

## VALIDATION REPORT OF THE AGROCORTEX REDD PROJECT



RINA SERVICES SpA

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|----------------------|-------------------------|
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**Summary:**

RINA Services S.p.A. (RINA) was commissioned by Agrocorrex Madeiras do Acre Agroflorestal Ltda, to validate the project activity "Agrocorrex REDD Project" in Brazil.

The purpose of the Validation is to confirm that the Agrocorrex REDD Project and all related project documentation are in accordance with all rules and requirements of the VCS.

The VCS Standard v3.7, VCS AFOLU v3.6, the applied GHG methodology "Methodology for Avoided Unplanned Deforestation (VM0015)", version 1.1 and its associated tools as well as the VCS Non-Permanence Risk and VT0001 "Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" v3 are the criteria used to validate the Project.

The Agrocorrex REDD Project primary objective is to avoid the unplanned deforestation (AUD) of the 186,219.06 ha project area, consisting of 100% Amazon rainforest via a Sustainable Forest Management Plan certified by FSC, by VCS and by Social Carbon. The project area is located within a private property named "Fazenda Seringal Novo Macapá", which is situated in the municipalities of Manoel Urbano, Pauini and Boca do Acre, in the States of Acre and Amazonas, South-western Amazon.

Ten Corrective Action Requests (CARs) and 9 Clarification Requests (CLs) were raised and successfully addressed by the PPs during the validation. A summary of these findings are included in Table 2 of Appendix A of this report.

In conclusion, it is RINA's opinion that the project activity "Agrocorrex REDD Project REDD Project" in Brazil, meets all relevant requirements for VCS standard and guidelines and correctly applies the methodology VCS VM0015 Methodology for Avoided Unplanned Deforestation v1.1 of 03/12/2012 for the calculation of baseline, for determining additionality and to monitor emission reductions through its entire crediting period between 01/07/2014 to 30/06/2044.

## Abbreviations

|                   |                                                                                                                                                                   |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AFOLU             | Agriculture, Forestry and Other Land Use                                                                                                                          |
| APU               | Annual Productive Unit                                                                                                                                            |
| AUD               | Avoided Unplanned Deforestation                                                                                                                                   |
| AUTEX             | Authorisation for the Exploration of Sustainable Forest Management Plan (from the Portuguese Autorização para Exploração de Plano de Manejo Florestal Sustentado) |
| CAR               | Corrective Action Request                                                                                                                                         |
| CENSIPAM          | (Management and Operational Centre of the Amazon Protection System, from the Portuguese Centro Gestor e Operacional do Sistema de Proteção da Amazônia)           |
| CL                | Clarification Request                                                                                                                                             |
| CO <sub>2</sub>   | Carbon Dioxide                                                                                                                                                    |
| CO <sub>2</sub> e | Carbon dioxide equivalent                                                                                                                                         |
| GHG               | Greenhouse Gas                                                                                                                                                    |
| I                 | Interview                                                                                                                                                         |
| IBGE              | Brazilian Instituto of Geografy and Statistics (from the portuguese Instituto Brasileiro de Geografia e Estatística)                                              |
| IPCC              | Intergovernmental Panel on Climate Change                                                                                                                         |
| PA                | Project Area                                                                                                                                                      |
| PD                | Project Description                                                                                                                                               |
| PP                | Project Proponent                                                                                                                                                 |
| NTFPs             | Non-Timber Forest Products                                                                                                                                        |
| LKB               | Leakage Belt                                                                                                                                                      |
| REDD              | Reduced Emissions from Deforestation and Degradation                                                                                                              |
| RR                | Reference Region                                                                                                                                                  |
| SFMP              | Sustainable Forest Management Plan                                                                                                                                |
| VCS               | Verified Carbon Standard                                                                                                                                          |
| VCUs              | Voluntary Carbon Units                                                                                                                                            |

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## **1 INTRODUCTION**

### **1.1 Objective**

The validation is a requirement for all VCS projects. Its objective is to verify the accuracy of the information about the project design in the PD. It is an independent third party assessment of the project design in particular, the project's baseline, the monitoring plan, and the project's compliance with relevant VCS criteria which are validated in order to confirm that the project design, as documented, is reasonable, and meets the stated requirements and identified criteria.

The purpose of the Validation Report is to confirm that the Agrocorrex REDD Project and all related project documentation are in accordance with all rules and requirements of the VCS Standard v3.7 /50/, VCS AFOLU v3.6 /7/, the applied GHG methodology "Methodology for Avoided Unplanned Deforestation (VM0015)", version 1.1 /6/ and its associated tools.

### **1.2 Scope and Criteria**

The criteria for validation are the rules and requirements of the VCS Standard v.3.7 /50/ and VCS AFOLU v3.6 /7/. The VCS-PD applies the approved VCS methodology "Methodology for Avoided Unplanned Deforestation (VM0015)", Version 1.1 /6/. Also, the VCS Non-Permanence Risk /3/ and VT0001 "Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" v3 /8/ are additional criteria for the project.

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

### **1.3 Level of Assurance**

The Validation Statement is made to a reasonable level of assurance and a materiality threshold of 5% is applied for identification of material omissions, as required by VCS v3.7 paragraph 5.3.1 item 4. In order to comply with the requirements of VCS v3.7 the validation shall be carried out selecting data and evidence to provide a reasonable level of assurance as stated in the VCS v3.7 paragraph 5.3.1 item 1.

The draft final validation report before being submitted to the client were subjected to an independent internal technical review to confirm that all verification activities had been completed according to the pertinent RINA instructions, with reasonable level of assurance. The technical review was performed by a technical reviewer(s) qualified in accordance with RINA's qualification scheme for VCS and CDM validation and verification.

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

| Role                                          | Last Name   | First Name | Country |
|-----------------------------------------------|-------------|------------|---------|
| Lead Assessor, Validator and Technical Expert | C. Beck     | Talita     | Brazil  |
| Technical reviewer                            | Principe S. | Geisa M.   | Brazil  |
| Technical reviewer - Expert                   | Menon       | Rekha      | India   |

## 1.4 Summary Description of the Project

The primary objective of the Agrocorrex REDD Project is to avoid the unplanned deforestation (AUD) of the 186,219.06 ha project area, consisting of 100% Amazon rainforest. The project area is located within a private property named “Fazenda Seringal Novo Macapá” /5/, which is situated in the municipalities of Manoel Urbano, Pauini and Boca do Acre, in the States of Acre and Amazonas, South-western Amazon.

The project proponent is Agrocorrex Madeiras do Acre Agroflorestal Ltda. The proponent manages the aforementioned forest area in order to extract timber for commercialisation under a SFMP. Agrocorrex started the sustainable forest management operations in June/2014, which defines the project start date because the activity resulted in a type of land use which will reduce GHG emissions. Project start date is the 2nd of June 2014 /21/ when Agrocorrex obtained its first authorization from IBAMA (the Brazilian Environment Agency) to sustainably harvest the first annual productive unit (APU) since Agrocorrex Madeiras do Acre Agroflorestal Ltda. became responsible for the SFMP operations and REDD with Batisflor Florestal Ltda /30/.

## 2 VALIDATION PROCESS

### 2.1 Method and Criteria

Validation was conducted using RINA procedures in line with the requirements specified in the VCS Standard v3.7 /50/, VCS AFOLU v3.6 /7/, the applied GHG methodology “Methodology for Avoided Unplanned Deforestation (VM0015)”, version 1.1 /6/ and its associated tools as well as applying standard auditing techniques.

The validation consisted of the following three phases:

- Document review;
- Follow-up actions like site inspections and interviews;
- The resolution of outstanding issues and the issuance of the final validation report.

The following sections outline each step in more detail.

### 2.2 Document Review

The VCS Project Description /1/ submitted by Ecológica Assessoria and additional background documents related to the project design and baseline, i.e. VCS Project Description Template, Approved

VCS methodology, Validation Requirements, scientific literature and country law were reviewed. To address RINA's corrective action requests and clarification requests, Ecológica revised the Project Description and the last version 3 /1/ was submitted to the validation team on 10/11/2017 when all findings were closed. All documents were reviewed under the requirements of the related VCS Methodology, tools and VCS Standard v3.7 rules.

All documents reviewed are referenced throughout the validation report as well as Appendix A The Validation Protocol and Table 2 with the Validation Findings.

Below is a list of documents that were reviewed during the validation:

- /1/ Ecológica VCS Project Description Agroctx REED Project version 01.1 of 14/07/2017
- Ecológica VCS Project Description Agroctx REED Project version 02 of 12/10/2017
- Ecológica VCS Project Description Agroctx REED Project version 03 of 10/11/2017
- Ecológica VCS Project Description Agroctx REED Project version 04 of 07/12/2017
- Ecológica VCS Project Description Agroctx REED Project version 05 of 12/03/2018;
- /2/ Ecológica VCS PD Calculation Agroctx REDD Project version 01.1 of 14/07/2017
- Ecológica VCS PD Calculation Agroctx REDD Project version 02 of 12/10/2017
- Ecológica VCS PD Calculation Agroctx REDD Project version 03 of 10/11/2017
- Ecológica VCS PD Calculation Agroctx REDD Project version 04 of 07/12/2017
- Ecológica VCS PD Calculation Agroctx REDD Project version 05 of 12/03/2018;
- /3/ Ecológica VCS Non-Permanence Risk Report Agroctx REDD Project v1.1 of 14/07/2017
- Ecológica VCS Non-Permanence Risk Report Agroctx REDD Project v02 of 12/10/2017
- Ecológica VCS Non-Permanence Risk Report Agroctx REDD Project v03 of 10/11/2017
- Ecológica VCS Non-Permanence Risk Report Agroctx REDD Project v03.1 of 07/12/2017
- Ecológica VCS Non-Permanence Risk Report Agroctx REDD Project v04 of 12/03/2018
- /4/ Agência Verde: Elaboration of the Baseline and Simulation of the Agroctx REDD Project: Final Report (from the Portuguese *Elaboração da Linha de Base e Simulação do Projeto REDD Agroctx: Relatório Final*) of 27/07/2017;
- /5/ Certificate of Domain Chain, República Federativa do Brasil, Tabelionato de Notas, Protesto de Títulos, Registro Civil das Pessoas Naturais, de Imóveis, de Títulos e Documentos e das Pessoas Jurídicas. Manoel Urbano 04/12/2015;
- /6/ VCS VM0015 Methodology for Avoided Unplanned Deforestation v1.1 of 03/12/2012 (pdf file);
- /7/ AFOLU Requirements, v3.6 of 21/06/2017 (pdf file);
- /8/ VCS VT0001 "Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" v3.6 of 21/06/2017
- /9/ VCS Guidance for Standardized Methods v3.3;
- /10/ VCS Validation and Verification Manual v3.2 of 19/10/2016;
- /11/ VCS Project Description Template V.3.3;
- /12/ VCS Program Guide – Requirement documents v3.7 of 21/06/2017;
- /13/ FUNAI - National Foundation of Indigenous People (from the Portuguese Fundação Nacional do Índio) <http://mapas2.funai.gov.br/i3geo/interface/openlayers.htm?797d90baefb5ebcf07007c78a5842b28>;
- /14/ Agência Verde VCS PD Calculation\_AGROCORTEX REDD Project\_Vfinal\_PA\_RR\_LB. .xlsx of 13/07/2017 (email from Agencia Verde to Ecológica date).
- /15/ Ipam (Institute of Environmental Research of the Amazon, from the Portuguese Instituto de Pesquisa Ambiental da Amazônia) in AC24hrs of 02/01/2017 <https://www.ac24horas.com/2017/01/02/no-acre-34-das-derrubadas-ilegais-ocorreram-em-areas-registradas-no-car/> last accessed on 01/10/2017;
- /16/ The Purus Project [http://www.vcsprojectdatabase.org/#/project\\_details/963](http://www.vcsprojectdatabase.org/#/project_details/963) last accessed 12/12/2017
- /17/ Accuracy assessments of land use change simulation based on Markov cellular automata model.
- /18/ Private Instrument of Third Amendment to the Purchase and Sale Agreement (from the Portuguese Instrumento Particular de Terceiro Aditamento ao Contrato de Compra e Venda de Quotas) dated 27/12/2016;

- /19/ Cashflow CO2\_v3 of 14/07/2017  
 Cashflow CO2\_v4 of 12/10/2017  
 Cashflow CO2\_v5 of 12/03/2018;
- /20/ GERFLOR, 2010/2012/2015/2016 POA – Annual Operational Plan (from the Portuguese Plano Operacional Anual);
- /21/ IBAMA; 2014/2015/2016/2017 AUTEX – Authorisation for the Exploration of Sustainable Forest Management Plan (from the Portuguese Autorização para Exploração de Plano de Manejo Florestal Sustentado)
- /22/ GERFLOR, 2010. Plano de Manejo Florestal Sustentado. Fazenda Seringal Novo Macapá (pdf file);
- /23/ Nogueira, E. 2008. Densidade de Madeira e Alometria de Árvores em Florestas do 'Arco do Desmatamento': Implicações para Biomassa e Emissão de Carbono a Partir de Mudanças de Uso da Terra na Amazônia Brasileira (pdf file) (Wood density and Allometry of Trees in the Forests 'Arc of Deforestation': Implications for Biomass and Carbon Emissions from Land Use Change in the Brazilian Amazon);
- /24/ SALIMON et al. Estimating state-wide biomass carbon stocks for a REDD plan in Acre\_2011 (pdf file);
- /25/ MCTI, 2016. Terceira Comunicação Nacional do Brasil à Convenção-Quadro das Nações Unidas sobre Mudança do Clima – Volume I/;
- /26/ Simulação do Crescimento das Áreas Antropizadas utilizando cadeia de Markov e Automata Celular em Ambiente SIG (pdf file) (Simulation of the Growth Areas disturbed using Cellular Automata and Markov chain in GIS Environment)
- /27/ Razera, Allan. Dinâmica do desmatamento em uma nova fronteira do sul do Amazonas: uma análise da pecuária de corte no município do Apuí. 2005. 109 f. Thesis (Master grade) - Curso de Biologia, Universidade Federal do Amazonas - UFAM, Amazônia, 2005
- /28/ IBGE - The Brazilian Institute for Geography and Statistics: Agricultural Census (2006). Available at: Feijó: <https://cidades.ibge.gov.br/brasil/ac/feijo/pesquisa/24/27745> ; Manoel Urbano: <https://cidades.ibge.gov.br/brasil/ac/manoel-urbano/pesquisa/24/27745> ; Sena Madureira: <https://cidades.ibge.gov.br/brasil/ac/sena-madureira/pesquisa/24/27745> ; Boca do Acre: <https://cidades.ibge.gov.br/brasil/am/boca-do-acre/pesquisa/24/27745> ; Pauini: <https://cidades.ibge.gov.br/brasil/am/pauini/pesquisa/24/27745> .Last accessed 27/10/2017
- /29/ 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 4, Agriculture, Forestry and Other Land Use;
- /30/ Private Partnership Instrument for Mixed Rural Agricultural, Agroindustrial and Extractive Exploitation (from the Portuguese Instrumento Particular de Parceria Rural Mista para exploração agrícola, agroindustrial e extrativista ) dated 17/04/2014
- /31/ Comparativo Estimado volume 4R e 7xls 29/07/2017 in internal email from Luis Garcia Forestry Operations Director;
- /32/ Planejamento da Safra.xls;
- /33/ Bulletin of prices of wood in the Amazon July 2010 (from the Portuguese Boletim de Preços da Madeira na Amazonia)  
[http://imazon.org.br/PDFimazon/Portugues/precos%20da%20madeira/Precos\\_10.pdf](http://imazon.org.br/PDFimazon/Portugues/precos%20da%20madeira/Precos_10.pdf), last accessed 02/10/2017
- /34/ Bamboo Ecologic Letter of Interest 08/06/2016
- /35/ International FSC page <http://info.fsc.org/certificate.php>, last accessed on 03/10/2017
- /36/ IFT List of attendance for TCS operator and TCS operator assistant dated 22/04/2016
- /37/ First Aid Course 14/05/2016
- /38/ Techniques of planning and operation of drag in forest management 26 to 28/05/2016
- /39/ Reydon, Bastiaan Philip. O desmatamento da floresta amazônica: causas e soluções. Economia Verde: Desafios e Oportunidades, Campinas, v. 8, p.143-155, jun. 2011. Available at: [http://www.gestaodaterterra.com.br/arquivos/O\\_desmatamento\\_da\\_floresta\\_amazonia\\_causas\\_e\\_solucoes.pdf](http://www.gestaodaterterra.com.br/arquivos/O_desmatamento_da_floresta_amazonia_causas_e_solucoes.pdf) . Last accessed on: 21/11/ 2017.
- /40/ FEARNSIDE, Philip M. Amazonian deforestation and global warming: carbon stocks in vegetation replacing Brazil's Amazon forest. Forest Ecology And Management, Manaus, v. 80, p.21-34, 1996.
- /41/ CONAMA resolution no.406 of 02/02/2009 (from the portuguese Resolução nº. 406, de 02 de fevereiro de 2009). [http://www.pontalflores.com.br/Res\\_406\\_02-02-2009.pdf](http://www.pontalflores.com.br/Res_406_02-02-2009.pdf) last accessed 22/11/2017.
- /42/ Custo Safra\_operação\_Escalonados.xls

- /43/ Custos AMA MP 052017.xls
- /44/ Custos AMA MP 062017.xls
- /45/ Contract of Supply of Technical Services Related to the SFM between Gerflor and Agrocorrex (from the Portuguese Contrato de Prestação de Serviços Técnicos Relacionados ao Projeto de MFS)
- /46/ Implementation Costs of Conservation Units <http://www.idesam.org.br/unidades-de-conservacao/custos-de-implementacao/> last accessed 22/11/2017
- /47/ Proposal Agencia Verde for Satellite Images Analysis
- /48/ JARI/AMAPÁ REDD+ PROJECT 12 April 2013  
[http://www.vcsprojectdatabase.org/#/project\\_details/1115](http://www.vcsprojectdatabase.org/#/project_details/1115) last accessed 22/11/2017
- /49/ FSC contracts dated 01/07/2014 and 21/07/2015
- /50/ VCS Standard Version 3.7 of 21/07/2017
- /51/ Brazilian Institute of Geography and Statistics (IBGE). Soil types map in Amazonas State. 2010. Available at: [ftp://geofp.ibge.gov.br/mapas\\_tematicos/pedologia/unidades\\_federacao/am\\_pedologia.pdf](ftp://geofp.ibge.gov.br/mapas_tematicos/pedologia/unidades_federacao/am_pedologia.pdf) . Last accessed on: 03/08/2017
- /52/ Embrapa  
[http://www.agencia.cnptia.embrapa.br/gestor/solos\\_tropicais/arvore/CONT000gn230xhm02wx5ok0liq1mqv181o7y.html](http://www.agencia.cnptia.embrapa.br/gestor/solos_tropicais/arvore/CONT000gn230xhm02wx5ok0liq1mqv181o7y.html) last accessed 03/08/2017
- /53/ AFOLU\_Non-Permanence\_Risk\_Tool\_v3.3 of 19/10/2016
- /54/ Declaration partners Agrocorrex about financial backup dated 30<sup>th</sup> June 2017.
- /55/ AGROCORTEX\_Diagnóstico socioambiental no entorno da Faz Seringal Novo Macapa\_2015
- /56/ AGROCORTEX\_Impactos do PMFS da Agrocorrex à população entorno\_2015
- /57/ Technical Files of the Wood of FLONA Jamari - Brazilian Forest Services (from the Portuguese Fichas Tecnológicas das Madeiras da FLONA Jamari - Serviço Florestal Brasileiro)  
<http://www.florestal.gov.br/documentos/concessoes-florestais/concessoes-florestais-florestas-sob-concessao/flona-do-jamari/edital/192-fichas-tecnologicas/file> last accessed 12/12/2017
- /58/ Forest Code [http://www.planalto.gov.br/ccivil\\_03/\\_ato2011-2014/2012/lei/l12651.htm](http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2012/lei/l12651.htm)
- /59/ Brazil's Nationally Determined Contribution towards achieving the objective of the United Nations Framework Convention On Climate Change can be accessed in full at:  
<http://www4.unfccc.int/submissions/INDC/Published%20Documents/Brazil/1/BRAZIL%20iNDC%20englis h%20FINAL.pdf> . Last accessed on 12/12/2017.
- /60/ FAO forest definition: Available at: <http://www.fao.org/docrep/006/ad665e/ad665e06.htm>.
- /61/ SCR\_Agrocorrex\_Point\_0
- /62/ ARs Agrocorrex Local Stakeholders Consultation 06/2017
- /63/ IBGE Arch of Deforestation [https://downloads.ibge.gov.br/downloads\\_geociencias.htm](https://downloads.ibge.gov.br/downloads_geociencias.htm). Last accessed on: 13-March-2018
- /64/ Tiago Ricci - RS lawyers - [http://www.ludovinolopes.com.br/website/?page\\_id=1619](http://www.ludovinolopes.com.br/website/?page_id=1619) – Email to Agrocorrex answering VCS findings 2 and 3 dated 22/02/2018
- /65/ Jus Brasil – What is the difference between law and decree? (from the Portuguese “Que diferença faz lei ou decreto?”). <https://drvaldinar.jusbrasil.com.br/artigos/116712721/que-diferenca-faz-lei-ou-decreto>, last accessed 15/03/2018.
- /66/ Prof. Adriano Mendonça Souza, Dr. Department of Statistics - PPGEMQ / PPGEPP – UFSM, Confidence Intervals 20/09/2008.
- /67/ ISA Carbon Program of Acre homepage [https://mer.markit.com/br-reg/public/project.jsp?project\\_id=103000000005599](https://mer.markit.com/br-reg/public/project.jsp?project_id=103000000005599) last accessed 15/03/2018
- /68/ The normative instruction No. 1 of the Climate Change Institute (Instituto de Mudanças Climáticas – IMC, in Portuguese) <https://www.legisweb.com.br/legislacao/?id=306166> last accessed 15/03/2018.

