree carbon pool as included, it is not clear how the carbon stock of this pool was estimated. PP is requested to clarify. Sources of GHG Emissions - Clarify how N2O is considered significant, when in Table 4 of VM0015 states to exclude because it is considered an insignificant source according to VCS Program Update of May 24th, 2010.				
<i>Project participant response</i>				Date: 10/February/2023

1. Figures were updated in the entire VCS PD version 2 regarding the updated reference region and project area.
2. Project landowners developed a formal plan which details plans regarding leakage management. The plan was mentioned in the section 3.3 in the VCS PD version 2 and was shared with VVB team.
3. Please see topic 2
4. According to the adopted carbon stock study developed by Silva (2014), non-trees were excluded in the above ground biomass carbon pools. Such information was emphasized in the section 4.1 of the VCS PD version 2
5. Although VM0015 Table 4 informs N2O can be insignificant, the section 6.2 also informs how to calculate N2O baseline emissions due to biomass burning, which occurs during the slash and burn process. The calculation provided at spreadsheets follows what is established at VM0015 methodology, section 6.2.

Documentation provided by project participant

2. pós-Draft/CR 6/PLANO DE IMPLEMENTAÇÃO DE ATIVIDADES SOCIOAMBIENTAIS.pdf
 3. Please see topic 2.
- Other topics: Not applicable. No additional documentation was provided to VVB team.

VVB assessment

Date: 22/03/2023

1. The Figure (nº 23 in PD version 02) was updated accordingly.
 2. The leakage management plan has been made available and is satisfactory. The Section 3.3 in the VCS PD v.2 was updated accordingly.
 3. The leakage management plan has been made available and is satisfactory.
 4. It is now clear that the Above ground Non-Tree carbon pool has been excluded from the project boundary. Table 06 has been corrected accordingly
 5. The inclusion of N2O as a GHG in the baseline has been clarified and the VVB considers it satisfactory.
- This CR is closed.

CR ID	7	Section no.	3.4	Date: 05/01/2023
Description of CR				

Baseline Scenario

1. PP is requested to provide evidence of the criteria for defining the boundaries of identified vegetation classes (SIVAM official classification).
2. PP is requested to provide Conservation Units shapefiles.
3. According to the methodology, the factor maps are based on the analysis of step 3 and step 4.1, identifying the spatial variables that most likely explain the patterns of baseline deforestation in the reference region. However, it is not clear how the spatial variables slope and altitude (factor maps Id 6 and 7) were justified in steps 3 and 4.1.

Project participant response

Date: 10/February/2023

1. Criteria for defining vegetation classes were added in the VCS PD version 2 section 3.3.
2. Conservation Units shapefiles were shared with VVB team.
3. Slope and altitude were included as deforestation drivers in section 3.4 in the VCS PD version 2.

Documentation provided by project participant

1. No additional evidence were shared with VVB team regarding this topic.
2. pós-Draft/CR 7/UCs_Rio_Madeira.zip
3. No additional evidence was shared with VVB team regarding this topic

VVB assessment

Date: 22/03/2023

1. criteria for unambiguous boundary definition in Table 11 has been updated and is satisfactory.
 2. The shapefiles have been made available and are satisfactory.
 3. Step 3 and 4.1 have been updated and now include slope and altitude.
- This CR is closed.

CR ID	8	Section no.	4	Date: 05/01/2023
Description of CR				
1 Fburnt must be updated and its sources provided. 2. PP is requested to provide evidence of the areas of planned logging activities ($APLPA_{icl,t}$) 3. PP is requested to provide the Instance 1 SFMP. 4. PP is requested to correct the the message "Error! Reference source not found" through the PD.				
Project participant response				Date: 10/February/2023

1. Fburnt was updated on the VCS PD version 2
2. Areas of logging activities are available at the Operational Exploitation Plan (POE), which will be shared with VVB team. Specific ($APLPA_{ic,t}$) data is also available at VCUs PD Spreadsheet, tab 25b.
3. Document will be shared with VVB team
4. Error message was corrected in the VCS PD v2

PP 2nd response (22/03/2023)