## 2.3 Interviews

The interviews were carried out in the visit to the forest management area in Acre in June 2017 and later in August 2017 in Agrocorrex Offices in São Paulo. Below is a list of people interviewed.

| Date       | Name and Role                                                           | Organization                                                      | Topic                                                                    |
|------------|-------------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------------------------------------------|
| 19/06/2017 | Ricardo Cezar Sitta - Director                                          | Agrocorrex                                                        | Wood Products Market                                                     |
| 20/06/2017 | Edson do Amaral – Flona do Macauã Environmental Analyst                 | ICMBio                                                            | Social and Environmental Sustainability, local stakeholder consultation. |
| 21/06/2017 | Ana Beatriz de Melo – Forest Certification Technician                   | Agrocorrex                                                        | Relationship Agrocorrex and local Community, Certification FSC.          |
| 21/06/2017 | Edgar Cutar Junior – Forest Operations                                  | Agrocorrex                                                        | SFMP                                                                     |
| 21/06/2017 | Paulinho dos Santos – Cut and drag quality supervisor                   | Agrocorrex                                                        | Cut and drag, FSC, SFM                                                   |
| 21/06/2017 | Janderson Cardona – field worker                                        | Agrocorrex                                                        | Field measurement and recording of harvested wood                        |
| 21/06/2017 | Marcelo Haddad – Project Developer Consultant                           | Ecológica Assessoria Ltda.                                        | PD , GHG ER calculations                                                 |
| 22/06/2017 | Avila Dantas – Social Worker                                            | Agrocorrex                                                        | Relationship Agrocorrex and local Community                              |
| 22/06/2017 | Antônio Raimundo Souza de Lima – Resident of Local Community (Oriental) | Domiciled at the area destined to local community next to the PA. | Relationship Agrocorrex and local Community                              |
| 02/08/2017 | Marcelo Haddad – Project Developer Consultant                           | Ecológica Assessoria Ltda                                         | PD, Financial Analysis, Baseline                                         |
| 02/08/2017 | Marcos Preto – Executive Director                                       | Agrocorrex                                                        | Financial Analysis                                                       |
| 02/08/2017 | Rosemeri Passos - Accountant                                            | Agrocorrex                                                        | Financial Analysis Evidences                                             |
| 03/08/2017 | Eliane Maffi – GIS modelling consultant                                 | Agencia Verde                                                     | Baseline development                                                     |

## 2.4 Site Inspections

The site inspection of the forest management area was carried out between 19/06/2017 and 22/06/2017.

The onsite visit was performed in order to understand and evaluate the project area and the region of reference as well as the leakage belt area. In the project area unexplored as well as explored APUs were visited, methods of logging checked, and interviews with field workers carried out to make sure SFM practices were in place as described in the PD.

The visit to the SFM area coincided with the stakeholders consultation, a visit to the municipality of Manoel Urbano and a visit to communities in the leakage belt along the Purus River. Thus, it was possible to assess the condition of the forest areas of the project and the socioeconomic dynamics of the reference region.

## 2.5 Resolution of Findings

The validation protocol has been added to Table 1, Annex A to this report. The validation protocol was prepared following the site visit during which all issues identified during the desk review were discussed. Also Table 2 presents all findings (CARs and CLs) raised during the process of validation.

All CAR/CLs have been resolved by PPs via provision of additional supporting evidence and appropriate changes to the VCS PD v2 and v3 /1/. Technical Review rendered VCS PD version 4 /1/ and VCS findings rendered VCS PD v5.

## 3 VALIDATION FINDINGS

### 3.1 Project Details

The primary objective of Agro cortex REDD Project activity is to avoid the unplanned deforestation (AUD) of 186,219.06 ha of project area, consisting of 100% Amazon rainforest. The project area is located within a private property named “Fazenda Seringal Novo Macapá”, which is situated in the municipalities of Manoel Urbano, Pauini and Boca do Acre, in the States of Acre and Amazonas, South-western Amazon. The geographical coordinates of the project are in PD v4 Appendix I /1/ which were checked on Google Earth against coordinates of the Certificate of Domain Chain, República Federativa do Brasil, Tabelionato de Notas, Protesto de Títulos, Registro Civil das Pessoas Naturais, de Imóveis, de Títulos e Documentos e das Pessoas Jurídicas. Manoel Urbano 04/12/2015 /5/.

The project activity is under sectoral scope 14 (Agriculture, Forestry, Land Use). In accordance with V-C-S requirements, stipulated in Approved VCS Methodology VM0015, version 1.1 /6/.

The project proponent is Agro cortex Madeiras do Acre Agro florestal Ltda. The project developers are Ecológica Assessoria Ltda. in consultation with T.A.O Consultoria Ambiental Ltda and Tamoios Tecnologia e Consultoria Ltda. – ME.

The proponent manages the aforementioned forest area in order to extract timber for commercialisation under a SFMP (sustainable forest management plan). SFMPs considered a tool for maintenance of forest carbon stocks, and decreasing deforestation rates in the project region. These benefits are mainly due to the following:

- a) the use of reduced impact logging techniques;
- b) reduced social and environmental operational impacts;
- c) increased surveillance in the area;
- d) increased economic value from forest resources; and
- e) regeneration of the forest, degree to which is dependent on the timing of the planned harvest cycle in the area.

In summary, if well managed, a SFMP will harvest wood to its maximum sustainable yields and occupy the land with an economically sustainable business which could otherwise be occupied by business as usual scenario or unplanned deforestation.

Project start date is the 2nd of June 2014 /21/ when Agrocorrex obtained its first authorization from IBAMA (the Brazilian Environment Agency) to sustainably harvest the first annual productive unit (APU) since Agrocorrex Madeiras do Acre Agroflorestal Ltda. became responsible for the SFMP operations and REDD with Batisflor Florestal Ltda /30/.

The SFM in the Fazenda Seringal Novo Macapá will reduce GHG emissions by an estimated total of 14,507,808 tCO<sub>2</sub>e over 30 years (from 01-July-2014 until 30-June-2044), the project crediting period. This is an average of 483,594 tCO<sub>2</sub>e per year.

In accordance with VCS requirements, stipulated in Approved VCS Methodology VM0015, version 1.1 the project area comprehensively belongs to Agrocorrex Madeiras do Acre Agroflorestal Ltda /5//18/.

In Brazil, there is no law governing REDD implementation activities. With regards to the Federal Decree 8576 of November 26, 2015, Rina understands it has been drawn to detail aspects of the requirements of the Law no 12.187, of December 29<sup>th</sup> 2009 which creates the National Policy on Climate Change (which in turn officialises the voluntary commitment Brazil has with the UNFCCC to reduce emissions of GHG till 2020) and the Decree no 2.652, of July 1<sup>st</sup> 1998 which enacts the UNFCCC. The scope of both is therefore the United Nations Framework Convention on Climate Change. In fact Paragraph 1 of decree 8576 of 2015 explicitly states that it creates the National Commission to address REDD+ strategies and coordinate guidelines for the access of payments for REDD+ results in Brazil which are recognised by the UNFCCC, and Paragraph 6 is explicit to say that the restriction in the utilization of carbon credits generated by REDD activities is “for the accomplishment of mitigation of other countries before the United Nations Framework Convention on Climate Change” and not the voluntary market.

Furthermore, Rina crosschecked the information given by the PPs lawyers (LRS lawyers have extensive experience on climate change issues /64/) on PD /1/ against the website of Jusbrasil /65/ (a recognised legal advice website in Brazil) which states that “in the current Brazilian constitutional regime, decrees do not oblige or release anyone from obligations, a law does”.

Also, it is important to notice that two other projects have been registered by the VCS after the coming into force of this decree Manoa REDD Project (ID 1571) and Resex Rio Preto-Jacundá REDD+ Project (ID 1503).

The law applicable to this project is the Forest Code /58/, which states that 80% of farms located in the Amazon biome must have a Legal Reserve (RL), and a permanent preservation area (APP). According to information provided by the bidders, the area of the Agrocorrex REDD Project meet these regulations. However, this legislation has not been fully realized in the country due to lack of government oversight, which brings a significant loss of forest cover and deforestation threats, which can be observed in the region reference of the Agrocorrex REDD Project.

Regarding the rights to use, the company Agrocorrex Florestas Tropicais Participações Ltda. is the owner of the property /18/. This company in turn is under the control of Agrocorrex Florestas do Brasil S.A which also controls Agrocorrex Madeiras do Acre Agroflorestal Ltda the responsible company for the operations of the SFM and REDD project /30/.

This project has not been registered, and is not seeking registration under any other GHG Programs. The project area has not created any other form of environmental credit and no VCU's have been assigned to the project area so far and does not intend to generate any other form of GHG-related environmental credit for GHG emission reductions or removals claimed under this VCS project.

With regards to SISA-Carbono, which is a GHG Program, and includes the possibility of issuing carbon credits in the state Acre, the VVB checked the statement made by the PP in the PD version 5 /1/ and confirms that the Normative Instruction clarifies the procedure to be adopted for those who want to be registered by the State of Acre as a special project and that the deduction of GHG emission reductions that were generated by private REDD projects within the State are discounted from the reductions claimed to have happened under such program as described by the PP on page 64 of the PD /1//67/.

The leakage management plan and maps of the leakage management area are located in section 1.9, Project Location, of the VCS-PD v4 /1/

The description of the project in the VCS PD v4 /1/ is accurate, complete and provides an understanding of the nature of the project.

The primary objective of the Agrocorrex REDD Project is to avoid the unplanned deforestation (AUD) of the 186,219.06 ha project area, consisting of 100% Amazon rainforest. The Project also has the function of establishing a barrier against the advancement of deforestation, making an important contribution to the conservation of South-western Amazon biodiversity and also to climate regulation in Brazil and South America.

These measures contribute to several nationally stated sustainable development priorities, such as the following objectives from the Brazilian Government related to the Sustainable Development Goals:

- Objective 12: Ensure sustainable production and consumption patterns.
- Objective 13: Take urgent action to combat climate change and its impacts.

- Objective 15: To protect, restore and promote the sustainable use of terrestrial ecosystems, to manage forests sustainably, to combat desertification, to halt and reverse land degradation, and to halt the loss of biodiversity.

Reducing deforestation and promoting sustainable development in the Amazon is also a key component to Brazil's Nationally Determined Contribution (NDC) under the Paris Agreement. According to the Brazilian Government Ministry for the Environment (in Portuguese, *Ministério do Meio Ambiente*), the implementation of REDD+ activities are an important component to meet the Country's contribution under the United Nations Framework Convention on Climate Change while preserving natural forest resources /59/.

The following components of the Brazilian commitments under the Convention are reinforced by the development of the AgroCortex REDD Project:

- Strengthening and enforcing the implementation of the Forest Code, at federal, state and municipal levels;
- Strengthening policies and measures with a view to achieve, in the Brazilian Amazon, zero illegal deforestation by 2030 and compensate for greenhouse gas emissions from legal suppression of vegetation by 2030;
- Enhancing sustainable native forest management systems, through georeferencing and tracking systems applicable to native forest management, with a view to curb illegal and unsustainable practices.

In addition, implementation of REDD and SOCIALCARBON mechanisms together with FSC-certified SFMP promotes sustainable forest use. Beyond the project's ecological and carbon benefits, a proportion of the carbon credits generated will be dedicated to improving the social and environmental conditions in the project region, specifically contributing to improving deforestation control, and developing environmental education and other social activities.

## 3.2 Application of Methodology

### 3.2.1 Title and Reference

The project has applied VCS methodology "Methodology for Avoided Unplanned Deforestation (VM0015)", version 1.1 /6/.

VCS VT0001 "Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" v3.6 of 21/06/2017 /8/.

### 3.2.2 Applicability

In line with the methodology VM0015 v1.1, the validation team verified the applicability of methodology as follows conditions:

| Applicability Conditions | Means of Validation |
|--------------------------|---------------------|
|--------------------------|---------------------|

|                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>a) Baseline activities may include planned or unplanned logging for timber, fuelwood collection, charcoal production, agricultural and grazing activities as long as the category is unplanned deforestation according to the most recent VCS AFOLU requirements.</p>                                                                                                                                 | <p>According to VCS AFOLU requirements v3.6 /7/ “Unplanned deforestation and/or degradation can occur as a result of socio-economic forces that promote alternative uses of forest land and the inability of institutions to control these activities. Poor law enforcement and lack of property rights can result in piecemeal conversion of forest land. Unplanned deforestation and/or degradation activities can include, inter alia, subsistence farming or illegal logging occurring on both public lands legally designated for timber production and on public or communal lands that are poorly managed or otherwise degraded.”</p> <p>As will be seen in sections 3.2.4 and 3.2.5 evidences show that the main forest conversion are for cattle farming purposes, preceded by logging for timber with commercial value (both legally and illegally). But it is also in the public domain the information that there are poor law enforcement in the area due to lack of on-land resources of authorities /15/ and lack of clear property rights.</p> |
| <p>b) 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).</p>                                                                                                                                                                                                                              | <p>The validation team confirmed during site visit that the project case has managed logging activities certified by FSC /35/ so while logging takes place it will provide added protection as per Table 1 of the methodology.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>c) The project area can include different types of forest, such as, but not limited to, old growth forest, degraded forest, secondary forests, planted forests and agro-forestry systems meeting the definition of “forest”.</p>                                                                                                                                                                      | <p>The conditions were validated during site visit to the area where the SFMP was implemented and through satellite images and classification /4/.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <p>d) 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.</p>                                                                                                                                                                                                                                            | <p>The project area consisted of 100% tropical rainforest in 2004 – 10 years prior to project start date – all of which conformed to the FAO definition of forest /60/. This was ascertained using satellite images, as described in section 1.10 of the present VCS PD/1/ and validated through the Agencia Verde Report /4/.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <p>e) 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.</p> | <p>IBGE map of soils in the Amazonia and Acre States – shows the area to be in “Luvissolo Crômico” soil /51/, which Embrapa states are soils which occur in regions of hydraulic restrictions /52/.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

### 3.2.3 Project Boundary

The geographical project boundary is an area of 186,219.06 ha located within a private property named “Fazenda Seringal Novo Macapá” which in turn has an area of 190,210ha as validated in the certificate of domain chain of Manoel Urbano /5/, which is situated in the municipalities of Manoel Urbano, Pauini and Boca do Acre, in the States of Acre and Amazonas, South-western Amazon. Through this same certificate /5/ the validation team was able to validate the geographical coordinates in Appendix I of the PD v4 /1/.

As explained by the Agencia Verde Report /4/ the Reference Region was delimited by GIS software as 7 times the PA as per applied methodology /6/. The area was adjusted following an assessment to ensure the following points in the project area are similar or expected to be similar to those found in the reference region as requested by the methodology /6/:

- Agents and drivers of deforestation:

Agents expected to cause deforestation within the project area in absence of the proposed REDD project activity are loggers, cattle ranchers and crop farmers as shown on the analysis of the causes of deforestation in the historical reference period /1//4//27/28/. This is a result of the advance of the arch of deforestation in Brazil as shown in the PD figure 12 /1//63/.

Infrastructure and spatial drivers such as roads (specially BR364), rivers (specially the Purus River) and proximity to anthropic areas are the main drivers influencing agents of deforestation /1//4//6/ and in turn are also influenced by the arch of deforestation which engulfs the RR as can be seen on figure 8, 12, 13 and 17 of the PD too /1//63/. This is discussed in more detail below in the development of the baseline scenario (section 3.2.4 of this report),

- Landscape configuration and ecological conditions:

Rainfall: Figure 7 of the PD /1/ shows that the whole of the RR falls within super humid and humid types of climate, to the north and to the south of the area respectively, as per Köppen classifications /63/. From the maps produced by Agência Verde in figure 7 /1/ the project developers were able to compare the areas under super humid and humid climates under both RR and PA. The difference of super humid and humid areas between RR and PA are within +or- 10% difference in both cases as shown in the statistics to the right of the map in figure 7 of the PD /1/.

Elevation; Analysis in the PD /1/ show in figure 9 map prepared by Agencia Verde with shapes from IBGE /63/ that the elevation range within the project area is between 100 m and 320 m and in the reference region between 87m and 331 m. Thus, 90% of the project area is within the elevation range of at least 90% of the rest of the reference region.

Slope: Analysis in the PD /1/ show in figure 10 map prepared by Agencia Verde with shapes from IBGE /63/ that the maximum slope found within the PA is 12.74°. The same slope classes are found within the reference region. Thus, at least 90% of the project area is within + or - 10% of the average slope of at least 90% of the reference region.

Forest/vegetation classes: Figure 40 of the PD /1/ shows that forest classes in the Project Area are: Open tropical rainforests with bamboo (Abb), Open tropical rainforests with palm trees (Abp) and Open alluvial rainforest with palm trees (Aap). Below in section 3.2.4 it was explained that in the RR the forest/vegetation was subdivided into 5 main types using CENSIPAM database /1//4/ (shapes were supplied by ICMBio - Ministry of Environment): the 3 types mentioned above for PA, plus areas of Dense Tropical Rainforest (Dbe) and Secondary Vegetation (Ap). Analysis in the PD /1/ and Agencia Verde report /4/ show that Dbe area is 0,25% of RR area and Ap is 2,72% of the RR, so together these areas come to <3% of the RR area. Thus, at least 90% of the project area has forest classes or vegetation types that exist in at least 90% of the rest of the reference region.

- Socio-economic and cultural conditions

Legal status of the land in the PA, and around it, is shown in the map of figure 14 of the PD /1/ and it is clear from the map, and the other maps showing the RR borders, that the baseline status of the land within the PA (private land) is also found in the RR. The land tenure system prevalent in the PA in the baseline case is therefore also found in the RR.

Current and projected classes of land use, policies and regulations are found else where in the RR and the VVB confirms that enforced policies and regulations in the PA also apply elsewhere in the RR as the RR lays in both states the PA lies, and both states are located in Brazil.

The Leakage belt was defined using Option I of the applied methodology /6/ and the Social and Economic data of Agencia Verde Report /4/. The Leakage Management Areas was defined with GIS software and are located within the area that will be transferred to the local community in the near future. There are nine communities located in the south of the project area. In total, an area of 3,690.22 ha will be transferred to the local community. The Leakage Management Area was defined as a portion of 631.60 hectares of non-forest land cover within this area that will be transferred. This is where the PP intends to implement activities to reduce the risk of displacement leakage.

Above-ground biomass (Tree and Non-tree), below-ground biomass of forest and harvested wood products were correctly included as the sources of GHG emissions that should be accounted for (Table 11 /1/).

### 3.2.4 Baseline Scenario

In order to determine land use and land cover (LU/LC) prior to project initiation, remote sensing and GIS analysis were carried out. The classification of the land use and land cover used Landsat and ResourceSat images from 1999 to 2013. Using the method of supervised classification and satellite images, three main classes of land use were identified: forest, non-forest and water bodies in the Reference Region. The accuracy of this initial classification reached 93% to 100% in the Kappa Index /4/.

In the reference region the forest class was subdivided into 5 main types using CENSIPAM database /1//4/ (shapes were supplied by ICMBio - Ministry of Environment): Open Tropical Rainforest with Bamboo, Open Tropical Rainforest with Palm Trees, Open Alluvial Rainforest with

Palm Trees, Dense Tropical Rainforest and Secondary Vegetation. The non-forest class was not sub-divided.

In accordance with the methodology (VM0015) Version 1.1 /6/, the project proponent has identified logging and cattle ranchers as the 2 main agents of deforestation in the reference region /1//4//27//28/ mainly because of the advance of the arch of deforestation in Brazil. Roads (specially BR364), rivers (specially the Purus River) and proximity to anthropic areas are the main drivers of logging and livestock activities as shown by the land use and land cover change maps produced from 2003 to 2013 (10 years period as required by methodology, figures 35 and 36 of the PD) /1//4//6/.

The conclusion based on the studies above and the historical mapping was that deforestation frequently happens in the following sequence of events:

- Highways, access roads, navigable rivers, and infrastructure projects reach remote forested areas;
- Timber logging seeks the most valuable commercial species;
- Deforestation for livestock production starts.

All assumptions were considered in a transparent and conservative manner and found to be conclusive. The Selection of Baseline Approach for projection of future deforestation was therefore approach "C", "Modelling", which was adopted to create the baseline of the project for the period of 2014 to 2044.

The baseline simulation was constructed using the software GIS Idrisi Selva and ArcGis. The sequence of events is pretty much explained in the PD /1/ and the method finally used summarised in figure 49 of the same document. In summary, factor maps were generated using the heuristic approach choice of the methodology /4//6/ and the main drivers previously identified (roads, rivers and anthropic areas) as point and linear features. From the factor maps, risk maps were produced /1/ and once the most appropriate one was chosen, to direct landscape simulation, it was merged with the information on quantity of deforestation over time estimated from historical maps and the Markovian chain.

The selection of the appropriate risk map was carried out using option "a) calibration" of the methodology /6/. To calibrate the model, the simulated 2013 scenario (using 1999 to 2006) was compared with the landscape mapped from the Landsat-8 image from 2013 (the confirmation year) by means of applying the Kappa agreement index in Idrisi Selva software.

It was identified on the PD /1/, risk maps and location of future deforestation maps to Reference Region, Leakage belt and Project Area. The Baseline follows a logical sequence and assumptions and rationales used in the VCS PD /1/ and other reference sources.

The baseline scenario provided in section 2.4 of VCS PD v3 /1/ is realistic and credible for the region. It was validated through evidence mentioned above and also through interviews about the dynamics of deforestation in the region.

Therefore, it is the Validation Team's opinion that the baseline scenario is determined according to the methodology and is reasonable.

### 3.2.5 *Additionality*

The VCS Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities (VT0001) Version 3.0 was applied to demonstrate the additionality of the project activity.

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

##### **Sub-step 1a. Identify credible alternative land use scenarios to the proposed VCS AFOLU project activity**

As already stated in section 3.2.4 of this report, the continuation of the common practice of the region (logging and cattle ranching activities) as well as the implementation of a sustainable forest management plan, with (project scenario without being registered as a VCS project) and without the implementation of additional activities to reduce deforestation pressures, are credible for the region as verified during site visit and available literature mentioned in section 3.2.4.

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

The sustainable forest management scenarios (stated in the PD) are in compliance with mandatory legislation and regulations as seen from the authorisation Agro cortex received from the Brazilian Environment Agency (IBAMA) /21/. Logging and cattle ranching are also activities in compliance with mandatory laws and regulations. However, as seen above in section 3.2.4 a lot of the logging activity takes place in an illegal manner (i.e. without authorisation or in areas that should be maintained) this was validated through references /4/ and /15/ but it is also in the public domain that a lot of the logging is illegal, as the legal Amazon area is vast and on land resources of control agencies are scarce. The issues of ill defined land tenure also contribute to illegal logging.

##### **Sub-step 1c. Selection of the baseline scenario:**

As seen in section 3.2.4 of this report, usually, deforestation in the region involves spatially overlapping activities: firstly, extraction of commercially valuable tree species for sale to timber companies (both legally and illegally). The final step is the slash-and-burn deforestation of the area above for pasturelands and cattle ranching.

After harvesting the most valuable commercial species, the deforestation continues both in areas already explored and unexplored, and thus providing conditions for further expansion of logging and cattle ranching /1//4//27//28/.

#### **STEP 2. Investment Analysis**

##### **Sub-step 2a. Determine appropriate analysis method**

Investment comparison analysis (Option II) was appropriately chosen as the project activity generates revenues with the forest management primarily with the commercialisation of timber.

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

It is of the knowledge of the validation team that NPV is a wide spread method to compare investments in different land uses and the returns it generates. Project Proponents used the IRR with the justification that the IRR and the NPV are related, as the IRR is the discount rate that brings the NPV to zero on a discounted cash flow analysis. The validation team found the justification reasonable.

**Sub-step 2c. Calculation and comparison of financial indicators:**

An investment analysis was carried out in the PD v3 /1/ comparing both scenarios of the sustainable forest management, with (project scenario without being registered as a VCS project) and without the implementation of additional activities to reduce deforestation pressures (described above), because they are the most likely activities to be carried out by the project proponent in a legal manner. The validation team found this a reasonable reason for the type of investor and the final product required.

Below is the list of costs and revenues of each scenario presented in the PD and how it has been validated:

| Parameter                                                                            | Scenario                        |                                  |                      |
|--------------------------------------------------------------------------------------|---------------------------------|----------------------------------|----------------------|
|                                                                                      | Scenario II<br>Totals (in US\$) | Scenario III<br>Totals (in US\$) | Evidence checked     |
| Implementation costs - Purchase of land (partial payment during the period analyzed) | -43,847,147                     | -48,957,892                      | /18/                 |
| Yearly project maintenance costs                                                     | -155,740,100                    | -155,740,100                     | /42/<br>/43/<br>/44/ |
| Forest conservation and social environmental activities                              | -15,825,773                     | 0                                | /46/<br>/47/<br>/48/ |
| Other expenses                                                                       | -6,631,679                      | -6,631,679                       | /45//49/             |
| Revenues from the sale of unprocessed timber                                         | 169,205,691                     | 169,205,691                      | /33/                 |
| Other revenues (bamboo)                                                              | 59,000,000                      | 59,000,000                       | /34/                 |

As can be seen from the financial spreadsheet Cashflow CO2\_v4 /19/ the IRR for the option sustainable forest management plan without the implementation of additional activities to reduce deforestation pressures has an IRR of 2.79% and the sustainable forest management plan with

additional activities to reduce deforestation pressures (project scenario without being registered as a VCS project) has a IRR of 1.13%.

According to the tool, when using Option II (investment comparison analysis), if one of the other land use scenarios has the better indicator (e.g. higher IRR), then the VCS AFOLU project cannot be considered financially attractive.

In the sensitivity analysis in order to increase timber revenues the price of timber and the average production had to be increased by 9%, in scenario of the forest management with additional activities to reduce deforestation, in order to have the same IRR as the scenario without the extra activities to reduce deforestation. The PD clearly explained why this is not possible.

First, timber sold with FSC certification are already very expensive compared to other timber without that certification. Furthermore, FSC certification is well established in the market and it is unlikely that the market would pay 9% more to have extra environmental measures to safeguard carbon, beyond that of the FSC, specially in the current world climate change negotiations scenario.

With regards to a 9% increase in timber production, the PP rightly points out in the PD /1/ that an increase in timber production would only result in increased revenues with an equal increase in wood harvest and commercialization. It is more likely that market would reject the additional timber resulting from the REDD Project due to the extra costs involved to harvest any additional timber resulting from it and thus most likely not generate increased revenues.

Finally, the variation on costs for forest conservation measures was performed to assess if a decrease in such costs would impact the project additionality. The sensitivity analysis demonstrates this parameter has a low effect on the resulting IRR. Even in a scenario where such costs would suffer a reduction of 50% compared to current assumptions, the IRR of scenario with additional forest conservation measures (such as for example social activities to generate alternative activities to agents of deforestation in the leakage management area and extra precautions against forest fires and illegal logging) would not be as high as the scenario with the SFMP and FSC alone.

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#### **STEP 4. Common practice analysis**

The common practice analysis of the PD claims that the “Agrocortex has the only business sustainable forest management that is FSC certified and now seeking REDD status in the state of Acre.” (see in particular Table 40 in that section of the PD /1/). This information has been checked in the site of FSC /35/. The VVB also searched the site for other FSC certified forest management plans in the south of the state of Amazonas, near the border with Acre, and none were found.

It is concluded that if the level of penetration of other certified FSC forest management plans are none existent in the region of Southern Amazonas State and Acre State, the level of penetration of FSC certified forest management plans also seeking REDD will be even smaller if not registered in the VCS since the extra costs for carbon monitoring would not pay off.

The validation team concludes that the additionality of the Agro cortex REDD Project is justified.

### 3.2.6 Quantification of GHG Emission Reductions and Removals

- **Quantification 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 3.1 of the VCS-PD v3 /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,

|                              |                                                                                                                                                    |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| $\Delta C_{BSLPA_t}$         | Total baseline carbon stock changes in the project area at year $t$ ; tCO <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> 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 <sub>2</sub> e ha <sup>-1</sup> |

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

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 <sub>2</sub> e |
| $ABSLPA_{icl,t}$             | Area of initial forest class $icl$ deforested at time $t$ within the project area in the baseline case; ha                                         |

$\Delta Cbb_{icl}$ 

Average carbon stock change factor per hectare in the below-ground biomass carbon pool of category *icl*; tCO<sub>2</sub>e ha<sup>-1</sup>

Carbon stocks of the different subclasses of forest present in the whole of the reference region (Tables 41 to 43 of the PD /1/) were determined using the biomass values per hectare from national scientific literature, the study done by Salimon *et al.* (2011) /24/ conducted in the State of Acre covering all the forest types in the State. The results from this study were also compared with Nogueira *et al.* (2008) /23/ and Saatchi *et al.* (2007), presenting very similar conclusions. The cited studies obtained these values via inventoried wood volumes and allometric equations, using data from Amazon regions.

The carbon stocks of the different typologies of the project do not present significant differences with the typologies presented in the third Brazilian National Communication (3rd GHG Emission Inventory of Brazil - MCTI, 2015) /25/.

This is in accordance to the stipulated in the methodology VM0015 v1.1 /6/, which states that local studies and scientific literature available can be used to estimate carbon stocks. The calculation of biomass for carbon emissions was successfully carried out by PPs.

To transform biomass to carbon dioxide equivalent, the IPCC default values of 0.5 for Biomass to Carbon and 44/12 from Carbon to CO<sub>2</sub> were used /29/. Root to shoot ratios were taken from the modified by GOF-C-GOLD, 2008 from table 4.4 in IPCC GL AFOLU from the methodology /6/.

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).

For post forest classes both below and above ground assumed that 100% of the long term (20 years) average carbon stock of 46.93tCO<sub>2</sub>/ha/40/ were regenerated in 10 years starting the year which followed deforestation. Fearnside (1996) /40/ is a reputable scientist with many articles in the Amazon region. Furthermore the same value for average post deforestation carbon stock has been adopted in other local VCS registered projects (i.e. The Purus Project [http://www.vcsprojectdatabase.org/#/project\\_details/963](http://www.vcsprojectdatabase.org/#/project_details/963) last accessed 12/12/2017 /16/).

- **Quantification of project emissions.**

Agrocortex has a sustainable forest management plan (SFMP) to harvest wood /22/ which is authorised by the Brazilian Environment Agency (IBAMA) /21/ certified by the FSC /35/. This type of economic activity enables the harvesting of an economically feasible volume of forest products allowing the regeneration of the natural stock in accordance with the growth and recovery rates of the biome.

According to the methodology VM0015 v1.1 /6/, 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 sorts, 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:

$$\Delta\text{CPDdPA}_t = \sum_{icl=1}^{icl} (\text{APDPA}_{icl,t} \times \Delta\text{Ctot}_{icl})$$

Where,

|                         |                                                                                                                 |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| $\Delta\text{CPDdPA}_t$ | Total decrease in carbon stock due to planned deforestation at year $t$ in the project area; tCO <sub>2</sub> e |
| $\text{APDPA}_{icl,t}$  | Areas of planned deforestation in forest class $icl$ at year $t$ in the project area; ha                        |
| $\text{Ctot}_{icl}$     | Average carbon stock of all accounted carbon pools in forest class $icl$ at time $t$ ; tCO <sub>2</sub> e/ha    |

The areas of the planned deforestation were estimated to be 1% of the total project area or the area under SFMP /22/ and distributed throughout the different subclasses of forest according to the proportions of each of the subclasses to the total area of the project and divided by 30 (years of the harvesting cycle).

The average carbon stock per hectare was the sum of the above and below ground averages used for baseline emission quantifications.

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

$$\Delta\text{CPLdPA}_t = \sum_{icl=1}^{icl} (\text{APLPA}_{icl,t} \times \Delta\text{CLd}_{icl,t}) - \left( \sum_{icl=1}^{icl} \text{APLPA}_{icl,t} \right) \times \Delta\text{Cwpt}$$

Where,

$\Delta CPLdPat$  Total decrease in carbon stock due to planned logging activities at year  $t$  in the project area;  $tCO_2e$

$APLPA_{icl,t}$  Areas of planned logging activities in forest class  $icl$  at year  $t$  in the project area; ha

$\Delta CLd_{icl,t}$  Average carbon stock decrease due to logging activities in forest class  $icl$  at time  $t$ ;  $tCO_2e/ha$

$\Delta Cwpt$  Average carbon stock per hectare in the harvested wood products carbon pool at time  $t$ ;  $tCO_2e/ha$

The areas of planned logging were calculated by dividing the total area under SFMP (175,707.55ha) by 30 years, which is the average area of each APU (5,856.92). The areas of each subclass of forest in each APU was worked out from its percentage of the total area classified under the project area.

The PD estimated that in a sustainable forest management  $1m^3$  of forest residue is generated for each  $m^3$  of log harvested /1//22/. Thus, 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  $icl$  at time  $t$ ;  $tCO_2e/ha$

$HI_{icl,t}$  Harvesting intensity of timber in forest class  $icl$  at year  $t$  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

Harvest intensity was calculated as  $9m^3/ha$  based on the observed yearly average productivity (50,000  $m^3/year$ ) after losses validated in Agrocortex internal records and correspondence /31/ and the volumes authorized by IBAMA in the AUTEX documents /21/. The volume per year divided by the average area of each APU came to  $9m^3/ha$ . Therefore LDF is  $9m^3/ha$  too.

The mean wood density was taken from Nogueira (2008) /23/ and the validated value is  $0,583g/cm^3$  giving an average carbon stock decrease of  $18.25tCO_2e/ha$ .

The sources of the data to calculate average carbon stock per hectare in the harvested wood products carbon pool are listed in tab "Wood Products" of the ERs calculation spreadsheets /2/.

The sources and other information regarding wood products have been checked during site visit to the Agrocorrex.

To estimate unplanned deforestation the PP followed the formula in the methodology VM0015 v1.1 /6/:

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

Where:

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

The Effectiveness Index (*EI*) employed in the PD /1/ was 95%, and the justification was the weight of Agrocorrex activities in the local economy and employment generation. The VVB has evidenced the importance of the management of the forest as a source of employment for local people (/22/ and site visit), and for the city of Manoel Urbano, not only in the forest management itself but also on subsidiary services like the various refectories (which serves breakfast and lunch) and which has much of its supply from local producers. The VVB would also add that the FSC-SFMP /49/ and REDD+Social Carbon activities can corroborate to that.

The regeneration of the forest was discounted from project emissions as per methodology VM0015 v1.1 /6/. The average annual increment used and validated was 0.86m<sup>3</sup>/ha/year /41/, which in turn was used to calculate the average annual increment of carbon dioxide equivalent per hectare per year of 0.92tCO<sub>2</sub>/ha/year and the total carbon stock increase due to planned logging activities.

- **Quantification of leakage.**

According to the applied methodology VM0015 v1.1 /6/, two sources of leakage are considered: a) decrease in carbon stocks and increase in GHG emissions associated with leakage prevention measures; and b) decrease in carbon stocks and increase in GHG emissions associated with activity displacement leakage.

The PD did not estimate a) carbon stock change associated with leakage prevention measures and increase in GHG emissions associated with leakage prevention measures. According to the PP planned interventions in the leakage management area proposed by Agrocorrex REDD Project foresee no decrease in carbon stocks and/or increase in GHG emissions (they are only of educational nature and NFTP extraction and not expected to reduce carbon stocks and if fossil fuel is used, this can be omitted as per applied methodology /6/). However, if such activities are implemented in the future, changes in carbon stock will be monitored, and if significant, they will be accounted.

It has however estimated b) leakage due to activity displacement was calculated by multiplying total net carbon stock change in the project area per year by a Displacement Leakage Factor of 5%. This was an assumption and since this parameter will be monitored, suffice to say it is a reasonable estimate. Furthermore, since emissions from forest fires were not included in the baseline, they were not included in ex ante calculations of emissions from forest fires due to activity displacement leakage neither. That is in accordance with the applied methodology.

- **Summary of 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:

$$\Delta REDD_t = (\Delta CBSLPA_t + EBBBSLPA_t) - (\Delta CPSPA_t + EBBPSPA_t) - (\Delta CLK_t + ELK_t)$$

Where:

$\Delta REDD_t$  Ex ante estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year  $t$ ; tCO<sub>2</sub>e

$\Delta CBSLPA_t$  Sum of baseline carbon stock changes in the project area at year  $t$ ; tCO<sub>2</sub>e

$EBBBSLPA_t$  Sum of baseline emissions from biomass burning in the project area at year  $t$ ; tCO<sub>2</sub>e

$\Delta CPSPA_t$  Sum of ex ante estimated actual carbon stock changes in the project area at year  $t$ ; tCO<sub>2</sub>e

**Note:** If  $\Delta CPSPA_t$  represents a net increase in carbon stocks, a negative sign before the absolute value of  $\Delta CPSPA_t$  shall be used. If  $\Delta CPSPA_t$  represents a net decrease, the positive sign shall be used.

$EBBPSPA_t$  Sum of (ex ante estimated) actual emissions from biomass burning in the project area at year  $t$ ; tCO<sub>2</sub>e

$\Delta CLK_t$  Sum of ex ante estimated leakage net carbon stock changes at year  $t$ ; tCO<sub>2</sub>e

**Note:** If the cumulative sum of  $\Delta CLK_t$  within a fixed baseline period is  $> 0$ ,  $\Delta CLK_t$  shall be set to zero.

$ELK_t$  Sum of ex ante estimated leakage emissions at year  $t$ ; tCO<sub>2</sub>e

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

Regarding the number of Verified Carbon Units (VCUs) to be generated through the proposed AUD project activity per year were calculated as follows:

$$VCU_t = \Delta REDD_t - VBC_t$$

$$VBC_t = (\Delta CBSLPA_t - \Delta CPSPA_t) \times RF_t$$

Where:

$VCU_t$  Number of Verified Carbon Units that can be traded at time  $t$ ; tCO<sub>2</sub>e

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

$\Delta REDD_t$  *Ex ante* estimated net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year  $t$ ; tCO<sub>2</sub>e

$VBC_t$  Number of Buffer Credits deposited in the VCS Buffer at time  $t$ ; tCO<sub>2</sub>e

$\Delta CBSLPA_t$  Sum of baseline carbon stock changes in the project area at year  $t$ ; tCO<sub>2</sub>e

$\Delta CPSPA_t$  Sum of *ex ante* estimated actual carbon stock changes in the project area at year  $t$ ; tCO<sub>2</sub>e ha<sup>-1</sup>

$RF_t$  Risk factor used to calculate VCS buffer credits; %

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

The  $RF_t$  was estimated using the most recent version of the *VCS-approved AFOLU Non-Permanence Risk Tool* and the resulting value of  $RF_t$  for the present REDD project was 15%.

The summary of emission reductions are described in the table below:

| Year                               | Estimated Baseline Emissions (tCO <sub>2</sub> e) | Estimated Project Emissions (tCO <sub>2</sub> e) | Estimated Leakage Emissions (tCO <sub>2</sub> e) | Estimated Net Emissions Reductions (tCO <sub>2</sub> e) | Ex ante VCUs tradable (tCO <sub>2</sub> e) |
|------------------------------------|---------------------------------------------------|--------------------------------------------------|--------------------------------------------------|---------------------------------------------------------|--------------------------------------------|
| 2014<br>(01/07/2014 to 31/12/2014) | 129,539                                           | 71,880                                           | 6,477                                            | 51,183                                                  | 42.533                                     |
| 2015                               | 543,312                                           | 152,295                                          | 27,166                                           | 363,852                                                 | 305.199                                    |
| 2016                               | 544,405                                           | 146,673                                          | 27,220                                           | 370,512                                                 | 310.852                                    |
| 2017                               | 544,735                                           | 141,013                                          | 27,237                                           | 376,485                                                 | 315.926                                    |

|      |         |         |        |         |         |
|------|---------|---------|--------|---------|---------|
| 2018 | 666,137 | 141,407 | 33,307 | 491,423 | 412.713 |
| 2019 | 597,899 | 132,319 | 29,895 | 435,685 | 365.848 |
| 2020 | 541,493 | 123,822 | 27,075 | 390,596 | 327.945 |
| 2021 | 645,061 | 123,325 | 32,253 | 489,483 | 411.222 |
| 2022 | 594,050 | 115,098 | 29,702 | 449,249 | 377.406 |
| 2023 | 649,695 | 112,204 | 32,485 | 505,007 | 424.383 |
| 2024 | 458,442 | 96,965  | 22,922 | 338,555 | 284.333 |
| 2025 | 596,748 | 98,204  | 29,837 | 468,707 | 393.924 |
| 2026 | 598,642 | 92,622  | 29,932 | 476,088 | 400.184 |
| 2027 | 605,393 | 87,284  | 30,270 | 487,839 | 410.123 |
| 2028 | 634,988 | 83,087  | 31,749 | 520,151 | 437.366 |
| 2029 | 616,774 | 76,500  | 30,839 | 509,435 | 428.393 |
| 2030 | 623,864 | 71,179  | 31,193 | 521,492 | 438.589 |
| 2031 | 598,067 | 64,212  | 29,903 | 503,951 | 423.872 |
| 2032 | 598,783 | 58,572  | 29,939 | 510,272 | 429.239 |
| 2033 | 554,910 | 50,702  | 27,745 | 476,462 | 400.830 |

|                                          |            |           |         |            |            |
|------------------------------------------|------------|-----------|---------|------------|------------|
| 2034                                     | 651,910    | 50,958    | 32,596  | 568,356    | 478.213    |
| 2035                                     | 641,488    | 50,437    | 32,074  | 558,976    | 470.318    |
| 2036                                     | 558,105    | 46,268    | 27,905  | 483,932    | 407.156    |
| 2037                                     | 694,335    | 53,080    | 34,717  | 606,539    | 510.350    |
| 2038                                     | 656,816    | 51,204    | 32,841  | 572,771    | 481.929    |
| 2039                                     | 644,772    | 50,601    | 32,239  | 561,932    | 472.806    |
| 2040                                     | 615,636    | 49,145    | 30,782  | 535,709    | 450.735    |
| 2041                                     | 561,944    | 46,460    | 28,097  | 487,387    | 410.064    |
| 2042                                     | 567,030    | 46,714    | 28,352  | 491,965    | 413.917    |
| 2043                                     | 755,895    | 56,158    | 37,795  | 661,943    | 556.982    |
| 2044<br>(01/01/2044<br>to<br>30/06/2044) | 278,948    | 23,129    | 13,947  | 241,872    | 203.498    |
| <b>Total</b>                             | 17,969,816 | 2,563,517 | 898,491 | 14,507,808 | 12,196,848 |

- **Uncertainties associated with the calculation of emissions.**

An uncertainty assessment was conducted by the PPs in section 3.1 of the VCS PD version 5 /1/ as requested by Section 6.1.1(f) of VM0015, v1.1 /6/ considering the lower boundary of the 90% confidence interval in the estimates of carbon stocks if the class was an initial forest class in the project area or a final non-forest class in the leakage belt, and the higher boundary of the 90% confidence interval if the class was an initial forest class in the leakage belt or a final non-forest class in the project area /2/ when uncertainty estimates were greater than 10% of the total average stock of a class.

The uncertainties were given at Salimon et al. (2011) paper /24/ as one standard deviation of the mean. Thus, confidence interval of this method was 68%. This was converted to a confidence interval of 90% by multiplying the standard deviation by the value of 1.64 /66/.

The initial carbon stocks estimate, the estimated uncertainties and the calculated final carbon stocks after the discounted uncertainties are shown in tables 49 and 50 of the PD version 5 /1/. The final results of the Estimated Net Emissions Reductions (tCO<sub>2</sub>e) and tradable VCUs after the corrections are shown on the table above. Rina found that the estimates of the uncertainties were appropriate and the discounts or addition of carbon stocks to the final results were done in accordance with Section 6.1.1(f) of VM0015, v1.1 /6/.

It is of the opinion of the validation team that all calculations were applied and documented according to the selected methodology and in a complete and transparent manner.

### 3.2.7 Methodology Deviations

No methodology deviations were observed by the validation team.

### 3.2.8 Monitoring Plan

The monitoring plan is described in details in sections 4.1 to 4.3 of VCS PD v3 /1/, where the parameters available at the time of validation, the parameters that will be monitored, recording frequency and QA/QC procedures are deemed reasonable and appropriate.