1. Areas of logging at instance 1 were corrected at PD Spreadsheet, tab 25b, version03.

Documentation provided by project participant

2. pós-Draft/CR 8/CR 8 2/ pós-Draft/CR 8/CR 8 2/ POE_Tupa.pdf
3. pós-Draft/CR 8/CR 8 3/ SFMP_ROVEMA.pdf

VVB assessment

Date: 22/03/2023

1. Fburnt was updated and the sources have been made available and are satisfactory.
2. In sheet 'Table 25b' of the 'VCS-PD Calculation_RioMadeira_v02.xlsx' spreadsheet the Total forest management area of the Grupo Rovema considers the value 20,232.25 ha, However, according to the SFMP provided, the total forest management area is 13,961.9694 ha. PP is requested to clarify the same and to make the appropriate corrections, if necessary. This item is still open.
3. PP has provided the SFMP.
4. VCS PD v2 was revised.

This CR remains open

VVB 2nd response (02/05/2023)

SFMP Reports with areas of planned logging activities ($APLPA_{ic,t}$) have been provided and are satisfactory.

This CR is closed.

CR ID	9	Section no.	Non-Permanence Risk Report	Date: 05/01/2023
Description of CR				
Project Management				
1. PP is requested to provide evidence that the management team include individuals with significant experience in all skills necessary to successfully undertake all project activities (i.e., any area of required experience is covered by at least one individual with at least 5 years' experience in the area).				

Financial Viability

2. The breakeven point analysis did not consider the characteristic of each Instance included in the grouped project

Opportunity Cost

3. The NPV analysis did not consider the characteristic of each Instance included in the grouped project.

Project Longevity

4. PP is requested to provide the contract for SFMP operations in instance 3 property, from 2017 to 31st December 2047.

Community engagement

5. c) According to AFOLU Non-Permanence Risk Tool, PP shall demonstrate that a current participatory assessment of the positive and negative impacts of the project activities on the local communities who derive livelihoods from the project area has been completed and demonstrates net positive benefits on the social and economic well-being of these communities. A participatory assessment is considered current where it is completed at least five years prior to the risk analysis. PP is requested to provide evidence for the same.

Fire

6. PP is requested to provide evidence of the heat spots identified within the project area between October 2009 and October 2019.

Extreme Weather

7. PP is requested to provide evidence of the average maximum wind speed the nearest to the project area from 2009 to 2019.

Project participant response

Date: 10/February/2023

1. Mini bio of management team was included in the Non permanence risk report version 2, including instances representatives and Contractors related to the AUD project.
2. Spreadsheets, logging contracts, and cost evidence for each instance were shared with VVB team. These spreadsheets include buffer and financial additionality.
3. Please see topic 2
4. SFMP Contract was uploaded for the VVB team.
5. There are no communities living withing the project area or who derive livelihoods from the project area
6. Kmz files with yearly heat spots were shared with VVB team. In addition, summarized spreadsheet was added at the same path

Documentation provided by project participant

1. No additional evidences were shared with VVB team regarding this topic
2. Spreadsheets, logging contracts, and cost evidence for each instance were included in the following path: pós-Draft/CR 9/CR 9 2, where there is a folder for each instance
3. Please see topic 2
4. pós-Draft/CR 9/CR 9 2/ INSTRUMENTO PARTICULAR DE ARRENDAMENTO RURAL PAR FIS DE EXPLORACAO FLORESTAL.pdf
5. No additional evidences were shared with VVB team regarding this topic
6. pós-Draft/CR 9/CR 9 6. 11 kmz with the names: PA_BDQueimadas_2009 to 2019.kmz; and the spreadsheet: RiskFactor_Fire_RioMadeira.xls

VVB assessment

Date: 22/03/2023

1. The section Project management of the NPRR was updated accordingly.
 2. The updated breakeven point analysis consider the characteristic of each Instance included in the grouped project. The documents have been made available and are satisfactory.
 3. The updated NPV analysis consider the characteristic of each Instance included in the grouped project. The documents have been made available and are satisfactory.
 4. The SFMP Contract has been made available and is satisfactory.
 5. It was clarified that no community lives within the project and therefore the risk rating was set to zero.
 6. The documents have been made available and are satisfactory. The NPRR was updated accordingly.
 7. The documents have been made available and are satisfactory. The NPRR was updated accordingly.
- This CR is closed.