#### 3.2.8.1 Data and parameters available at validation

| Data / Parameter                                                                             | <b>CF</b>                                                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data unit                                                                                    | tC/tdm                                                                                                                                                                                                                                                                                                   |
| Description                                                                                  | Default value of carbon fraction in biomass                                                                                                                                                                                                                                                              |
| Source of data                                                                               | Values from the literature (e.g. IPCC 2003. Good practice guidance for land use, land-use change and forestry. Kanagawa: IGES, 2003. Available at: < <a href="http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html">http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html</a> >). |
| Value applied                                                                                | 0.5                                                                                                                                                                                                                                                                                                      |
| Justification of choice of data or description of measurement methods and procedures applied | The default value was used.                                                                                                                                                                                                                                                                              |
| Purpose of data                                                                              | This parameter was used to calculate the baseline, project and leakage emissions from deforestation occurred in the baseline and project scenarios. Provides an estimate of the carbon content of the vegetation biomass within the project reference region.                                            |
| Comments                                                                                     | If new and more accurate carbon fraction data become available, these can be used to estimate the net anthropogenic GHG                                                                                                                                                                                  |

|            |                                                                                                                                                                                                                                          |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | emission reduction of the subsequent fixed baseline period.                                                                                                                                                                              |
| ASSESSMENT | <p><b>This value was obtained from IPCC (2003 and 2006) /29/.</b></p> <p><b>These values are in accordance with the methodology V00015 v1.1, /6/ and could be updated according to the future measures in the baseline scenario.</b></p> |

|                                                               |                                                                                                                                                                                                                                                                                                                                    |                  |              |              |
|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|--------------|
| Data / Parameter                                              | <b><math>ab_{icl}</math></b>                                                                                                                                                                                                                                                                                                       |                  |              |              |
| Data unit                                                     | Mg/ha                                                                                                                                                                                                                                                                                                                              |                  |              |              |
| Description                                                   | Average biomass stock per hectare in the above-ground biomass pool of initial forest classes <i>icl</i> in Mg/ha                                                                                                                                                                                                                   |                  |              |              |
| Source of data                                                | Average values for the above-ground biomass were taken from the following study: SALIMON,C.I.; PUTZ, F.E.; MENEZES-FILHO, L.; ANDERSON,A.; SILVEIRA, M.; FOSTER BROWN, I.; OLIVEIRA, L.C. Estimating state-wide biomass carbon stocks for a REDD plan in Acre, Brazil. 2011, Forest Ecology and Management, 262, p. 555–560, 2011. |                  |              |              |
| Value applied                                                 | Above-ground biomass<br>$ab_{icl}$ (Mg/ha)                                                                                                                                                                                                                                                                                         |                  |              |              |
|                                                               | Vegetation                                                                                                                                                                                                                                                                                                                         | Reference Region | Project Area | Leakage Belt |
|                                                               | Open tropical rainforest with bamboo                                                                                                                                                                                                                                                                                               | 257.82           | 274.20       | 291.73       |
|                                                               | Open tropical rainforest with palm trees                                                                                                                                                                                                                                                                                           | 245.98           | 119.16       | 349.44       |
|                                                               | Open alluvial rainforest with palm trees                                                                                                                                                                                                                                                                                           | 218.50           | 193.83       | 243.17       |
|                                                               | Dense tropical rainforest                                                                                                                                                                                                                                                                                                          | 323.88           | -            | -            |
|                                                               | Secondary vegetation                                                                                                                                                                                                                                                                                                               | 37.00            | -            | 53.45        |
| Justification of choice of data or description of measurement | Following a literature search, the above-ground biomass values of this study was used as they were determined to accurately represent the values of the vegetation within the project reference region. In addition, the results from this study were also compared                                                                |                  |              |              |

|                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>methods and procedures applied</b> | with Nogueira <i>et al.</i> (2008) <sup>1</sup> and Saatchi <i>et al.</i> (2007) <sup>2</sup> , presenting very similar conclusions.<br><br>The average biomass stock per hectare was calculated for each project boundary (reference region, project area and leakage belt) and for each vegetation group using weighted average, considering discounts for uncertainties.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Purpose of data                       | This parameter was used to calculate the baseline, project and leakage emissions from deforestation occurred in the baseline and project scenarios. Provides an average of the biomass stock per hectare in the above-ground biomass within the project reference region.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Comments                              | If new and more accurate biomass stock data become available, these can be used to estimate the net anthropogenic GHG emission reduction of the subsequent fixed baseline period.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>ASSESSMENT</b>                     | <b>These values were calculated using the forest classes identified by Agencia Verde using maps done during the RADAM Brazil Project for the Legal Amazon, according to the explanation in their Report /4/. The shapes of the maps were provided to Agencia Verde by ICMBio. The mapping of RR, PA and LA were done by Agencia Verde following steps in the applied methodology /6/ and are also presented in the same report /4/. The actual size of the areas for each of the forest classes were calculated by Agencia Verde using GIS software and passed on to Ecológica in the spreadsheet "VCS PD Calculation_AGROCORTEX REDD Project_Vfinal_PA_RR_LB" /14/. The estimates of biomass per hectare were obtained from SALIMON <i>et al</i> (2011) /24/ and Nogueira (2008) /23/. These biomass values are therefore from local scientific literature and this is accepted by the methodology V00015 v1.1 /6/.</b> |

|                  |                                                                                                                                                                                                    |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter | <b>bbicl</b>                                                                                                                                                                                       |
| Data unit        | Mg/ha                                                                                                                                                                                              |
| Description      | Average biomass stock per hectare in the below-ground biomass pool of initial forest classes icl in Mg/ha                                                                                          |
| Source of data   | 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 |

<sup>1</sup> NOGUEIRA, E. M. Densidade de Madeira e Alometria de Árvores em Florestas do 'Arco do Desmatamento': Implicações para Biomassa e Emissão de Carbono a partir de Mudanças de Uso da Terra na Amazônia Brasileira. 2008. 151 f. Doctor Thesis - Curso de Ciências de Florestas Tropicais, INPA, Manaus, 2008.

<sup>2</sup> SAATCHI, S.S.; HOUGHTON, R.A., ALVALÁ, R.C.S.; SOARES J.V.; YU, Y. Distribution of aboveground live biomass in the amazon basin. *Global Change Biology*, v.13, p. 816-837, 2007

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                  |              |              |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------|--------------|
|                                                                                              | values above 125 tons/ha, and 0.20 for values below 125 tons/ha.                                                                                                                                                                                                                                                                                                                                                                                                    |                  |              |              |
| Value applied                                                                                | Below-ground biomass<br>$bb_{icl}$ (Mg/ha)                                                                                                                                                                                                                                                                                                                                                                                                                          |                  |              |              |
|                                                                                              | Vegetation                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Reference Region | Project Area | Leakage Belt |
|                                                                                              | Open tropical rainforest with bamboo                                                                                                                                                                                                                                                                                                                                                                                                                                | 61.88            | 65.81        | 70.01        |
|                                                                                              | Open tropical rainforest with palm trees                                                                                                                                                                                                                                                                                                                                                                                                                            | 59.04            | 28.60        | 83.87        |
|                                                                                              | Open alluvial rainforest with palm trees                                                                                                                                                                                                                                                                                                                                                                                                                            | 52.44            | 37.78        | 49.62        |
|                                                                                              | Dense tropical rainforest                                                                                                                                                                                                                                                                                                                                                                                                                                           | 77.73            | -            | -            |
|                                                                                              | Secondary vegetation                                                                                                                                                                                                                                                                                                                                                                                                                                                | 7.40             | -            | 10.69        |
| Justification of choice of data or description of measurement methods and procedures applied | <p>Following a literature search, the below-ground biomass values of the applied methodology were used as they were determined to accurately represent the values of the vegetation within the project reference region.</p> <p>The average biomass stock per hectare was calculated for each project boundary (reference region, project area and leakage belt) and for each vegetation group using weighted average, considering discounts for uncertainties.</p> |                  |              |              |
| Purpose of data                                                                              | This parameter was used to calculate the baseline, project and leakage emissions from deforestation occurred in the baseline and project scenarios. Provides an average of the biomass stock per hectare in the below-ground biomass within the project reference region.                                                                                                                                                                                           |                  |              |              |
| Comments                                                                                     | If new and more accurate biomass stock data become available, these can be used to estimate the net anthropogenic GHG emission reduction of the subsequent fixed baseline period.                                                                                                                                                                                                                                                                                   |                  |              |              |
| ASSESSMENT                                                                                   | These values were calculated according with the methodology V00015 v1.1, /6/.                                                                                                                                                                                                                                                                                                                                                                                       |                  |              |              |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | <b><math>C_{tot_{fcl}}</math></b>                                                                                                                                                                                                                                                                                                                |
| Data unit                                                                                    | tCO <sub>2</sub> e/ha                                                                                                                                                                                                                                                                                                                            |
| Description                                                                                  | Average carbon stock per hectare in anthropic areas in equilibrium of post-deforestation class <i>fcl</i> in tCO <sub>2</sub> e/ha                                                                                                                                                                                                               |
| Source of data                                                                               | Long-term average carbon stocks per hectare of post-deforestation LU/LC classes present in the reference region were taken from the following study: FEARNSIDE, Philip M. Amazonian deforestation and global warming: carbon stocks in vegetation replacing Brazil's Amazon forest. Forest Ecology And Management, Manaus, v. 80, p.21-34, 1996. |
| Value applied                                                                                | 46.93                                                                                                                                                                                                                                                                                                                                            |
| Justification of choice of data or description of measurement methods and procedures applied | Fearnside (1996) is one of the most recognized studies for the Brazilian Amazon about long term carbon stocks in deforested areas.                                                                                                                                                                                                               |
| Purpose of data                                                                              | This parameter was used to calculate the baseline emissions from deforestation occurred in the baseline scenario. Provides an average of the post-deforestation carbon stock per hectare within the project reference region.                                                                                                                    |
| Comments                                                                                     | If new and more accurate biomass stock data become available, these can be used to estimate the net anthropogenic GHG emission reduction of the subsequent fixed baseline period.                                                                                                                                                                |
| <b>ASSESSMENT</b>                                                                            | <b>This value was obtained from FEARNSIDE (1996) /40/.</b><br><b>This value is according with scientific literature from Brazil and accepted for the methodology V00015 v1.1, /6/ and also used in other validated VCS projects like The Purus Project near Agrocortex REDD Project /16/.</b>                                                    |

|                                                                       |                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                      | <b><math>D_m</math></b>                                                                                                                                                                                                                                                                                    |
| Data unit                                                             | g/cm <sup>3</sup>                                                                                                                                                                                                                                                                                          |
| Description                                                           | Mean wood density                                                                                                                                                                                                                                                                                          |
| Source of data                                                        | NOGUEIRA, E. M. Densidade de Madeira e Alometria de Árvores em Florestas do 'Arco do Desmatamento': Implicações para Biomassa e Emissão de Carbono a partir de Mudanças de Uso da Terra na Amazônia Brasileira. 2008. 151 f. Doctor Thesis - Curso de Ciências de Florestas Tropicais, INPA, Manaus, 2008. |
| Value applied                                                         | 0.583                                                                                                                                                                                                                                                                                                      |
| Justification of choice of data or description of measurement methods | The mean wood density presented in Nogueira (2008) was obtained from southern and southwestern portions of the Brazilian Amazon, where the project region is located.                                                                                                                                      |

|                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| and procedures applied |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Purpose of data        | This parameter will be used to calculate project emissions from logging activities occurred in the project scenario due to sustainable forest management. Carbon stock decrease due to planned logging activities can be calculated through multiplying the harvested volume by the mean wood density. Carbon stock increase due to natural regeneration after periodical harvest cycle can be calculated through multiplying the mean annual increment by the mean wood density. |
| Comments               | Nogueira (2008) defined wood density as "specific gravity" or "basic specific gravity". This is the ratio between the dry mass and the volume of green wood.<br>If new and more accurate wood density data become available, these can be used to estimate project emissions of the subsequent fixed baseline period.                                                                                                                                                             |
| ASSESSMENT             | <b>This value was obtained from NOGUEIRA (2008) /23/.</b><br><b>This value is according with scientific literature from Brazil and accepted for the methodology V00015 v1.1, /6/.</b>                                                                                                                                                                                                                                                                                             |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                           |                                           |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-------------------------------------------|
| Data / Parameter | $D_j$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                           |                                           |
| Data unit        | g/cm <sup>3</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                           |                                           |
| Description      | Mean wood density of species $j$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                           |                                           |
| Source of data   | SERVIÇO FLORESTAL BRASILEIRO. Fichas Tecnológicas das Madeiras da FLONA Jamari. Available at:<br>< <a href="http://www.florestal.gov.br/documentos/concessoes-florestais/concessoes-florestais-florestas-sob-concessao/flona-do-jamari/edital/192-fichas-tecnologicas/file">http://www.florestal.gov.br/documentos/concessoes-florestais/concessoes-florestais-florestas-sob-concessao/flona-do-jamari/edital/192-fichas-tecnologicas/file</a> >. Last visit on: July 14 <sup>th</sup> , 2017.<br>OLIVEIRA, Luiz Rogério. Plano de Manejo Florestal Sustentado: Fazenda Seringal Novo Macapá. Rio Branco: GerFlor Gerenciamento Florestal, 2010. 286 p. |                                                                           |                                           |
| Value applied    | Commercial Groups                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                           |                                           |
|                  | Timber commercial Group                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Characteristics                                                           | Average wood density (g/cm <sup>3</sup> ) |
|                  | High density woods and Mahogany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | High density woods, with the potential to become long-lived wood products | 0.76                                      |
|                  | White woods                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Low density woods, mainly destined for                                    | 0.57                                      |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |  |  |
|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|--|--|
|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | construction (short-lived wood products) |  |  |
| Justification of choice of data or description of measurement methods and procedures applied | <p>Agrocortex divides timber production in commercial groups, which have different rates of commercialization and wood densities. These groups were classified in two larger groups, based on their properties and characteristics.</p> <p>The wood density presented by the cited study was obtained by the Brazilian Forest Service Forest Products Laboratory, which analyzed wood properties from different Brazilian Amazon species, where the project region is located.</p> |                                          |  |  |
| Purpose of data                                                                              | <p>This parameter will be used to calculate project emissions due to harvested wood products carbon pool in the project scenario. Carbon stock per hectare of extracted biomass by class of wood product can be calculated through multiplying the timber volume per product class by the wood density of species belonging to a specific class of wood products.</p>                                                                                                              |                                          |  |  |
| Comments                                                                                     | <p>If new and more accurate wood density data become available, these can be used to estimate project emissions of the subsequent fixed baseline period.</p>                                                                                                                                                                                                                                                                                                                       |                                          |  |  |
| ASSESSMENT                                                                                   | <p><b>These values were calculated from technical files at SERVIÇO FLORESTAL BRASILEIRO /57/ and Oliveira – GERFLOR (2010) /22/.</b></p>                                                                                                                                                                                                                                                                                                                                           |                                          |  |  |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | <b>EI</b>                                                                                                                                                                                                                                                                                                                        |
| Data unit                                                                                    | %                                                                                                                                                                                                                                                                                                                                |
| Description                                                                                  | <i>Ex ante</i> estimated effectiveness index                                                                                                                                                                                                                                                                                     |
| Source of data                                                                               | <p>OLIVEIRA, Luiz Rogério. <b>Plano de Manejo Florestal Sustentado:</b> Fazenda Seringal Novo Macapá. Rio Branco: GerFlor Gerenciamento Florestal, 2010. 286 p.</p> <p>Forest Stewardship Council (FSC) Certification for Forest Management (FSC-C121950) and Chain of Custody (FSC-C127203) for Agrocortex SFMP activities.</p> |
| Value applied                                                                                | 95                                                                                                                                                                                                                                                                                                                               |
| Justification of choice of data or description of measurement methods and procedures applied | <p>The calculation of the effectiveness index was estimated on the efficiency in reducing deforestation within the project area due to Agrocortex REDD Project activities.</p>                                                                                                                                                   |
| Purpose of data                                                                              | <p>This parameter was used to calculate project emissions in the baseline scenario. Provides an <i>ex ante</i> estimation of the carbon stock changes due to unavoidable unplanned deforestation within the project area, based on the effectiveness of the proposed project activities to reduce the deforestation.</p>         |

|                   |                                                                                                                                                                                                 |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Comments          | <i>Ex post</i> monitoring of the project area shall be done to determine deforestation rate and the project emissions. This parameter will be updated at each renewal of fixed baseline period. |
| <b>ASSESSMENT</b> | <b>This value was obtained from Oliveira – GERFLOR (2010) /22/ and FSC /49/ and validated through site visit observations too.</b>                                                              |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                    |
|----------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | <b><i>DLF</i></b>                                                                                                                                                                                                                                                                                                                                                                                  |
| Data unit                                                                                    | %                                                                                                                                                                                                                                                                                                                                                                                                  |
| Description                                                                                  | Displacement Leakage Factor                                                                                                                                                                                                                                                                                                                                                                        |
| Source of data                                                                               | OLIVEIRA, Luiz Rogério. <b>Plano de Manejo Florestal Sustentado:</b> Fazenda Seringal Novo Macapá. Rio Branco: GerFlor Gerenciamento Florestal, 2010. 286 p.<br>Forest Stewardship Council (FSC) Certification for Forest Management (FSC-C121950) and Chain of Custody (FSC-C127203) for Agro cortex SFMP activities.<br>SOCIALCARBON Indicators for REDD+SFMP Projects                           |
| Value applied                                                                                | 5                                                                                                                                                                                                                                                                                                                                                                                                  |
| Justification of choice of data or description of measurement methods and procedures applied | The <i>DLF</i> was estimated as 5%, which is considered as a conservative estimate based on the referenced literature and taking into account the project situation, where Agro cortex SFMP+FSC+REDD+SOCIALCARBON project activities are estimated to benefit a large part of the population in the region.                                                                                        |
| Purpose of data                                                                              | This parameter was used to calculate leakage emissions in the baseline scenario due to activity displacement leakage, providing an ex ante estimation of the decrease in carbon stocks and increase in GHG emissions. This value was calculated based on the percent of deforestation expected to be displaced outside the project boundary due to the implementation of the AUD project activity. |
| Comments                                                                                     | Ex post monitoring of the leakage belt shall be done to determine deforestation rate outside the project area and consequently, the leakage emissions and carbon stock decrease.<br>This parameter will be updated at each renewal of fixed baseline period.                                                                                                                                       |
| <b>ASSESSMENT</b>                                                                            | <b>This value was obtained from Oliveira – GERFLOR (2010) /22/ and FSC /49/ and validated through site visit observations too.</b>                                                                                                                                                                                                                                                                 |

|                  |                                    |
|------------------|------------------------------------|
| Data / Parameter | <b><i>EBBBSLPA<sub>t</sub></i></b> |
| Data unit        | tCO <sub>2</sub> e                 |

|                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description                                                                                  | Sum of (or total) baseline non-CO <sub>2</sub> emissions from forest fire at year <i>t</i> in the project area                                                                                                                                                                                                                                                                                                                                                |
| Source of data                                                                               | - Remote sensing data and GIS;<br>- Supervisor information.                                                                                                                                                                                                                                                                                                                                                                                                   |
| Value applied                                                                                | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Justification of choice of data or description of measurement methods and procedures applied | If forest fires occur, these non-CO <sub>2</sub> emissions will be subject to monitoring and accounting, when significant.                                                                                                                                                                                                                                                                                                                                    |
| Purpose of data                                                                              | This parameter was used to calculate <i>non-CO<sub>2</sub></i> emissions due to forest fires within the project area in the baseline scenario, providing an <i>ex ante</i> estimation.                                                                                                                                                                                                                                                                        |
| Comments                                                                                     | Non-CO <sub>2</sub> emissions from fires used to clear forests in the baseline scenario were omitted in this project. Therefore, <i>EBBBSLPA<sub>t</sub></i> equals to zero.<br><br><i>Ex post</i> monitoring of forest fires and <i>non-CO<sub>2</sub> emissions</i> shall be done to determine GHG emissions within the project area (when the forest fire is significant).<br><br>This parameter will be updated at each renewal of fixed baseline period. |
| <b>ASSESSMENT</b>                                                                            | <b>This value is in accordance with the methodology V00015 v1.1 /6/, that is, the no estimation of this parameter in the baseline is conservative. Furthermore this parameter is monitored as EBBPSPAt (see monitored parameters below).</b>                                                                                                                                                                                                                  |

|                                                                                              |                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                                             | $\Delta CBSLLK_t$                                                                                                                                                                                                                                                                             |
| Data unit                                                                                    | tCO <sub>2</sub> e                                                                                                                                                                                                                                                                            |
| Description                                                                                  | Annual carbon stock changes in leakage management areas in the baseline case at year <i>t</i>                                                                                                                                                                                                 |
| Source of data                                                                               | - Planned interventions proposed by Agro cortex REDD Project;<br>- Remote sensing and GIS                                                                                                                                                                                                     |
| Value applied                                                                                | 0                                                                                                                                                                                                                                                                                             |
| Justification of choice of data or description of measurement methods and procedures applied | Leakage prevention activities generating a decrease in carbon stocks should be estimated <i>ex ante</i> and accounted. The leakage prevention measures proposed by the present project do not include decrease in carbon stocks due to activities implemented in the leakage management area. |
| Purpose of data                                                                              | This parameter was used to calculate leakage emissions in the baseline scenario due to leakage prevention measures. It provides                                                                                                                                                               |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | an <i>ex ante</i> estimation of the decrease in carbon stocks due to the activities implemented in the leakage management area.                                                                                                                                                                                                                                                                                                                              |
| Comments   | Ex post monitoring of the leakage management area shall be done to determine the carbon stock decrease and the leakage emissions. This parameter will be updated at each renewal of fixed baseline period.                                                                                                                                                                                                                                                   |
| ASSESSMENT | <b>This value is in accordance with the methodology V00015 v1.1 /6/ as the activities which PP plans to implement in the LMA are educational and NTFP extraction. These activities might use fossil fuel but according to applied meth fossil fuel consumption in AUD project activities is always considered insignificant and must not be accounted. Nevertheless this parameter is monitored as <math>\Delta\text{CPSLKt}</math> (see below section).</b> |

This is in accordance with the methodology V00015 v1.1, and could be updated according to the future measures in the baseline scenario.