CR ID

10

Section no.

Project VCS page

Date: 05/01/2023

Description of CR

PP listed in the PD is Future Forest (Future Carbon Consultoria e Projetos Florestais LTDA), however, VERRA project page lists Carbon Asset (Carbon Asset Management Projetos Ambientais LTDA as PP.

Project participant response

Date: 10/February/2023

PP was updated in the VCS PD version 2. Please note the supporting documents for PP updating are in the VERRA registry platform.

Documentation provided by project participant

No additional evidence was shared with VVB team. Documents that support PP update is available at the project page in the following VERRA registry website: <https://registry.verra.org/app/projectDetail/VCS/2878>

VVB assessment	Date: 22/03/2023
The PD was updated accordingly. This CR is closed.	

Table 2. CAR from this validation/verification

CAR ID	1	Section no.	3.4.3	Date: 05/01/2023
Description of CAR				
- During the site visit, it was identified that the project area of instance 3 was overlapping the area of the neighboring property. PP is requested to correct the same and make necessary adjustments to the PD&MR and ER spreadsheet and provide evidence. - Due to the revision of properties from instance 1, all information regarding the project area must be updated, (including maps, tables, ER spreadsheet, etc.).				
Project participant response				Date: 10/February/2023
- Project area was updated accordingly. - Spreadsheets were updated as per new project areas and monitoring reports				
Documentation provided by project participant				
- The updated project area is available at several documents: VCS PD, VCU's spreadsheets, and Non permanence risk reports, available at VCS PD: pós-Draft/Versão 02/ Joint PD / VCS-Joint-PD_RioMadeiraREDDProject_v02.pdf VCUs Spreadsheet: pós-Draft/Versão 02/ Joint PD / VCS-PD Calculation_RioMadeira_v02.xls and VCS MR Calculation RioMadeira_v02.xls Non permanence risk report: pós-Draft/Versão 02/Non Permanence Risk Report / VCS-Non-Permanence-Risk-Report_RioMadeiraGroupedProject_Joint PD-MR_v2.pdf - pós-Draft/Versão 02/ Joint PD / VCS-PD Calculation_RioMadeira_v02.xls and VCS MR Calculation RioMadeira_v02.xls				
VVB assessment				Date: 22/03/2023
- The area of instance 3 has been revised and new shapefiles have been provided. - All information from instance 1 was reviewed in the project documents according to the evidence. This CAR is closed.				

Table 3. FAR from this validation/verification

<i>FAR ID</i>	1	<i>Section no.</i>	1.7	<i>Date:</i> 05/05/2023
<i>Description of FAR</i>				
FAR 1: (i) For the next monitoring period it should be verified the status of the titles, including the mortgages (ii) As some CARs of farms included in the project activity are pending approval/update in the CAR system (Grupo ROVEMA and Grupo Tupá), it should be confirmed the status in the next verification				
<i>Project participant response</i>				<i>Date:</i> dd/mm/yyyy
<i>Documentation provided by project participant</i>				
<i>VVB assessment</i>				<i>Date:</i> dd/mm/yyyy

Joint Validation & Verification Report: VCS Version 4.2

FAR ID	2	Section no.	1.11	Date: 23/10/2023
Description of FAR				
FAR 2: 1. As the jurisdictional REDD+ strategy is still in development in the states where the Rio Madeira project is located, the PP must ensure that these strategies are monitored and that the risk of double counting is assessed in the next monitoring period.				
Project participant response				Date: dd/mm/yyyy
Documentation provided by project participant				
VVB assessment				Date: dd/mm/yyyy

FAR ID	3	Section no.	1.11	Date: 22/01/2024
Description of FAR				
FAR 3: 1. For the upcoming verification, it is imperative that the Project Proponent presents, to the subsequent Verification and Validation Body (VVB), the agreements or procedures relating to project governance that will be implemented within the framework of the project outlined in Section 1.11 of Joint PD & MR, version 07, dated January 10, 2024.				
Project participant response				Date: dd/mm/yyyy
Documentation provided by project participant				
VVB assessment				Date: dd/mm/yyyy