### 3.2.8.2 Data and parameters monitored

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><math>ACPA_{icl,t}</math></b>                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Data unit                                                       | Hectare                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Description                                                     | Annual area of initial forest classes <i>icl</i> within the Project Area affected by catastrophic events at year <i>t</i>                                                                                                                                                                                                                                                                                                                                                     |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Remote sensing data and GIS,</li> <li>- Agrocorrex management team and other field data.</li> </ul>                                                                                                                                                                                                                                                                                                                                  |
| Description of measurement methods and procedures to be applied | <p>In addition to remote sensing data and GIS, which can identify the area affected by catastrophic events, the measurement of this parameter will also be based in national database at each monitoring period:</p> <ul style="list-style-type: none"> <li>- INMET<sup>3</sup></li> <li>- INPE<sup>4</sup></li> </ul> <p>Moreover, periodic reports from local Agrocorrex management team, could also confirm the data obtained from remote sensing and GIS measurement.</p> |
| Frequency of monitoring/recording                               | At each time a significant catastrophic event occurs                                                                                                                                                                                                                                                                                                                                                                                                                          |

<sup>3</sup> INMET. National Meteorology Institute. Automatic Station – Graphics. Available at: <[http://www.inmet.gov.br/portal/index.php?r=home/page&page=rede\\_estacoes\\_auto\\_graf](http://www.inmet.gov.br/portal/index.php?r=home/page&page=rede_estacoes_auto_graf)>. Last visit on: May 29<sup>th</sup>, 2017.

<sup>4</sup> INPE. Brazilian National Space Research Institute catalogue. Available at: <<http://www.inpe.br/queimadas/risco-de-fogo-meteorologia>>. Last visit on: May 29<sup>th</sup>, 2017.

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value applied                  | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Monitoring equipment           | Remote sensing and GIS                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| QA/QC procedures to be applied | Best practices in remote sensing and GIS. Furthermore, the following sources will be also monitored to confirm the data obtained from remote sensing and GIS: <ul style="list-style-type: none"> <li>- INMET</li> <li>- INPE</li> <li>- Periodic reports from Agro cortex management team</li> </ul>                                                                                                                                                            |
| Purpose of data                | This parameter will be used to calculate project emissions in the project scenario. Provides an <i>ex post</i> estimation of initial forest classes ( <i>icl</i> ) areas affected by catastrophic events within the project area.                                                                                                                                                                                                                               |
| Calculation method             | Remote sensing and GIS                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Comments                       | Decreases in carbon stocks and increases in GHG emissions (e.g. in case of forest fires) due to natural disturbances (such as hurricanes, earthquakes, volcanic eruptions, tsunamis, flooding, drought, fires, tornados or winter storms) or man-made events, including those over which the project proponent has no control (such as acts of terrorism or war), are subject to monitoring and must be accounted under the project scenario, when significant. |
| <b>ASSESSMENT</b>              | <b>The ex-ante estimate is reasonable for a monitored parameter.</b>                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><math>AUFPA_{icl,t}</math></b>                                                                                                                                                                                                                                                                                                                                                   |
| Data unit                                                       | Hectare                                                                                                                                                                                                                                                                                                                                                                             |
| Description                                                     | Annual area of initial forest classes <i>icl</i> within the Project Area affected by forest fires at year <i>t</i>                                                                                                                                                                                                                                                                  |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Remote sensing data and GIS,</li> <li>- Supervisor information and other field data.</li> </ul>                                                                                                                                                                                                                                            |
| Description of measurement methods and procedures to be applied | <p>In addition to remote sensing data and GIS, which can identify the area affected by forest fires, the measurement of this parameter will also be based in national database at each monitoring period:</p> <ul style="list-style-type: none"> <li>- INMET<sup>5</sup></li> <li>- INPE<sup>6</sup></li> </ul> <p>Moreover, periodic reports from local Agro cortex management</p> |

<sup>5</sup> INMET. National Meteorology Institute. Automatic Station – Graphics. Available at: <[http://www.inmet.gov.br/portal/index.php?r=home/page&page=rede\\_estacoes\\_auto\\_graf](http://www.inmet.gov.br/portal/index.php?r=home/page&page=rede_estacoes_auto_graf)>. Last visit on: May 29<sup>th</sup>, 2017.

<sup>6</sup> INPE. Brazilian National Space Research Institute catalogue. Available at: <<http://www.inpe.br/queimadas/risco-de-fogo-meteorologia>>. Last visit on: May, 29, 2017.

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | team could also confirm the data obtained from remote sensing and GIS measurement.                                                                                                                                                                                                                                                                                                                                                                              |
| Frequency of monitoring/recording | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Value applied                     | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Monitoring equipment              | Remote sensing and GIS                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| QA/QC procedures to be applied    | Best practices in remote sensing and GIS. Furthermore, the following sources will be also monitored to confirm the data obtained from remote sensing and GIS: <ul style="list-style-type: none"> <li>- INMET</li> <li>- INPE</li> <li>- Periodic reports from Agro cortex management team</li> </ul>                                                                                                                                                            |
| Purpose of data                   | This parameter will be used to calculate project emissions in the project scenario. Provides an <i>ex post</i> estimation of initial forest classes ( <i>icl</i> ) areas affected by forest fires within the project area.                                                                                                                                                                                                                                      |
| Calculation method                | Remote sensing and GIS                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Comments                          | Decreases in carbon stocks and increases in GHG emissions (e.g. in case of forest fires) due to natural disturbances (such as hurricanes, earthquakes, volcanic eruptions, tsunamis, flooding, drought, fires, tornados or winter storms) or man-made events, including those over which the project proponent has no control (such as acts of terrorism or war), are subject to monitoring and must be accounted under the project scenario, when significant. |
| <b>ASSESSMENT</b>                 | <b>The ex ante estimate is reasonable for a monitored parameter.</b>                                                                                                                                                                                                                                                                                                                                                                                            |

|                                                                 |                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><math>ABSLLK_{icl,t}</math></b>                                                                                                                                                                                                               |
| Data unit                                                       | Hectare                                                                                                                                                                                                                                          |
| Description                                                     | Annual area of deforestation of initial forest classes <i>icl</i> within the leakage belt at year <i>t</i>                                                                                                                                       |
| Source of data                                                  | Remote sensing and GIS.                                                                                                                                                                                                                          |
| Description of measurement methods and procedures to be applied | Deforestation in the leakage belt area can be considered activity displacement leakage. Activity data for the leakage belt area will be determined using the same methods applied to monitoring deforestation activity data in the project area. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                         |
| Value applied                                                   | Annual average deforestation in the leakage belt during the crediting period per forest class:                                                                                                                                                   |

|                                | Open Tropical Rainforest with bamboo                                                                                                                                                                                                                                    | Open Tropical Rainforest with palm trees | Open Alluvial Rainforest with palm trees | Secondary vegetation |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|----------------------|
|                                | 1,565.44                                                                                                                                                                                                                                                                | 83.12                                    | 554.53                                   | 144.16               |
| Monitoring equipment           | Remote sensing and GIS                                                                                                                                                                                                                                                  |                                          |                                          |                      |
| QA/QC procedures to be applied | Best practices in remote sensing.                                                                                                                                                                                                                                       |                                          |                                          |                      |
| Purpose of data                | This parameter will be used to calculate leakage emissions in the project scenario. Provides the <i>ex post</i> value of the deforested area within the leakage belt.                                                                                                   |                                          |                                          |                      |
| Calculation method             | Analysis of satellite images and maps.                                                                                                                                                                                                                                  |                                          |                                          |                      |
| Comments                       | Where evidence can be collected that deforestation in the leakage belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation may not be attributed to the project activity and therefore, not considered leakage. |                                          |                                          |                      |
| <b>ASSESSMENT</b>              | <b>The values of ex-ante monitoring parameter were calculated correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4//14/.</b>                                                                                           |                                          |                                          |                      |

|                                                                 |                                                                                                                                          |                                          |                                          |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|
| Data / Parameter                                                | <b><math>ABSLPA_{icl,t}</math></b>                                                                                                       |                                          |                                          |
| Data unit                                                       | Hectare                                                                                                                                  |                                          |                                          |
| Description                                                     | Annual area of deforestation of initial forest classes <i>icl</i> in the project area at year <i>t</i>                                   |                                          |                                          |
| Source of data                                                  | Remote sensing and GIS.                                                                                                                  |                                          |                                          |
| Description of measurement methods and procedures to be applied | Forest cover change due to deforestation will be monitored through assessment of classified satellite imagery covering the project area. |                                          |                                          |
| Frequency of monitoring/recording                               | Annually                                                                                                                                 |                                          |                                          |
| Value applied                                                   | Annual average deforestation in the project area during the crediting period per forest class:                                           |                                          |                                          |
|                                                                 | Open Tropical Rainforest with bamboo                                                                                                     | Open Tropical Rainforest with palm trees | Open Alluvial Rainforest with palm trees |
|                                                                 | 1,055.01                                                                                                                                 | 59.95                                    | 1.58                                     |
| Monitoring equipment                                            | Remote sensing and GIS.                                                                                                                  |                                          |                                          |

|                                |                                                                                                                                                                                                               |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| QA/QC procedures to be applied | Best practices in remote sensing.                                                                                                                                                                             |
| Purpose of data                | This parameter will be used to calculate baseline emissions and project emissions in the project scenario. Provides the <i>ex post</i> value of the deforested area per forest class within the project area. |
| Calculation method             | Analysis of satellite images and maps.                                                                                                                                                                        |
| Comments                       | N/A                                                                                                                                                                                                           |
| <b>ASSESSMENT</b>              | <b>The values of ex-ante monitoring parameter were calculated correctly and the conservative way in accordance to methodology applied (Agencia Verde reports) 14/11/14/.</b>                                  |

|                                                                 |                                                                                                                                                                                             |                                          |                                          |                           |                      |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|---------------------------|----------------------|
| Data / Parameter                                                | <b><math>ABSLRR_{icl,t}</math></b>                                                                                                                                                          |                                          |                                          |                           |                      |
| Data unit                                                       | Hectare                                                                                                                                                                                     |                                          |                                          |                           |                      |
| Description                                                     | Annual area of deforestation of initial forest classes <i>icl</i> in the reference region at year <i>t</i>                                                                                  |                                          |                                          |                           |                      |
| Source of data                                                  | Remote sensing and GIS.                                                                                                                                                                     |                                          |                                          |                           |                      |
| Description of measurement methods and procedures to be applied | Forest cover change due to deforestation will be monitored through assessment of classified satellite imagery covering the project area.                                                    |                                          |                                          |                           |                      |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                    |                                          |                                          |                           |                      |
| Value applied                                                   | Annual average deforestation in the reference region during the crediting period per forest class:                                                                                          |                                          |                                          |                           |                      |
|                                                                 | Open Tropical Rainforest with bamboo                                                                                                                                                        | Open Tropical Rainforest with palm trees | Open Alluvial Rainforest with palm trees | Dense Tropical Rainforest | Secondary Vegetation |
|                                                                 | 7,302.65                                                                                                                                                                                    | 706.54                                   | 631.31                                   | 0.00                      | 246.49               |
| Monitoring equipment                                            | Remote sensing and GIS.                                                                                                                                                                     |                                          |                                          |                           |                      |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.                                                                                                                                                           |                                          |                                          |                           |                      |
| Purpose of data                                                 | This parameter will be used to calculate baseline emissions in the project scenario. Provides the <i>ex post</i> value of the deforested area per forest class within the reference region. |                                          |                                          |                           |                      |
| Calculation method                                              | Analysis of satellite images and maps.                                                                                                                                                      |                                          |                                          |                           |                      |
| Comments                                                        | N/A                                                                                                                                                                                         |                                          |                                          |                           |                      |

|            |                                                                                                                                                                        |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ASSESSMENT | The values of ex-ante monitoring parameter were calculated correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4//14/. |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                          |                                          |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|
| Data / Parameter                                                | <b><math>APDPA_{icl,t}</math></b>                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |                                          |
| Data unit                                                       | Hectare                                                                                                                                                                                                                                                                                                                                                                                                                               |                                          |                                          |
| Description                                                     | Areas of planned deforestation in forest class <i>icl</i> at year <i>t</i> in the project area                                                                                                                                                                                                                                                                                                                                        |                                          |                                          |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Annual operational plan;</li> <li>- Annual post-harvesting report;</li> <li>- Remote sensing and GIS.</li> </ul>                                                                                                                                                                                                                                                                             |                                          |                                          |
| Description of measurement methods and procedures to be applied | The planned deforestation activities in the project area that resulted in carbon stock decrease shall be subjected to monitoring, when significant.                                                                                                                                                                                                                                                                                   |                                          |                                          |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |                                          |
| Value applied                                                   | Open Tropical Rainforest with bamboo                                                                                                                                                                                                                                                                                                                                                                                                  | Open Tropical Rainforest with palm trees | Open Alluvial Rainforest with palm trees |
|                                                                 | 54.24                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3.05                                     | 1.29                                     |
| Monitoring equipment                                            | <ul style="list-style-type: none"> <li>- Remote sensing and GIS</li> <li>- Agro cortex Management team, based on the Sustainable Forest Management Plan for Fazenda Seringal Novo Macapá</li> </ul>                                                                                                                                                                                                                                   |                                          |                                          |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.<br>Internal audit of the SFMP.                                                                                                                                                                                                                                                                                                                                                                      |                                          |                                          |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex post</i> value of the decrease in carbon stocks due to planned deforestation in the project area.                                                                                                                                                                                                                              |                                          |                                          |
| Calculation method                                              | Emissions from deforestation at each forest class are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.                                                                                                                                                                                                                                                                     |                                          |                                          |
| Comments                                                        | Values above represent the annual average planned deforestation per forest class during the 2014-2044 period.<br>Planned deforestation mainly includes implementation of the forest management infrastructure, such as opening of main and secondary roads, skidding trails, and timber yards in each annual production unit ( <i>Unidade de Produção Anual</i> - UPA, in portuguese) within the project area. Such infrastructure is |                                          |                                          |

|                   |                                                                                                                                                                                                       |
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|                   | estimated to cause the deforestation of around 1% of each UPA.                                                                                                                                        |
| <b>ASSESSMENT</b> | <b>The values of ex-ante monitoring parameter were calculated correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agrocorrex reports /22/.</b> |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                          |                                          |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|------------------------------------------|
| Data / Parameter                                                | <b><math>APLPA_{icl,t}</math></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                          |                                          |
| Data unit                                                       | Hectare                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                          |                                          |
| Description                                                     | Areas of planned logging activities in forest class <i>icl</i> at year <i>t</i> in the project area                                                                                                                                                                                                                                                                                                                                                                                  |                                          |                                          |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Annual operational plan;</li> <li>- Annual post-harvesting report;</li> <li>- Remote sensing and GIS.</li> </ul>                                                                                                                                                                                                                                                                                                                            |                                          |                                          |
| Description of measurement methods and procedures to be applied | The planned logging activities in the project area that resulted in carbon stock increase or decrease shall be subjected to monitoring, when significant.                                                                                                                                                                                                                                                                                                                            |                                          |                                          |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                          |                                          |
| Value applied                                                   | Open Tropical Rainforest with bamboo                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Open Tropical Rainforest with palm trees | Open Alluvial Rainforest with palm trees |
|                                                                 | 5,423.51                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 304.56                                   | 128.85                                   |
| Monitoring equipment                                            | <ul style="list-style-type: none"> <li>- Remote sensing and GIS</li> <li>- Agrocorrex Management team, based on the Sustainable Forest Management Plan for Fazenda Seringal Novo Macapá</li> </ul>                                                                                                                                                                                                                                                                                   |                                          |                                          |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.<br>Internal audit of the SFMP.                                                                                                                                                                                                                                                                                                                                                                                                                     |                                          |                                          |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex post</i> value of the increase or decrease in carbon stocks due to planned logging activities in the project area.                                                                                                                                                                                                                                                            |                                          |                                          |
| Calculation method                                              | Carbon stock decrease from planned logging activities at each forest class are estimated by multiplying the detected area subject to logging by the harvested timber volume intensity, and then by the mean wood density.<br><br>Carbon stock increase from planned logging activities at each forest class are estimated by multiplying the detected area subject to logging by the mean annual increment due to natural regeneration of managed forests, and then by the mean wood |                                          |                                          |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | density.                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Comments   | <p>According to the sustainable forest management plan<sup>7</sup>, 175,707.55 ha are subject to sustainable forest management plan (SFMP). The adopted rotation cycle is 30 years, thus each annual productive unit (APU) has around 5,856.9 hectares.</p> <p>The SFMP provides guidance to Agrocortex management team in order to harvest forest products/by-products in a manner consistent with the conservation of the local ecosystem.</p> |
| ASSESSMENT | <b>The values of ex-ante monitoring parameter were calculated correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agrocortex reports /22/.</b>                                                                                                                                                                                                                                            |

|                                                                 |                                                                                                                                                                                                                                                                    |
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| Data / Parameter                                                | <b><math>APFPA_{icl,t}</math></b>                                                                                                                                                                                                                                  |
| Data unit                                                       | Hectare                                                                                                                                                                                                                                                            |
| Description                                                     | Areas of planned fuel-wood collection and charcoal production activities in forest class <i>icl</i> at year <i>t</i> in the project area                                                                                                                           |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Annual operational plan;</li> <li>- Annual post-harvesting report;</li> <li>- Remote sensing and GIS;</li> <li>- Other SFMP documents.</li> </ul>                                                                         |
| Description of measurement methods and procedures to be applied | No production of fuel wood or charcoal is expected to occur within the project area under the project scenario. However, if any of these activities is implemented in the future, a measurement of the carbon stock changes will be carried out, when significant. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                           |
| Value applied                                                   | 0                                                                                                                                                                                                                                                                  |
| Monitoring equipment                                            | <ul style="list-style-type: none"> <li>- Remote sensing and GIS</li> <li>- Planned interventions proposed by Agrocortex REDD Project</li> </ul>                                                                                                                    |
| QA/QC procedures to be applied                                  | <p>Best practices in remote sensing.</p> <p>Internal audit of the SFMP.</p>                                                                                                                                                                                        |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex post</i> value of the increase or decrease in carbon stocks due to planned fuel-wood collection and charcoal production activities in the project area.     |
| Calculation method                                              | Emissions at each forest class are estimated by multiplying the                                                                                                                                                                                                    |

<sup>7</sup> OLIVEIRA, Luiz Rogério. **Plano de Manejo Florestal Sustentado**: Fazenda Seringal Novo Macapá. Rio Branco: GerFlor Gerenciamento Florestal, 2010. 286 p.

|                   |                                                                                                                                                                                                    |
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|                   | detected area subject to fuel wood collection or charcoal production by the harvested volume intensity, and then by the mean wood density.                                                         |
| Comments          | N/A                                                                                                                                                                                                |
| <b>ASSESSMENT</b> | <b>The value of ex-ante monitoring parameter was selected correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agro cortex reports /22/.</b> |

|                                                                 |                                                                                                                                                                                                                                       |
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| Data / Parameter                                                | $\Delta\text{CPAdPat}$                                                                                                                                                                                                                |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                                                    |
| Description                                                     | Total decrease in carbon stock due to all planned activities at year t in the project area                                                                                                                                            |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Annual operational plan;</li> <li>- Annual post-harvesting report;</li> <li>- Remote sensing and GIS;</li> <li>- Other SFMP documents.</li> </ul>                                            |
| Description of measurement methods and procedures to be applied | The planned activities in the project area that resulted in carbon stock decrease shall be subjected to monitoring, when significant.                                                                                                 |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                              |
| Value applied                                                   | 127,039                                                                                                                                                                                                                               |
| Monitoring equipment                                            | Remote sensing and GIS                                                                                                                                                                                                                |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.<br>Internal audit of the SFMP.                                                                                                                                                                      |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario. Provides the ex post value of the decrease in carbon stocks due to planned activities in the project area.                                        |
| Calculation method                                              | This parameter is the sum of: carbon stock decrease due to planned deforestation, carbon stock decrease due to planned logging activities, and carbon stock decrease due to planned fuel-wood and charcoal activities.                |
| Comments                                                        | No production of fuel wood or charcoal is expected to occur within the project area under the project scenario.<br>Value above represents the annual decrease in carbon stocks due to all planned activities within the project area. |
| <b>ASSESSMENT</b>                                               | <b>The value of ex-ante monitoring parameter was selected correctly and the conservative way in accordance to</b>                                                                                                                     |

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|--|--------------------------------------------------------------------------------------|
|  | <b>methodology applied (Agencia Verde reports) /4/ and Agro cortex reports /22/.</b> |
|--|--------------------------------------------------------------------------------------|

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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| Data / Parameter                                                | $\Delta CPAiPA_t$                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Description                                                     | Total increase in carbon stock due to all planned activities at year <i>t</i> in the project area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Annual operational plan;</li> <li>- Annual post-harvesting report;</li> <li>- Remote sensing and GIS;</li> <li>- Permanent plots monitoring reports;</li> <li>- Other SFMP related documents.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                      |
| Description of measurement methods and procedures to be applied | The planned activities in the project area that resulted in carbon stock increase shall be subjected to monitoring, when significant.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Value applied                                                   | 70,923                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Monitoring equipment                                            | Remote sensing and GIS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.<br>Internal audit of the SFMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex post</i> value of the increase in carbon stocks due to planned activities in the project area, which could reduce the decrease in carbon stocks in the project area.                                                                                                                                                                                                                                                                                                                                                                            |
| Calculation method                                              | <p>Carbon stock increase from planned logging activities at each forest class are estimated by multiplying the detected area subject to logging by the mean annual increment due to natural regeneration of managed forests, and then by the mean wood density.</p> <p>Due to the periodical harvesting, the projected increase in carbon stocks of each forest class in the project scenario is estimated by assuming that the maximum carbon stock is the long term average carbon stock (the average of a production cycle). Therefore, once a class reaches this level of carbon stock, no more carbon stock increase can be attributed to it.</p> |
| Comments                                                        | No production of fuel wood or charcoal is expected to occur within the project area under the project scenario. In addition, there are no secondary forests or degraded forests within the project area that have the potential to grow and accumulate significant carbon                                                                                                                                                                                                                                                                                                                                                                              |

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | <p>stocks.</p> <p>A sustainable forest management plan (SFMP) was developed for the Project Area, which has been carried out by Agro cortex management team since 2014. Forests that will be subject to planned logging activities under the project scenario have the potential to grow and accumulate significant carbon stocks after the periodical harvest cycle due to natural regeneration.</p> <p>Value above represents the annual increase in carbon stocks due to all planned activities within the project area.</p> |
| ASSESSMENT | <p><b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agro cortex reports /22/. The average annual increment used and validated was 0.86m<sup>3</sup>/ha/year /41/, which in turn was used to calculate the average annual increment of carbon dioxide equivalent per hectare per year of 0.92tCO<sub>2</sub>/ha/year.</b></p>                                                                              |

|                                                                 |                                                                                                                                                                                                                                                  |
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| Data / Parameter                                                | $\Delta CADLK_t$                                                                                                                                                                                                                                 |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                                                               |
| Description                                                     | Total decrease in carbon stocks due to displaced deforestation at year <i>t</i>                                                                                                                                                                  |
| Source of data                                                  | Remote sensing and GIS.                                                                                                                                                                                                                          |
| Description of measurement methods and procedures to be applied | Deforestation in the leakage belt area can be considered activity displacement leakage. Activity data for the leakage belt area will be determined using the same methods applied to monitoring deforestation activity data in the project area. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                         |
| Value applied                                                   | 29,642 ( <i>ex ante</i> annual average decrease in carbon stocks due to displaced deforestation in the leakage belt during the crediting period)                                                                                                 |
| Monitoring equipment                                            | Remote sensing and GIS.                                                                                                                                                                                                                          |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.                                                                                                                                                                                                                |
| Purpose of data                                                 | This parameter will be used to calculate leakage emissions in the project scenario. Provides the <i>ex post</i> value of the decrease in carbon stocks due to displaced deforestation in the leakage belt.                                       |
| Calculation method                                              | Emissions from deforestation at each forest class are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.                                                                                |
| Comments                                                        | Where evidence can be collected that deforestation in the leakage                                                                                                                                                                                |

|                   |                                                                                                                                                                                                       |
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|                   | belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation may not be attributed to the project activity and therefore, not considered leakage. |
| <b>ASSESSMENT</b> | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agro cortex reports /22/.</b>  |

|                                                                 |                                                                                                                                                                                                                                                    |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $\Delta CPSLK_t$                                                                                                                                                                                                                                   |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                                                                 |
| Description                                                     | Annual carbon stock change in leakage management areas in the project case at year <i>t</i>                                                                                                                                                        |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Activities report related to leakage prevention measures proposed by Agro cortex REDD Project;</li> <li>- SOCIALCARBON Reports;</li> <li>- Field assessment;</li> <li>- Remote sensing and GIS</li> </ul> |
| Description of measurement methods and procedures to be applied | The planned activities in leakage management areas that resulted in carbon stock decrease shall be subjected to monitoring, when significant.                                                                                                      |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                           |
| Value applied                                                   | 0                                                                                                                                                                                                                                                  |
| Monitoring equipment                                            | Remote sensing and GIS                                                                                                                                                                                                                             |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.<br>FSC annual reports.                                                                                                                                                                                           |
| Purpose of data                                                 | This parameter will be used to calculate leakage emissions in the project scenario. Provides the <i>ex post</i> value of the change in carbon stocks due to leakage prevention measures in the leakage management area.                            |
| Calculation method                                              | Emissions from deforestation are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.                                                                                                       |
| Comments                                                        | The leakage prevention measures proposed by the present project do not include decrease in carbon stocks due to activities implemented in the leakage management area.                                                                             |
| <b>ASSESSMENT</b>                                               | <b>The value of ex-ante monitoring parameter was selected correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and</b>                                                                           |

|  |                                 |
|--|---------------------------------|
|  | <b>Agrocortex reports /22/.</b> |
|--|---------------------------------|

|                                                                 |                                                                                                                                                                                                                        |
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| Data / Parameter                                                | $\Delta CUDdPA_t$                                                                                                                                                                                                      |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                                     |
| Description                                                     | Total actual carbon stock change due to unavoided unplanned deforestation at year <i>t</i> in the project area                                                                                                         |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Remote sensing and GIS</li> <li>- Supervisor reports.</li> </ul>                                                                                                              |
| Description of measurement methods and procedures to be applied | Forest cover change due to unplanned deforestation will be monitored through assessment of classified satellite imagery covering the project area.                                                                     |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                               |
| Value applied                                                   | 29,642 ( <i>ex ante</i> annual average total decrease in carbon stocks due to unavoided unplanned deforestation during the crediting period)                                                                           |
| Monitoring equipment                                            | Remote sensing and GIS                                                                                                                                                                                                 |
| QA/QC procedures to be applied                                  | Best practices in remote sensing.                                                                                                                                                                                      |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex post</i> value of the change in carbon stocks due to unavoided unplanned deforestation within the project area. |
| Calculation method                                              | Emissions from deforestation at each forest class are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.                                                      |
| Comments                                                        | N/A                                                                                                                                                                                                                    |
| <b>ASSESSMENT</b>                                               | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agrocortex reports /22/.</b>                    |

|                  |                                                                                                              |
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| Data / Parameter | $EBBPSPA_t$                                                                                                  |
| Data unit        | tCO <sub>2</sub> e                                                                                           |
| Description      | Sum of (or total) actual non-CO <sub>2</sub> emissions from forest fire at year <i>t</i> in the project area |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                        |
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| Source of data                                                  | <ul style="list-style-type: none"> <li>- Remote sensing data and GIS</li> <li>- Supervisor reports.</li> </ul>                                                                                                                                                                                                                                         |
| Description of measurement methods and procedures to be applied | <p>If forest fires occur, these non-CO<sub>2</sub> emissions are subjected to monitoring and accounting, when significant.</p> <p>In addition to remote sensing data and GIS, which can identify the area affected by forest fire, periodic reports from area supervisors, who live inside the project area, could also confirm the data obtained.</p> |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                               |
| Value applied                                                   | 0                                                                                                                                                                                                                                                                                                                                                      |
| Monitoring equipment                                            | Remote sensing and GIS                                                                                                                                                                                                                                                                                                                                 |
| QA/QC procedures to be applied                                  | Best practices in remote sensing and GIS.                                                                                                                                                                                                                                                                                                              |
| Purpose of data                                                 | This parameter will be used to calculate <i>non-CO<sub>2</sub></i> emissions due to forest fires within the project area in the project scenario, providing an <i>ex post</i> project emissions value.                                                                                                                                                 |
| Calculation method                                              | If forest fires occur, these non-CO <sub>2</sub> emissions will be subject to monitoring and accounting, when significant.                                                                                                                                                                                                                             |
| Comments                                                        | N/A                                                                                                                                                                                                                                                                                                                                                    |
| <b>ASSESSMENT</b>                                               | <b>The value of ex-ante monitoring parameter was selected correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agro cortex reports /22/.</b>                                                                                                                                                     |

|                                                                 |                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><i>EgLK<sub>t</sub></i></b>                                                                                                                                                                                                                           |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                                                                       |
| Description                                                     | Emissions from grazing animals in leakage management areas at year <i>t</i> .                                                                                                                                                                            |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Activities report related to leakage prevention measures proposed by Agro cortex REDD Project;</li> <li>- SOCIALCARBON Reports;</li> <li>- Field assessment;</li> <li>- Remote sensing data and GIS.</li> </ul> |
| Description of measurement methods and procedures to be applied | GHG emissions from grazing animals in leakage management areas (i.e. enteric fermentation or manure management) were subjected to monitoring, when significant.                                                                                          |
| Frequency of                                                    | Annually                                                                                                                                                                                                                                                 |

|                                |                                                                                                                                                                                                    |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| monitoring/recording           |                                                                                                                                                                                                    |
| Value applied                  | 0                                                                                                                                                                                                  |
| Monitoring equipment           | Remote sensing and GIS                                                                                                                                                                             |
| QA/QC procedures to be applied | Best practices in remote sensing and GIS.<br>FSC annual reports.                                                                                                                                   |
| Purpose of data                | This parameter will be used to calculate GHG leakage emissions from activities implemented in the leakage management area in the project scenario, providing an <i>ex post</i> value.              |
| Calculation method             | Described in the methodology (VM0015, v1.1), section 8.1.2: <i>Ex ante</i> estimation of CH <sub>4</sub> and N <sub>2</sub> O emissions from grazing animals.                                      |
| Comments                       | There are no predicted activities in the leakage management area that will result in GHG emissions during the crediting period.                                                                    |
| <b>ASSESSMENT</b>              | <b>The value of ex-ante monitoring parameter was selected correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agrocontext reports /22/.</b> |

|                                                                 |                                                                                                                                                                                                           |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><math>EADLK_t</math></b>                                                                                                                                                                               |
| Data unit                                                       | tCO <sub>2</sub> e                                                                                                                                                                                        |
| Description                                                     | Total <i>ex post</i> increase in GHG emissions due to displaced forest fires at year <i>t</i> .                                                                                                           |
| Source of data                                                  | Remote sensing data and GIS.                                                                                                                                                                              |
| Description of measurement methods and procedures to be applied | Forest fires in the leakage belt area can be considered activity displacement leakage. GHG emissions due displaced forest fires shall be subjected to monitoring, when significant.                       |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                  |
| Value applied                                                   | 0                                                                                                                                                                                                         |
| Monitoring equipment                                            | Remote sensing and GIS                                                                                                                                                                                    |
| QA/QC procedures to be applied                                  | Best practices in remote sensing and GIS.                                                                                                                                                                 |
| Purpose of data                                                 | This parameter will be used to calculate leakage emissions in the project scenario. Provides the <i>ex post</i> value of the increase in GHG emissions due to displaced forest fires in the leakage belt. |
| Calculation method                                              | Emissions from deforestation at each forest class are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area.                                         |
| Comments                                                        | Where evidence can be collected that deforestation in the leakage                                                                                                                                         |

|                   |                                                                                                                                                                                                       |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | belt is attributable to deforestation agents that are not linked to the project area, the detected deforestation may not be attributed to the project activity and therefore, not considered leakage. |
| <b>ASSESSMENT</b> | <b>The value of ex-ante monitoring parameter was selected correctly and the conservative way in accordance to methodology applied (Agencia Verde reports) /4/.</b>                                    |

|                                                                 |                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | $HI_{icl,t}$                                                                                                                                                                                                                                                                                                                         |
| Data unit                                                       | m <sup>3</sup> /ha                                                                                                                                                                                                                                                                                                                   |
| Description                                                     | 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).                                                                                                                                                         |
| Source of data                                                  | Sustainable forest management activity reports, such as the annual operational plan and the annual post-harvesting report.                                                                                                                                                                                                           |
| Description of measurement methods and procedures to be applied | Forest inventory and measurements of wood logs by Agro cortex employees. Agro cortex controls all the harvested timber from the forest management area through a software named <i>Inforest</i> . Harvesting intensity shall follow procedures described in the Sustainable Forest Management Plan for Fazenda Seringal Novo Macapá. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                             |
| Value applied                                                   | 9                                                                                                                                                                                                                                                                                                                                    |
| Monitoring equipment                                            | The same equipment applied in the forest inventory. Each harvested timber log is measured by Agro cortex employees and stored in a collector, which is linked to the <i>Inforest</i> software.                                                                                                                                       |
| QA/QC procedures to be applied                                  | Control procedures applied to forest inventory.<br>FSC Certification.<br>SFMP internal audit.<br>Logging authorization from the Brazilian Environmental Agency <sup>8</sup> .                                                                                                                                                        |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario. Provides the <i>ex post</i> value of the harvested timber volume due to planned logging activities in the project area.                                                                                                                          |
| Calculation method                                              | This parameter will be calculated through the annual timber inventory, which is carried out before harvesting and contains the timber volume from each APU. After harvesting operations, each harvested timber log is measured (diameter and height) by                                                                              |

<sup>8</sup> The responsible environmental agency in this case is the *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* - IBAMA.

|            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|            | <p>Agrocortex employees and stored in a collector, which automatically calculate the timber volume through the following equation:</p> $\ln V = -9,41417 + 0,97524 \times \ln (D^2 \times H)$ <p>Where,<br/>D = Diameter<br/>H = Height</p> <p>Carbon stock decrease from planned logging activities at each forest class are estimated by multiplying the detected area subject to logging by the harvested timber volume intensity (added to logging damage factor), and then by the mean wood density.</p> |
| Comments   | <p>A sustainable forest management plan (SFMP) was developed and has been executed by Agrocortex management team since 2014. Value above is only an <i>ex ante</i> estimate based on an annual harvest of 50,000 m<sup>3</sup> in each APU, which has an average area of 5,857 ha. This value will be calculated <i>ex post</i>, following the operation of the SFMP.</p> <p>If new and more accurate harvest intensity data become available, these can be used to estimate project emissions.</p>           |
| ASSESSMENT | <p><b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to Agrocortex report /22/.</b></p>                                                                                                                                                                                                                                                                                                                                                            |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b>Logging damage factor (LDF)</b>                                                                                                                                                                                                                                                                                                                                                                      |
| Data unit                                                       | m <sup>3</sup> /m <sup>3</sup> of harvested timber                                                                                                                                                                                                                                                                                                                                                      |
| Description                                                     | The logging damage factor (LDF) is a representation of the quantity of emissions that will ultimately arise per unit of extracted timber (m <sup>3</sup> ). These emissions arise from the non-commercial portion of the felled trees (the branched and stump) and trees incidentally killed during felling.                                                                                            |
| Source of data                                                  | SFMP related documentation, such as forestry inventory, harvesting management plans and post-harvest assessment reports.                                                                                                                                                                                                                                                                                |
| Description of measurement methods and procedures to be applied | The emissions resulting directly from logging are calculated by estimating the emissions resulting from dead wood created in each logging gap measured divided by the volume of wood created. According to the Sustainable Forest Management Plan, it is estimated that 1m <sup>3</sup> of forest residues is generated for each m <sup>3</sup> of log harvested through sustainable forest management. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                |

|                                |                                                                                                                                                                                                                                                                                |
|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Value applied                  | 1                                                                                                                                                                                                                                                                              |
| Monitoring equipment           | The same equipment applied in the forest inventory.                                                                                                                                                                                                                            |
| QA/QC procedures to be applied | Control procedures applied to forest inventory.<br>SFMP internal audit.<br>FSC Reports.                                                                                                                                                                                        |
| Purpose of data                | This parameter will be used to calculate project emissions from logging activities occurred in the project scenario due to sustainable forest management, specifically for the calculation of the carbon stock decrease due to planned logging activities in the project area. |
| Calculation method             | This parameter is added to the harvested timber volume intensity in order to calculate carbon stock decrease from planned logging activities at each forest class.                                                                                                             |
| Comments                       | If no monitoring data is available, SFMP data shall be used.<br>If new and more accurate harvest intensity data become available, these can be used to estimate project emissions                                                                                              |
| <b>ASSESSMENT</b>              | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to Agro cortex report /22/.</b>                                                                                                                                   |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><math>LTF_w</math></b>                                                                                                                                                                                                                                                                                                                                                                                                              |
| Data unit                                                       | %                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Description                                                     | Fraction of wood products that are considered permanent (i.e. carbon is stored for 100 years or more).                                                                                                                                                                                                                                                                                                                                 |
| Source of data                                                  | Sustainable forest management activity reports, such as the annual operational plan and the annual post-harvesting report. Financial reports may also be utilized to calculate this parameter.                                                                                                                                                                                                                                         |
| Description of measurement methods and procedures to be applied | Forest inventory and measurements of harvested wood logs by Agro cortex employees. Agro cortex controls all the harvested timber from the forest management area through the <i>Inforest</i> software.<br>Agro cortex divides timber production in commercial groups, which have different rates of commercialization. Each group has a specific durability and lifetime, which mainly depends on the quality and density of the wood. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Value applied                                                   | 0                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Monitoring equipment                                            | The same equipment applied in the forest inventory.                                                                                                                                                                                                                                                                                                                                                                                    |
| QA/QC procedures to be                                          | Control procedures applied to forest inventory.                                                                                                                                                                                                                                                                                                                                                                                        |

|                    |                                                                                                                                                                                                    |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| applied            | SFMP internal audit.<br>FSC Reports.                                                                                                                                                               |
| Purpose of data    | This parameter will be used to calculate project emissions in the project scenario, specifically for calculations of harvested wood products carbon pool.                                          |
| Calculation method | This parameter will be calculated through the percentage of final wood products that are considered permanent (long lifetime).                                                                     |
| Comments           | Value above is only an <i>ex ante</i> estimate. This value will be calculated <i>ex post</i> , following the operation of the SFMP.                                                                |
| <b>ASSESSMENT</b>  | <b>The value of ex-ante monitoring parameter was selected correctly and the conservative way in accordance to methodology applicated (Agencia Verde reports) /4/ and Agro cortex reports /22/.</b> |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><i>MTF<sub>w</sub></i></b>                                                                                                                                                                                                                                                                                                                                                                                                              |
| Data unit                                                       | %                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Description                                                     | Fraction of wood products that are retired between 3 and 100 years.                                                                                                                                                                                                                                                                                                                                                                        |
| Source of data                                                  | Sustainable forest management activity reports, such as the annual operational plan and the annual post-harvesting report. Financial reports may also be utilized to calculate this parameter.                                                                                                                                                                                                                                             |
| Description of measurement methods and procedures to be applied | Forest inventory and measurements of harvested wood logs by Agro cortex employees. Agro cortex controls all the harvested timber from the forest management area through the <i>Inforest</i> software.<br><br>Agro cortex divides timber production in commercial groups, which have different rates of commercialization. Each group has a specific durability and lifetime, which mainly depends on the quality and density of the wood. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Value applied                                                   | 59                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Monitoring equipment                                            | The same equipment applied in the forest inventory.                                                                                                                                                                                                                                                                                                                                                                                        |
| QA/QC procedures to be applied                                  | Control procedures applied to forest inventory.<br>SFMP internal audit.<br>FSC Reports.                                                                                                                                                                                                                                                                                                                                                    |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario, specifically for calculations of harvested wood products carbon pool.                                                                                                                                                                                                                                                                                  |
| Calculation method                                              | This parameter will be calculated through the percentage of final                                                                                                                                                                                                                                                                                                                                                                          |

|                   |                                                                                                                                              |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
|                   | wood products that have an expected lifetime between 3 to 100 years.                                                                         |
| Comments          | Value above is only an <i>ex ante</i> estimate. This value will be calculated <i>ex post</i> , following the operation of the SFMP.          |
| <b>ASSESSMENT</b> | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to Agrocorrex reports /22/.</b> |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><math>STF_w</math></b>                                                                                                                                                                                                                                                                                                                                                                                                           |
| Data unit                                                       | %                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Description                                                     | Fraction of wood products and waste that will be emitted to the atmosphere within 3 years.                                                                                                                                                                                                                                                                                                                                          |
| Source of data                                                  | Sustainable forest management activity reports, such as the annual operational plan and the annual post-harvesting report. Financial reports may also be utilized to calculate this parameter.                                                                                                                                                                                                                                      |
| Description of measurement methods and procedures to be applied | Forest inventory and measurements of harvested wood logs by Agrocorrex employees. Agrocorrex controls all the harvested timber from the forest management area through the <i>Inforest</i> software.<br>Agrocorrex divides timber production in commercial groups, which have different rates of commercialization. Each group has a specific durability and lifetime, which mainly depends on the quality and density of the wood. |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Value applied                                                   | 41                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Monitoring equipment                                            | The same equipment applied in the forest inventory.                                                                                                                                                                                                                                                                                                                                                                                 |
| QA/QC procedures to be applied                                  | Control procedures applied to forest inventory.<br>SFMP internal audit.<br>FSC Reports.                                                                                                                                                                                                                                                                                                                                             |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario, specifically for calculations of harvested wood products carbon pool.                                                                                                                                                                                                                                                                           |
| Calculation method                                              | This parameter will be calculated through the percentage of final wood products that have an expected lifetime below 3 years.                                                                                                                                                                                                                                                                                                       |
| Comments                                                        | Value above is only an <i>ex ante</i> estimate. This value will be calculated <i>ex post</i> , following the operation of the SFMP.                                                                                                                                                                                                                                                                                                 |
| <b>ASSESSMENT</b>                                               | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to Agrocorrex reports /22/.</b>                                                                                                                                                                                                                                                                                        |

|                                                                 |                                                                                                                                                                                                                                                                                                                |                                                                                 |                             |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------|
| Data / Parameter                                                | $VEX_{w,j,icl,t}$                                                                                                                                                                                                                                                                                              |                                                                                 |                             |
| Data unit                                                       | $m^3$                                                                                                                                                                                                                                                                                                          |                                                                                 |                             |
| Description                                                     | Volume of timber for product class $w$ , of species $j$ , extracted from within forest class $icl$ at time $t$                                                                                                                                                                                                 |                                                                                 |                             |
| Source of data                                                  | Sustainable forest management activity reports, such as the annual operational plan and the annual post-harvesting report. Financial reports may also be utilized to calculate this parameter.                                                                                                                 |                                                                                 |                             |
| Description of measurement methods and procedures to be applied | Forest inventory and measurements of wood logs by Agro cortex employees. Agro cortex controls all the harvested timber from the forest management area through a software named <i>Inforest</i> . Agro cortex divides timber production in commercial groups, which have different rates of commercialization. |                                                                                 |                             |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                                                                                                                                       |                                                                                 |                             |
| Value applied                                                   | Commercial Groups                                                                                                                                                                                                                                                                                              |                                                                                 |                             |
|                                                                 | Timber commercial Group                                                                                                                                                                                                                                                                                        | Characteristics                                                                 | $VEX_{w,j,icl,t}$ ( $m^3$ ) |
|                                                                 | High density woods and Mahogany                                                                                                                                                                                                                                                                                | High density woods, with the potential to become long-lived wood products       | 10,411                      |
|                                                                 | White woods                                                                                                                                                                                                                                                                                                    | Low density woods, mainly destined for construction (short-lived wood products) | 7,089                       |
| Monitoring equipment                                            | The same equipment applied in the forest inventory. Each harvested timber log is measured by Agro cortex employees and stored in a collector, which is linked to the <i>Inforest</i> software.                                                                                                                 |                                                                                 |                             |
| QA/QC procedures to be applied                                  | Control procedures applied to forest inventory.<br>FSC Certification.<br>SFMP internal audit.<br>Logging authorization from the Brazilian Environmental Agency <sup>9</sup> .                                                                                                                                  |                                                                                 |                             |
| Purpose of data                                                 | This parameter will be used to calculate project emissions in the project scenario, specifically for calculations of harvested wood products carbon pool. Provides the <i>ex post</i> value of the final wood                                                                                                  |                                                                                 |                             |