FAR ID	4	Section no.	5.1	Date: 20/04/2024
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<i>Description of FAR</i>	
FAR 4: 1. Considering that in section 5.1 of the Joint PD and MR, a 20% discount was applied to quantify future deforestation within the Project Area and Leakage Belt, aiming to overcome the limitations of stratifying deforestation occurring inside and outside legal reserves, and that this factor does not follow guidance established by VM0015, it will be necessary for the next verification to reassess the discount factor to ensure it remains conservative and/or to evaluate if there are alternative approaches within new versions of validated REDD methodologies that could replace this factor.	
<i>Project participant response</i>	<i>Date: dd/mm/yyyy</i>
<i>Documentation provided by project participant</i>	
<i>VVB assessment</i>	<i>Date: dd/mm/yyyy</i>



CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI*
QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Thais De Lima Carvalho

è qualificato come:
is qualified as:

TEC, VAL, VER, TL, ITRP

per le seguenti aree tecniche:
for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORIAL SCOPE
1.1	Thermal energy generation	1
1.2	Renewables	1
2.1	Electricity distribution	2
13.1	Solid waste and wastewater	13

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template (this certificate is linked to CDM qualification)

Responsabile di schema
Scheme Leader
Rita Valeroso



*SCHEMI VOLONTARI/ VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, GS Gold Standard, JI Joint Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert; VAL: Validator; VER: Verifier; TL: Team leader; FIN EXP: Financial Expert; ITRP: Independent technical reviewer

RINA Services S.p.A. è accreditato/ricosciuto da
RINA Services S.p.A. is accredited/recognized by

UNFCCC	quali Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects
VCSA	per condurre la Validazione e la Verifica di Progetti VCS to carry out Validation and Verification of VCS Projects
GS Foundation	per condurre la Validazione e la Verifica di Progetti GS to carry out Validation and Verification of GS Projects
Ecologica Institute	per condurre la Validazione e la Verifica di rapporti SCS to carry out Validation and Verification of SCS Reports
American Carbon Registry ACR	per condurre la Validazione e la Verifica di Progetti ACR to carry out Validation and Verification of ACR projects
The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects

GHG_QUAL_CERT_EN_07_16 Voluntary(Certificate)

Page 1 of 1



CERTIFICATO DI QUALIFICA PER GLI SCHEMI VOLONTARI*
QUALIFICATION CERTIFICATE FOR VOLUNTARY SCHEMES*

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Cyril Augustus Arokiasamy Amalorpavanathan

è qualificato come:
is qualified as:

TEC, VAL, VER, TL, Local Expert, ITRP

per le seguenti aree tecniche:
for the following technical areas:

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
1.1	Thermal energy generation	1
1.2	Renewables	1
3.1	Energy Demand	3
5.1	Chemical Industry	5
13.1	Solid Waste and wastewater	13

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	19/07/2016	First issue with new template (this certificate is linked to CDM qualification)
2	09/10/2017	Qualification update as ITRP

Responsabile di schema
Scheme Leader
Laura SEVERINO



*SCHEMI VOLONTARI/ VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, GS Gold Standard, JI Joint Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert, VAL: Validator, VER: Verifier, TL: Team leader, FIN EXP: Financial Expert, ITRP: Independent technical reviewer

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GS Foundation	per condurre la Validazione e la Verifica di Progetti GS to carry out Validation and Verification of GS Projects
Ecologica Institute	per condurre la Validazione e la Verifica di rapporti SCS to carry out Validation and Verification of SCS Reports
American Carbon Registry ACR	per condurre la Validazione e la Verifica di Progetti ACR to carry out Validation and Verification of ACR projects
The Climate, Community & Biodiversity Alliance CCB	per condurre la Validazione e la Verifica di Progetti co-benefit CCB to carry out Validation and Verification of co-benefit CCB projects