<sup>9</sup> The responsible environmental agency in this case is the *Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis* - IBAMA.

|                    |                                                                                                                                                                                                                                                                                                   |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                    | products volume per product class due to planned logging activities in the project area.                                                                                                                                                                                                          |
| Calculation method | This parameter is calculated based on the production of timber per commercial group. A volumetric efficiency coefficient of 35% <sup>10</sup> was utilized to calculate the parameter $VEX_{w,j,fc,l,t}$ , in order to convert the volume of timber harvested into volume of final wood products. |
| Comments           | Value above is only an <i>ex ante</i> estimate. This value will be calculated <i>ex post</i> , following the operation of the SFMP.                                                                                                                                                               |
| ASSESSMENT         | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to Agrocortex reports /22/.</b>                                                                                                                                                      |

|                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data / Parameter                                                | <b><math>MAI_{icl}</math></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Data unit                                                       | m <sup>3</sup> /ha/year                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Description                                                     | Mean annual increment at each forest class due to natural regeneration of managed forests following planned sustainable logging activities                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Source of data                                                  | <ul style="list-style-type: none"> <li>- Field measurements in sample plots;</li> <li>- BRASIL. Conselho Nacional do Meio Ambiente (CONAMA). Resolution 406, dated 02/02/2009. <b>Diário Oficial [da] República Federativa do Brasil</b>, Brasília, DF, 06 fev. 2009.</li> </ul> <p>This Resolution establishes technical parameters to be adopted in the preparation, presentation, technical evaluation and execution of a Sustainable Forest Management Plan - SFMP for logging purposes, for native forests and their succession forms in the Amazon biome.</p>                                         |
| Description of measurement methods and procedures to be applied | <p>Forests that will be subject to planned logging activities under the project scenario have the potential to grow and accumulate significant carbon stocks after the periodical harvest cycle due to natural regeneration.</p> <p>This parameter will be calculated through the annual monitoring of permanent plots following planned sustainable logging activities. However, if no monitoring data is available, literature data shall be used.</p> <p>Brazilian official data estimates that the annual productivity of managed forests is 0.86 m<sup>3</sup>/ha/year, such that at the end of 30</p> |

<sup>10</sup> CONSELHO NACIONAL DO MEIO AMBIENTE (CONAMA). Resolução nº 474, de 6 de abril de 2016. **Altera a resolução no 411, de 6 de maio de 2009, que dispõe sobre procedimentos para inspeção de indústrias consumidoras ou transformadoras de produtos e subprodutos florestais madeireiros de origem nativa, bem como os respectivos padrões de nomenclatura e coeficientes de rendimento volumétricos, inclusive carvão vegetal e resíduos de serraria, e dá outras providências.** Brasília, DF, 2016.

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                   | timber that was previously extracted, with a maximum harvesting intensity of 25 m <sup>3</sup> /ha will be recovered. This means the management practices will ensure timber (and carbon) stocks are fully recovered by the end of 30 years period.                                                                                                                                                                                                                                                                                                                |
| Frequency of monitoring/recording | Annually                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Value applied                     | 0.86                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Monitoring equipment              | The same equipment applied in the forest inventory.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| QA/QC procedures to be applied    | Control procedures applied to forest inventory.<br>SFMP internal audit.<br>FSC Reports.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Purpose of data                   | This parameter will be used to calculate project emissions from logging activities occurred in the project scenario due to sustainable forest management, specifically for the calculation of the carbon stock increase due to natural regeneration of managed forests after planned sustainable logging activities.                                                                                                                                                                                                                                               |
| Calculation method                | This parameter will be calculated through the annual measurement of the diameter of all remaining trees located within permanent plots following planned sustainable logging activities. The diameter is a good parameter to estimate the mean annual increment due to natural regeneration.<br><br>Carbon stock increase from previously planned logging areas within each forest class is estimated via the increase in DBH assessed in measured trees within permanent plots.<br><br>If no monitoring data is available, Brazilian official data shall be used. |
| Comments                          | A SFMP was developed and is executed by Agro cortex management team since 2014. Value above is only an <i>ex ante</i> estimate and is in line with definitions of the SFMP. This value will be calculated <i>ex post</i> , after the operation of the SFMP. Nevertheless, if no monitoring data is available, Brazilian official data shall be used.<br><br>If new and more accurate harvest intensity data become available, these can be used to estimate project emissions                                                                                      |
| ASSESSMENT                        | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to Agro cortex reports /22/ and national literature /41/.</b>                                                                                                                                                                                                                                                                                                                                                                                         |

|                  |                                                  |
|------------------|--------------------------------------------------|
| Data / Parameter | <b><math>RF_t</math></b>                         |
| Data unit        | %                                                |
| Description      | Risk factor used to calculate VCS buffer credits |

|                                                                 |                                                                                                                                                                                                        |
|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Source of data                                                  | <ul style="list-style-type: none"> <li>- VCS Non-Permanence Risk Report_Agrocortex REDD Project,</li> <li>- Remote sensing data and GIS,</li> <li>- Supervisor information Literature data.</li> </ul> |
| Description of measurement methods and procedures to be applied | All sources of data from the VCS Non-Permanence Risk Report were used to measure the various risk factors.                                                                                             |
| Frequency of monitoring/recording                               | Annually                                                                                                                                                                                               |
| Value applied                                                   | 15                                                                                                                                                                                                     |
| Monitoring equipment                                            | Remote sensing and GIS.                                                                                                                                                                                |
| QA/QC procedures to be applied                                  | Best practices in remote sensing and GIS.                                                                                                                                                              |
| Purpose of data                                                 | This parameter represents the non-permanence risk rating of the project, which was used to determine the number of buffer credits that shall be deposited into the AFOLU pooled buffer account.        |
| Calculation method                                              | This parameter was calculated using the AFOLU Non-Permanence Risk Tool. All the risk factors described in the VCS Non-Permanence Risk Report were assessed.                                            |
| Comments                                                        | N/A                                                                                                                                                                                                    |
| <b>ASSESSMENT</b>                                               | <b>The value of ex-ante monitoring parameter was calculated correctly and the conservative way in accordance to the evidence presented below section 3.3.</b>                                          |

These parameters are in accordance with the methodology V00015 v1.1.

### 3.2.8.3 Applicability and eligibility of monitoring equipment and procedures

This monitoring plan has been developed according to the VCS Methodology VM0015, version 1.1. A map showing Cumulative Areas Credited within the project area shall be updated and presented to VCS verifiers at each verification event.

The current baseline is valid for 10 years and will be reassessed every 10 years, and it will be validated at the same time as the subsequent verification. Information on agents, drivers and underlying causes of deforestation in the reference region will be collected at the end of each fixed baseline period.

Furthermore, the location of the projected baseline deforestation will be reassessed using the adjusted projections for annual areas of baseline deforestation and spatial data.

Regarding to monitoring deforestation and project emissions, the forest cover changes due to unplanned deforestation will be monitored through periodic assessment of classified satellite

images covering the project area. The emissions from deforestation are estimated by multiplying the detected area of forest loss by the average forest carbon stock per unit area. The project boundary, as set out in the PD, will serve as the initial “forest cover benchmark map” against which changes in forest cover will be assessed over the interval of the monitoring period.

The carbon stock losses within the project area by natural disturbance and catastrophic events will be subject to monitoring and accounting, when significant, and will be estimated as soon as possible after the natural event, e.g. uncontrolled forest fires (non-CO2 emissions) and other catastrophic events.

The project activity will be monitored by continuous monitoring activities using remote sensing techniques. Additionally, field studies will also be used. The land-use monitoring will be carried out with remote sensing methods, using images generated by INPE (PRODES) , Landsat, ResourceSat, or other, which will be subject to digital processing to perform the interpretation and classification of the land cover classes studied.

### 3.3 Non-Permanence Risk Analysis

The validation team assessed each of the risks and scores given by PP against the AFOLU non-permanence risk tool and the below was found:

#### 1) Project Management: - 4 score is correct

- a) Risk factor does not apply as the project involves the sustainable forest management of existing forest resources in the Project Area as seen during site visit and in the SFMP /22/. Score 0 correctly applied.
- b) Less than 50% of the carbon stocks are fragile to encroachment by outside actors and, therefore, need active protection. As seen from Google Maps, Agencia Verde Report /4/ and from site visit, the most fragile areas are located in the South of the Project area, surrounding the Purus River. Also seen in the site visit is that Agrocortex performs an active monitoring of unplanned deforestation. Actions include monitoring the area based on satellite images (to detect heat sources and deforestation), airplane surveillance of distant areas and ground surveillance using pickup trucks and boats in areas surrounding established communities. Score 0 correctly applied.
- c) The validation team checked all the evidence cited in the VCS non-permanence risk report v3 and also interviewed personnel working in the SFMP and confirms any area of required experience is covered by at least one individual with at least 5 years experience in the area. Score 0 correctly applied.
- d) The validation team checked during site visit that management team, responsible for reporting and responding to any events, such as unpermitted deforestation, degradation or unauthorized resource use, is located less than a day of travel from the Project site. Score 0 correctly applied.
- e) Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (eg, individuals who have successfully

managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs. This evidence is listed in item C of the non-permanence risk report and has been checked by the validation team. Score of - 2 correctly applied.

- f) Social Carbon is in place and requires continuous monitoring and improvement. Also in place FSC and SFMP. Score – 2 correctly applied.

**2) Financial Viability: 4 score correctly given.**

- a) Validation team checked in the financial analysis “Cashflow CO2\_v4” /19/ that breakeven would be reached in more than 10 years. Score 3 correctly applied.
- b) c) and d) N/A
- e) Score given 3
- f) g) and h) N/A
- i) Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven as demonstrated by the declaration of partners of Agrocorrex /54/. Score – 2 correctly given.

**3) Opportunity cost: - 2 score given.**

- a) b) and c) N/A
- d) Score 0
- e) and f) N/A
- g) According to PP in site visit interview, Agrocorrex major shareholder is Aprovechamientos Dasocráticos Sostenibles, S.L., which is mainly composed by Fundación Maria Cristina Masaveu Peterson, a non-profit organization. Score – 2 correctly applied.
- h) and i) score 0 correctly applied.

**4) Project Longevity: 15 score correctly applied as evidenced by SFMP /22/**

**5) Land Tenure: 0 score given as per evidences /5/ /18/ /30/**

**6) Community Engagement: - 5 score given as per evidences /35/ /55/ /56/ and site visit.**

**7) Political Risk: 0 score correctly applied according to evidence provided by PP at Agrocorrex VCS non-permanence risk report itself, in the appropriate section.**

| Risk Category | Rating | Validation |
|---------------|--------|------------|
|---------------|--------|------------|

|                                        |           |                |
|----------------------------------------|-----------|----------------|
| a) Internal Risk                       | 13        | Correct        |
| b) External Risk                       | 0         | Correct        |
| c) Natural Risk                        | 2         | Correct        |
| <b>Overall Risk Rating (a + b + c)</b> | <b>15</b> | <b>Correct</b> |

X

## 4 SAFEGUARDS

### 4.1 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 /61/

| Activity                      | Aspect                                           | Impact                                                  | Effect     |         | Comments/<br>Observation                                                                                     |
|-------------------------------|--------------------------------------------------|---------------------------------------------------------|------------|---------|--------------------------------------------------------------------------------------------------------------|
|                               |                                                  |                                                         | Beneficial | Adverse |                                                                                                              |
| Sustainable forest management | Frighten animals                                 | Hunting shortage                                        |            | X       | - Biodiversity resource:<br>Biodiversity monitoring; Impact on remaining flora                               |
| Sustainable forest management | Vehicle transport                                | Air Pollution, Noise and soil erosion                   |            | X       | - Human resource:<br>Conflict management                                                                     |
| Sustainable forest management | Land demarcation processes                       | Land tenure                                             | X          |         | - Natural resource:<br>Land tenure                                                                           |
| Sustainable forest management | Presence of company/workers on local communities | Conflicts between company/workers and local communities |            | X       | - Human resource:<br>Conflict management;<br>Public health<br>- Carbon resource:<br>Stakeholder consultation |
| REDD carbon project           | Conservation of Amazon Rainforest                | Avoided deforestation                                   | X          |         | - Carbon resource:<br>Project performance;<br>Buffer reduction                                               |
| REDD carbon                   | Empower                                          | Increase                                                | X          |         | - Social resource:                                                                                           |

|                        |                                                               |                                                                                                                                                  |   |  |                                                                                                                                                                                                                                                                       |
|------------------------|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project                | ment                                                          | independenc<br>e of<br>communities<br>in the<br>project<br>area.                                                                                 |   |  | Associations and<br>cooperatives; Women<br>inclusion<br><br>- Human resource:<br>Community education<br>and training<br><br>- Financial resource:<br>Alternative income<br>sources<br><br>Biodiversity resource:<br>Non timber forest<br>products (NTFPs)             |
| REDD carbon<br>project | Applicatio<br>n of the<br>Social<br>Carbon<br>methodolo<br>gy | Encouragem<br>ent,<br>monitoring<br>and<br>investment<br>on social,<br>economic<br>and<br>environment<br>al aspects in<br>the project<br>region. | X |  | - Social resource:<br>Women inclusion;<br>Expansion of<br>community activities<br><br>- Financial resource:<br>Secure funds; Carbon<br>credit Investments<br><br>- Natural resource:<br>Social and<br>Environmental<br>Investments; Control<br>and Quality monitoring |

## 4.2 Environmental Impact

No EIA is required for a SFMP /20/ in Brazil. After the SFMP is produced by the project owner, it is approved by IBAMA (the national environmental agency). The annual operational plans are then produced /22/ by the project owners and sent to IBAMA too. The regulators then issue the authorisation for harvest /21/ for the parcel of land which that annual operational plan is related to.

## 4.3 Local Stakeholder Consultation

The local stakeholder consultation was held on 20/06/2017 in the Agro cortex industrial complex located in Manoel Urbano, State of Acre. Rina participated of the consultation which was in the form of a meeting. All questions from stakeholders were answered there in the meeting itself.

The list of invites are found on section 2.4.2 of the MR. The ARs for them have been checked by the validation team /62/. The validation team confirms that PPs answered all questions appropriately.

#### 4.4 Public Comments

No negative input or comment was received during the public comment period.

### 5 VALIDATION CONCLUSION

The validation team of RINA has performed a Validation for the Agro cortex REDD Project in Brazil on the basis of VCS Version 3.7 /50/, as well as criteria given to provide for consistent project operations, monitoring and reporting.

The review of the project design documentation and the subsequent follow-up interviews have provided RINA with sufficient evidence to determine the fulfillment of stated criteria. The project correctly applies the methodology “VCS:VM0015 Methodology for Avoided Unplanned Deforestation” v1.1. /6/

The estimated Emission Reductions during the crediting period (01-July-2014 until 30-June-2044) by the Agro cortex REDD AUD Project are expected to be 14,507,808 tCO<sub>2</sub>e over the 30 year project lifetime.

The monitoring plan is in accordance with the applied methodology “VCS:VM0015 Methodology for Avoided Unplanned Deforestation” v1.1. /6/.

The validation team concluded that the Agro cortex REDD Project is established as described in the VCS PD (v. 5) /1/ (dated 12 March 2018) and meets all relevant requirements of the above-defined criteria.

RINA therefore issues a positive Validation opinion to Agro cortex REDD Project.

**Table 1. APPENDIX A: validation protocol**

| Checklist question                                                                                                                                                                              | Ref.         | MoV <sup>11</sup> | Findings, comments, references, data sources                                                                                       | Draft conclusion | Final conclusion |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------|
| <b>A. VCS Project Description Document</b>                                                                                                                                                      |              |                   |                                                                                                                                    |                  |                  |
| 1.1. Is the VCS PD presented for validation based on the latest template available at the VCS website?                                                                                          | /1/ /11/     | DR                | The VCS PD presented is based on the latest template available at VCS website<br>Ref: VCS Project Description Template v3.3        | OK               | OK               |
| 1.2. Has the VCS PD been established in accordance with the VCS requirements for completing VCS PD issued by the VCS Association?                                                               | /1/ /7/ /11/ | DR                | The VCS PD has been established in accordance with the VCS requirements.                                                           | OK               | OK               |
| <b>B. Project Description</b>                                                                                                                                                                   |              |                   |                                                                                                                                    |                  |                  |
| B.1. Does the VCS PD contain a description, which provides the reader with a clear understanding of the precise nature of the project activity and the technical aspects of its implementation? | /1/          | DR and site visit | The section 1 of the VCS PD provide a clear description of the project activity and its technical and implementation generalities. | OK               | OK               |

<sup>11</sup> MoV = Means of Verification, DR = Document Review, I = Interview, www = internet search.

|                                                                                                                                                                                                                                                                 |          |    |                                                                                                                                                                                                                                                                                                           |    |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| <p>B.2. In the case of REDD project activity, is the project design described sufficiently by means of specifications, drawings and manuals?<br/><i>Provide Yes/No answer and indicate the documents which have been reviewed in relation to the issue.</i></p> | /1/ /7/  | DR | <p>Yes, the PD and the others documents reviewed are sufficient to described the REDD project activity.</p>                                                                                                                                                                                               | OK | OK |
| <p>B.3. Does the project activity reflect current good practices, uses state of the art technology or would the technology result in a significantly better performance, than any commonly used technologies in the host country?</p>                           | /1/ /4/  | DR | <p>The Agrocortex Project used the state of art technology to analyse land use and land cover (LU/LC) prior to project initiation and for future projection of land use in the region. For this, Gis Mapping techniques, remote sensing satellite analysis and statistical analysis were carried out.</p> | OK | OK |
| <p>B.4. Are the sectoral scopes and project type applicable to the project clearly described? Is the project a grouped project?</p>                                                                                                                             | /8/ /12/ | DR | <p>The project belongs to sectoral scope 14 (Agriculture, Forestry, Land Use).</p> <p>The project is not a grouped project and is clearly identified as a REDD Avoided Unplanned Deforestation (AUD) project according to the VCS AFOLU definition.</p>                                                   | OK | OK |

|                                                                                                                                                                                                             |             |    |                                                                                                                                                          |     |     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
| B.5. Are all the contact information and responsibilities for the project proponents and others clearly described?                                                                                          | /1/         | DR | The PD provides all the information about the proponents of the project and other entities involved in the project.                                      | OK  | OK  |
| B.6. Does the project grouping apply for the proposed project? If yes, does the VCS PD include a description of one central GHG information system and controls associated with the project and monitoring? |             | DR | Not applicable. The Project is not a grouped project.                                                                                                    | N/A | N/A |
| B.7. Does the central GHG information system and controls include items identified in ISO14064-3:2006, clause 4.5?                                                                                          |             | DR | Not applicable. The Project is not a grouped project.                                                                                                    | N/A | N/A |
| B.8. What is the scale of the project? What are the estimated annual GHG emission reductions or removals for the project crediting period?                                                                  | /1/ /2/ /7/ | DR | The project is classified as a "Project". The estimated average annual GHG emission reductions of the project will generate less than 1 million of VCUs. | OK  | OK  |

|                                                                                                                                                                                                                                                                                   |           |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----|
| B.9. Does the VCS PD provide a clear description of the location of the project?                                                                                                                                                                                                  | /1//4//5/ | DR                | <p>The PD provides a clear description of the location of the project. The Project is situated in three municipalities within the southwestern Amazon region: Manoel Urbano in the State of Acre and Pauini and Boca do Acre in the State of Amazonas Brazil.</p> <p>Section 1.9 of the PD provides a map of the project area and the VVB has checked the coordinates of the vertices used to delineate the project area boundary in the map against coordinates of the domain chain certificates /5/.</p> <p>In order to have a clearer description of project location in the PD and to avoid future double counting of credits, PA coordinates should be stated in the PD.</p> | CAR9 | OK |
| B.10. In cases where the project activity involves the alteration or correction of an existing previously validation process. Does the VCS PD provide a clear description of the differences between the project and the project scenario of the 1 <sup>st</sup> baseline period? | /1/       | DR and Site Visit | N/A the project activity does not involve the alteration or correction of an existing, previous, validation process. This is the first validation of this project activity.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | OK   | OK |

|                                                                                                                                                                                                                |            |                   |                                                                                                                                                                                                                                                                                                                  |     |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| B.11. Does the VCS PD provide a clear description of the characteristic or condition of weather, geographic, biodiversity and vegetation cover prior to the project initiation? Are there supporting evidence? | /1//4/     | DR and Site Visit | The PD provides a clear description of the defining characteristics of climate, geomorphology, biodiversity and the vegetation cover (prior) of the project area through maps and technical documents.                                                                                                           | OK  | OK |
| B.12. Does the VCS PD provide a clear description of the characteristic or condition of socio-economic prior to the project initiation? Are there supporting evidence?                                         | /1//4//13/ | DR and Site Visit | The PD provides a clear description of the socioeconomic conditions in the project area.<br><br>CL please provide exact references of IBGE used to construct graphs Figs 17, 18 and the ones used in the figures illustrating the 2006 agricultural census data so that the graphs shown in PD can be validated. | CL6 | OK |
| <b>C. Compliance with Laws, Statutes and Other Regulatory Frameworks</b>                                                                                                                                       |            |                   |                                                                                                                                                                                                                                                                                                                  |     |    |