CERTIFICATO DI QUALIFICA
QUALIFICATION CERTIFICATE

Si attesta che il sig.: Gustavo BAESSO
We declare that Mr.: _____

è qualificato come¹: TEC
is qualified as: _____

nello schema²: VCS - CCB
for the scheme: _____

per le seguenti aree tecniche: 14.1
for the following technical areas: _____

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
14.1	Afforestation and reforestation	14

in accordo alle istruzioni dell'Unità responsabile (OU) per sostenibilità & cambiamenti climatici.
in accordance with the instructions of the responsible unit (OU) for the sustainability & climate change.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	23.03.2023	First Issue

Il Responsabile di schema
Scheme Manager



¹	VAL: Validator	²	CDM: Clean Development Mechanism
	VER: Verifier		VCS: Verified Carbon Standard
	TEC: Technical Expert		GS&GG: Gold Standard for Global Goals
	TL: Team Leader		SCS: Social Carbon Standard
	FIN-EXP: Financial Expert		Ji: Joint Implementation
	REG-EXP: Regional Expert		ISO14064-2: International standard 14064 part 2
	IR: Independent Reviewer		VER: Upstream Emission Reduction
	DET: Determiner		CCB: The Climate, Community & Biodiversity Alliance

² Turkey

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RINA Services S.p.A. is accredited by the UNFCCC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the ISO Foundation, to carry out Validation and Verification of ISO-14064 Projects and by the Exchange Institute, to carry out Validation and Verification of SCS Projects.

GHQ_QUAL_CERT_EN(06-2021)

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CERTIFICATO DI QUALIFICA QUALIFICATION CERTIFICATE

Si attesta che il sig./sig.ra:
We declare that Mr/Mrs/Ms:

Gustavo GOES LIMA

è qualificato come:
is qualified as:

TL¹ – VAL – VER – TEC – REG-EXP²

nello schema:
for the scheme:

CDM – JI – VCS – SCS – CCB – UER – ISO14064-2

per le seguenti aree tecniche:
for the following technical areas:

14.1

AREE TECNICHE TECHNICAL AREAS	DESCRIZIONE DELL'AREA TECNICA TECHNICAL AREA DESCRIPTION	SCOPO SETTORIALE SECTORAL SCOPE
14.1	Afforestation and reforestation	14

in accordo alle istruzioni dell'Unità responsabile (OU) per sostenibilità & cambiamenti climatici.
in accordance with the instructions of the responsible unit (OU) for the sustainability & climate change.

REVISIONE REVISION	DATA DATE	MOTIVAZIONI PER LA REVISIONE REASON FOR THE REVISION
0	26/05/2021	First Issue
3	11/05/2022	Updated with VAL-VER for CDM and JI

Il Resp. OU
Head of OU



Legend

VAL:	Validator	CDM:	Clean Development Mechanism
VER:	Verifier	VCS:	Verified Carbon Standard
TEC:	Technical Expert	GS4GG:	Gold Standard for Global Goals
TL:	Team Leader	SCS:	Social Carbon Standard
FIN-EXP:	Financial Expert	JI:	Joint Implementation
REG-EXP:	Regional Expert	ISO14064-2:	International standard 14064 part 2
ITR:	Independent Reviewer	UER:	Upstream Emission Reduction
DET:	Determiner	CCB:	The Climate, Community & Biodiversity Alliance

Notes

- 1 – Not for CDM and JI
2 – In the following countries: Brazil, France

RINA Services S.p.A. è accreditata da UNIFOCOC, quale Entità Operativa Designata (DOE), per condurre la Validazione e la Verifica di Progetti CDM, da VCSA per condurre la Validazione e la Verifica di Progetti VCS, da ISO Foundation, per condurre la Validazione e la Verifica di Progetti GS, da Ecologica Institute per condurre la Validazione e la Verifica di Progetti SCS.
RINA Services S.p.A. is accredited by the UNIFOCOC, as Designated Operational Entity (DOE), to carry out Validation and Verification of CDM Projects, by the VCSA, to carry out Validation and Verification of VCS Projects, by the ISO Foundation, to carry out Validation and Verification of GS4GG Projects and by the Ecologica Institute, to carry out Validation and Verification of SCS Reports.

GHG_QUAL_CERT_EN(06-2021)

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