|                                                                                                               |            |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |           |           |
|---------------------------------------------------------------------------------------------------------------|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
| <p>C.1 Are identified the relevant local, regional and national laws, statutes and regulatory frameworks?</p> | <p>/1/</p> | <p>DR</p> | <p>The PD identified the main law and its update that addresses the forest clearing</p> <p>According to the Brazilian Forest Code (Law N° 12.651, 25/05/2012), all rural estates located in forest zones should have:</p> <p>I - 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, protect the soil and ensure the well-being of human populations.</p> <p>II - Legal Reserve (LR): an area located within a rural property or possession, except for the permanent preservation, necessary for the sustainable use of natural 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.</p> | <p>OK</p> | <p>OK</p> |
|---------------------------------------------------------------------------------------------------------------|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|

|                                                                                                                                             |                    |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| C.2 Is the project in compliance with all the relevant local, regional and national laws, statutes and regulatory frameworks identifiedlaw? | /1/15//20//21//22/ | DR | <p>Yes, the project is in compliance with local, regional and national laws /20//21//22/. However, all calculations were made assuming that the Reference Region of the project has a general non-compliance with the Brazilian Forest Code. Thus, the baseline scenario considers the potential of unplanned deforestation in Project Area to surpass the limits stipulated by the Law.</p> <p>That is due to the fact that there is a general non-compliance with the Brazilian Forest Code /1//15/.</p> | OK | OK |
| <b>D. Ownership and Other Programs</b>                                                                                                      |                    |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |
| D.1. Are available of proof of title of the land of the project?                                                                            | /1/ /5//18/        | DR | The legal documents proving the land title and ownership of the property were available for validation.                                                                                                                                                                                                                                                                                                                                                                                                    | OK | OK |
| D.2 . Has the project been registered, or is seeking registration under any other GHG programs or other forms of environmental credits?     | /1/                | DR | No, the project is not registered and is not seeking registration in any other GHG program or environmental credits program.                                                                                                                                                                                                                                                                                                                                                                               | OK | OK |
| <b>E. Project Start Date and Crediting Period</b>                                                                                           |                    |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |

|                                                                                                                                                                                   |              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----|
| <p>E.1. Are the project's start date clearly defined and evidenced? Does the project start date meet the requirements as stated in VCS AFOLU Requirements v3.5, clause 3.2.1?</p> | /1/ /7/ /21/ | DR | <p>The PD described that the date of start of the project was on June 2, 2014 when the Agrocortex obtained the logging authorization from the Brazilian Environmental Agency for operating the area. From this date, the first Annual Production Unit (APU) was harvested through sustainable forest management plan (SFMP) and reduced impact logging techniques. This was the main action of the company in terms of reducing GHG emissions and initiating the present REDD project.</p> <p>This can be considerate as implementing activities management or protection plans.</p> <p>It was not presented the logging authorization from the Brazilian Environmental Agency for operating the area. This is not clear to validation team.</p> | CL 1 | OK |
| <p>E.2. Is the start of the crediting period clearly defined and reasonable?</p>                                                                                                  | /1/          | DR | <p>The start of the crediting is clearly defined (July 1, 2014). And the finished data is on June 30, 2044.</p> <p>The project has a crediting period of 30 years.</p> <p>It is not clear to validation team why the start of the project is different to start of the crediting period.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                     | CL 2 | OK |
| F. Application of Methodology                                                                                                                                                     |              |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |    |

| F.1. General requirements                                                                                                                                                                    |             |    |                                                                                                                                                                                                                                                                                                                                                                                              |    |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| F.1.1 Is the methodology used in the project activity an approved VCS Program methodology or a methodology from a VCS-approved GHG program? Is the selected methodology version still valid? | /1/ /6/ /7/ | DR | The PD used the VM0015 Methodology for Avoided Unplanned Deforestation v1.1 (last version approved – December 3, 2012). This methodology is from VCS Program.                                                                                                                                                                                                                                | OK | OK |
| F.2. Applicability of the selected methodology                                                                                                                                               |             |    |                                                                                                                                                                                                                                                                                                                                                                                              |    |    |
| F.2.1 Are all applicability conditions of the selected methodology and all tools involved satisfied by the project activity?                                                                 | /1/ /6/     | DR | The applicability conditions were totally met, as required by the methodology.                                                                                                                                                                                                                                                                                                               | OK | OK |
| F.2.2 Is the selection of the applied methodology justified?                                                                                                                                 | /1/ /6/     | DR | The selection is justified. The present project activity falls within category <b>B</b> , “Avoided Deforestation with Logging in the Project Case”. The reason is that the project area contains only native tropical rainforest and a sustainable forest management plan is implemented in the project area.<br><br>Degradation is not included in either the baseline or project scenario. | OK | OK |
| F.2.3 Is the selected methodology correctly quoted in all related documents?                                                                                                                 | /1/ /6/     | DR | Yes, the selected methodology is quoted in the documents.                                                                                                                                                                                                                                                                                                                                    | OK | OK |

|                                                                                                                                                                                                                                                                                                                      |                |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |              |           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|
| <p>F.2.4 Does the VCS PD sufficiently describe all the GHG emission sources or sinks (pools) occurring as a result of project activity, which have not been accounted for under the selected methodology and are expected to contribute less than 5% of the overall expected average annual emission reductions?</p> | <p>/1/ /2/</p> | <p>DR</p> | <p>In the PD were sufficiently describe all the GHG emission sources or sinks occurring as a result of project activity.</p> <p>The source or sinks which were negligible are Dead Wood to be insignificant in their emissions.</p> <p>Litter e Soil organic carbon not to be measured according to VCS Program Update of May 24th, 2010 and not to be measured in conversions to pasture grasses and perennial crop according to VCS Program Update of May 24th, 2010, respectively.</p> <p>It was presented that the biomass burning and livestock emission were excluded because no biomass burning increase is predicted to occur in the project scenario compared to the baseline case and no livestock agriculture increase is predicted to occur in the project scenario compared to the baseline case.</p> <p>It not was demonstrated that emissions shall be expected to contribute less than 5% of the overall expected average annual emission reductions.</p> | <p>CAR 1</p> | <p>OK</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------|

| <b>F.3. Project boundary</b>                                                                                                                          |     |    |                                                                                                                                                                                                                                                                                                                              |    |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| F.3.1. Does the VCS PD correctly describe the spatial boundaries of the Project Area, Reference Region, Leakage Belt and Leakage Management?          | /1/ | DR | The PD, on the 1.9 item describe the spatial boundaries of the project activity. Also, the limits and its size of the Project Area, Leakage Belt, Leakage Management and Reference Region are presented. The Figure 11 (page 26) show the project boundaries.                                                                | OK | OK |
| F.3.2. Are correct criteria for forest definitions and maps used in PD in relation to the methodology?                                                | /1/ | DR | The criteria of this definition is in accordance with the limits of the parameters of an area classified as "forest".<br>The maps used are complying with the size of Minimum Mapping Unit (MMU), where the pixel should be less than 1 hectare. In the maps shown in PD, the pixel corresponds to an area of 0.09 hectares. | OK | OK |
| F.3.3. Does the VCS PD correctly indicate and describe the emission sources and sinks (pools) of GHG gases that are included in the project boundary? | /1/ | DR | The PD included Above-ground biomass (Tree and Non-tree), Below-ground biomass of forest and harvested wood products as source of GHG emission. (Table 11, pag. 58).                                                                                                                                                         | OK | OK |

|                                                                                                                                                                                              |         |    |                                                                                                                                                                                                                                                                                                                                                                        |      |    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----|
| F.3.4. In cases where the methodology allows project participants to choose whether a source or gas is to be included in the project boundary, is the choice explained and justified by PPs? | /1/     | DR | The PD explains correctly the most part of sources or gases chosen.<br><br>But is not clear to validation team why the biomass burning is excluded being that the biomass burning is a normal practice in the dynamics of deforestation in Brazil and can increase CH <sub>4</sub> and N <sub>2</sub> O emissions and may be this exclusion could not be conservative. | CL 3 | OK |
| <b>F.4. Baseline identification</b>                                                                                                                                                          |         |    |                                                                                                                                                                                                                                                                                                                                                                        |      |    |
| F.4.1 Has the procedure contained in the selected methodology to identify the most reasonable baseline scenario been applied correctly and documented in the VCS PD?                         | /1/ /6/ | DR | In the PD was identified applying the procedure contained in the methodology that best adjusted to more reasonable Baseline.                                                                                                                                                                                                                                           | OK   | OK |
| F.4.2 Is the identified baseline scenario plausible?                                                                                                                                         | /1/ /6/ | DR | The Selection of Baseline Approach was the approach "C", "Modelling", which was adopted to create the baseline of the project period. That seems the most plausible.                                                                                                                                                                                                   | OK   | OK |

|                                                                            |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |
|----------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| F.4.3 Are all assumptions stated in a transparent and conservative manner? | /1/ | <p>The PD has established assumptions for the baseline, where they are analyzed agents and drivers which cause the deforestation in the RR such as roads, rivers and anthropics areas wish influence in the agriculture and livestock activities.</p> <p>The PD describe that the dynamics of deforestation presents these activities or drivers in a sequence and overlap in the same area.</p> <p>All assumptions were considered in a transparent and conservative manner.</p> | OK | OK |
|----------------------------------------------------------------------------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|

|                                                                                                                     |                    |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |           |           |
|---------------------------------------------------------------------------------------------------------------------|--------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|
| <p>F.4.4 Does the selected methodology require the use of tools <u>and</u> does VCS PD reflects that correctly?</p> | <p>/1/ /4/ /5/</p> | <p>DR</p> | <p>The method used to projection of deforestation in the baseline period requires the use of tools and techniques, the PD describe the use of them. Was used the GIS mapping, remote sensing techniques. In order to analyse land use and land cover (LU/LC) prior to project initiation, described in the present section, remote sensing satellite analysis was carried out.</p> <p>The baseline simulation in the revision of the new baseline was constructed using GIS Idrisi Selva, specifically the sequence of functions: Markov chains; Calibration of the simulation model and Markov chains coupled with a cellular automaton algorithm.</p> <p>It was identified the most important agents responsible for LU/LC change in the reference region, in order to direct the landscape simulation. The change agents selected were: influence of access roads, influence of anthropic areas and the influence of rivers.</p> | <p>OK</p> | <p>OK</p> |
|---------------------------------------------------------------------------------------------------------------------|--------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-----------|

|                                                                                              |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |    |    |
|----------------------------------------------------------------------------------------------|---------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|
| F.4.5 Were all the tools applied correctly?                                                  | /1/ /5/ | DR | <p>The PD describe that in order to simulate the landscape in the baseline to the new period, were used in the calibration phase the LU/LC maps (satellite images) from the years 1999 and 2013. The methodology requires that the reference period is between 10-15 years before the start of the new period (2014 in this case). Therefore, the satellite images do meet the 15 years prior.</p> <p>In order to select the most accurate deforestation risk map, was carried out a calibration. For calibrate the model, the simulated 2013 scenario was compared with the landscape mapped through the Landsat-8 image from 2013, by means of applying the Kappa agreement index in Idrisi Selva software.</p> | OK | OK |
| F.4.6 Were presented the maps to localize of the future deforestation areas in the baseline? | /1/     | DR | <p>It was identified on the PD, location of future deforestation maps to Reference Region, Leakage belt and Project Area.</p> <p>It were identified on the PD the risk maps and the future deforestation maps to the project period.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | OK | OK |

|                                                                                                                                                                                                                                                            |         |    |                                                                                                                                                                                                                                                                                                                                                                      |              |            |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------|
| F.4.7 In case the methodology requires several alternative scenarios to be considered in the identification of the most reasonable baseline scenario, have all scenarios been considered <u>and</u> have no reasonable alternative scenario been excluded? |         | DR | Not applicable                                                                                                                                                                                                                                                                                                                                                       | <b>N/A</b>   | <b>N/A</b> |
| F.4.8 Has the choice of the baseline scenario been done using conservative assumptions?                                                                                                                                                                    |         | DR | Not applicable                                                                                                                                                                                                                                                                                                                                                       | <b>N/A</b>   | <b>N/A</b> |
| F.4.9 Is the identified baseline scenario reasonable according to the assumptions, calculations and rationales used in the VCS PD and other reference sources?                                                                                             | /1/ /5/ | DR | <p>The Baseline follows a logical sequence and this according to the assumptions and rationales used in the VCS PD and other reference sources.</p> <p>However, values of deforested areas in the years 2020-2024 and 2027 were significantly anomalous leading to negative deforestation, which does not make sense (Tables 24, 26, 27, 29, 30, 32, 34 and 36).</p> | <b>CAR 2</b> | <b>OK</b>  |

|                                                                              |                                                                                                                                                                                                                                            |             |    |                                                                                                                                          |     |     |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|----|------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|
| F.4.10                                                                       | Does the VCS PD describe how the national and sectoral policies relevant to the baseline scenario have been identified and considered in the VCS PD?                                                                                       | /1/         | DR | PD considered the lack of enforcement of the Forest Code in the country in the baseline.                                                 | OK  | OK  |
| F.4.11                                                                       | Has been updated the baseline?                                                                                                                                                                                                             |             |    | Not applicable                                                                                                                           | N/A | N/A |
| F.4.12                                                                       | Does the VCS PD provide a verifiable description of the identified baseline scenario, including a description of the technology that would be employed and/or the activities that would take place in the absence of the project activity? | /1/         | DR | The VCS PD provides a verifiable description of the identified baseline scenario.                                                        | OK  | OK  |
| <b>F.5. Algorithm and/or formulate used to determine emission reductions</b> |                                                                                                                                                                                                                                            |             |    |                                                                                                                                          |     |     |
| F.5.1                                                                        | Are all calculations applied and documented according to the selected methodology and in a complete and transparent manner?                                                                                                                | /1/ /2/ /6/ | DR | In general, all calculations were applied and documented according to the selected methodology and in a complete and transparent manner. | OK  | OK  |

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| <p>F.5.2 In case the methodology allows a selection between different options for equations or parameters, has adequate justification been given and have the correct equations and parameters been used, in accordance with the methodology selected?</p> | <p>/1/ /22/ /23/ /24/ /25/</p> | <p>DR</p> | <p>In the PD it was presented that the determination of the carbon stocks followed the national scientific literature, where Salimon et al. (2011), made a study of forest biomass conducted in the State of Acre that covered all forest types in the State. The results from this study were also compared with Nogueira et al. (2008) and Saatchi et al. (2007), presenting very similar conclusions. Thus, it was possible to determine the carbon stocks of each of the four subclasses or forest typologies of the project (Table 41 and Table 43).</p> <p>The carbon stocks of the different typologies of the project do not present significant differences with the typologies presented in the third Brazilian National Communication (3rd GHG Emission Inventory of Brazil - MCTI, 2015). However, AGROCORTX presented a forest inventory of the project area with values significantly different.</p> <p>It is not clear to the validation team why this forest inventory and its results were not considered and used to estimate the carbon stocks of the PA forest.</p> | <p>CL 4</p> | <p>OK</p> |
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| <p>(continued...)</p> <p>F.5.2 In case the methodology allows a selection between different options for equations or parameters, has adequate justification been given and have the correct equations and parameters been used, in accordance with the methodology selected?</p> | <p>/1/ /22/ /23/ /24/ /25/</p> | <p>In PD were presented only 4 subclasses or typologies of existing forests in RR, LKB and PA (Open Tropical Rainforest with bamboo, Open Tropical Rainforest with palm trees, Open Alluvial Rainforest with palm trees and Secondary vegetation). In the Green Agency report, 13 different forest phytophysionomies were identified. These were later grouped into 5 classes, with the Dense Tropical Rainforest being discarded from the project. The groups followed a criterion of the predominant category of each phytophysionomy and were presented in table 5 of document / 04 /.</p> <p>In the same document, Table 4 showed the different classes or phytophysionomies with their surface and percentage for RR, LKB and PA. It was identified that only three phytophysionomies are present in the PA, which, with the grouping, would be counting other phytophysionomies, it is represented as an anomaly in the calculation of emissions and reductions of carbon dioxide emissions.</p> <p>Therefore, in the evaluation it is possible to identify that the project has the conditions to make more accurate deforestation projections and</p> | <p>CAR 3</p> | <p>OK</p> |
| <p>v3.4</p>                                                                                                                                                                                                                                                                      |                                | <p>estimates with the characteristics of the forest cover for each site (RR, LKB and PA).</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |              | <p>87</p> |

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| F.5.3                                           | In case some data and parameters will not be monitored throughout the crediting period, but have already been determined and fixed, are all data sources, assumptions and calculations correct, applicable to the proposed VCS project activity and conservative? |             | DR | Not applicable                                                                                               | N/A | N/A |
| F.5.4                                           | In case data and parameters will be monitored on implementation and hence become available only after validation of the project activity, are the estimates provided in the VCS PD for these data and parameters reasonable?                                      |             | DR | Not applicable                                                                                               | N/A | N/A |
| <b>F.6. Leakage Belt and Leakage Management</b> |                                                                                                                                                                                                                                                                   |             |    |                                                                                                              |     |     |
| F.6.1                                           | Has the leakage been identified and calculated according to the approved methodology?                                                                                                                                                                             | /1/ /4/ /5/ | DR | It was identified that the Leakage Belt and Leakage Management were calculated according to the methodology. | OK  | OK  |

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| F.6.2 Have the leakage been addressed in complete, conservative and substantiated manner?                                                                                                                                                                                   | /1/     | DR | The Leakage Belt and Leakage Management were presented of the way complete, conservative and substantiated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | OK | OK |
| <b>G. Additionality</b>                                                                                                                                                                                                                                                     |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |
| <b>G.1. Identification of alternatives</b>                                                                                                                                                                                                                                  |         |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |    |    |
| G.1.1 What additionality tool has been selected in the VCS PD?                                                                                                                                                                                                              | /1/ /8/ | DR | The PD applied the VCS Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities (VT0001) Version 3.0                                                                                                                                                                                                                                                                                                                                                                                                                                          | OK | OK |
| G.1.2 Does the VCS PD identify and list credible alternatives to the VCS project activity in order to determine the most realistic baseline scenario, unless selected approved methodology prescribes/identifies the baseline scenario and no further analysis is required? | /1/     | DR | The VCS PD identified 3 possible activities or alternatives to the VCS project. The activities (1)Pre-project activities, like the advancement of infrastructure, timber logging and cattle ranching into the project area; (2) project activity on the land within the project boundary performed without being registered as a VCS AFOLU but with all VCS AFOLU activities like social carbon activities, in order to reduce deforestation, as well as the forest management plan and FSC; (3) Sustainable forest management plan and FSC without VCS AFOLU activities. These are the most realistic baseline scenarios. | OK | OK |

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| G.1.3 Does the list of alternatives include as one of the options that the project activity is undertaken without being registered as a VCS project activity?                                                                                                                                                                                                                               | /1/ | DR | The list of alternatives includes as one of the options the project activity undertaken without being registered as a VCS project activity                                                                                               | OK | OK |
| G.1.4 Does the list contain all realistic/credible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the project activity?<br><i>Note: All alternatives listed in the selected methodology should be included, as well as those not covered by the methodology.</i> | /1/ | DR | The list contains all realistic/credible alternatives that the DOE, on the basis of its local and sectoral knowledge, considers to be viable means of supplying the outputs or services that are to be supplied by the project activity. | OK | OK |

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| G.1.5 Is the exclusion of the alternatives for legal reasons justified?<br><i>Note: Some alternatives might be illegal, according to the local regulations, but still widely practiced due to lack of enforcement. It should be verified.</i> | /1/    | DR | No alternatives were excluded for being illegal as it has been shown that illegal logging is widespread due to lack of enforcement (see section C.2. above).                                                                                                                                                                                                                                                            | OK | OK |
| <b>G.2. Investment Analysis</b>                                                                                                                                                                                                               |        |    |                                                                                                                                                                                                                                                                                                                                                                                                                         |    |    |
| G.2.1 Have all sources of revenues (including savings) been considered in the VCS PD and all calculations?                                                                                                                                    | /1/    | DR | Yes, all the source of revenues have been considered.                                                                                                                                                                                                                                                                                                                                                                   | OK | OK |
| G.2.2 Is the type of investment analysis selected correctly in the VCS PD?                                                                                                                                                                    | /1//8/ | DR | The project activity involves the sustainable harvest of timber and therefore generates income. Option II, Investment comparison analysis was chosen as there was more than one option of investment. The VVB found it to be an appropriate method of analysis according to the Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Uses (AFOLU) Project Activities. | OK | OK |

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| G.2.3 Is the selected financial indicator chosen and applied correctly? | /1//8//19/ | DR | IRR was the indicator chosen and it is the correct indicator to be used according to the Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Uses (AFOLU). | <b>OK</b> | <b>OK</b> |
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| <p>G.2.4 Is the guidance on financial indicator calculation and assessment correctly applied?</p> <p><i>Note: Means of validation should be recorded.</i></p> | <p>/1//8//19//21//31/<br/>/32//33//34/<br/>/42//43//44//45/</p> | <p>DR</p> | <p>CL7 why have you used 10% discount rate and what evidence can you provide of this discount rate at the time the financial analysis of the project was carried out in 2014?</p> <p>Also explain where the production capacities as percentages of the full scale in the Cashflow CO2_v3 came from for the years of 2014, 2015 and 2016.</p> <p>CAR 10 With regards to v3 of the financial spreadsheet:</p> <p>a) the financial analysis should use the quotation of 2014 for the dollar</p> <p>b) Contract Gerflor /45/</p> <p>c) Evidence of “project maintenance costs” and “planning of activities” 2017 /42//43//44/. The latter two are download from Agrocortex accountants cost codes.</p> <p>d) Evidence of “forest conservation measures”</p> <p>e) The value of the Carbon Project Development needs correcting</p> <p>f) Evidence of MR and Social Carbon Reports costs.</p> <p>- Average yearly timber production 50.000m<sup>3</sup> (approximately 50% of the AUTEX every year) /21//31//32/;</p> <p>- Price of timber R\$250,00/m<sup>3</sup> /33/</p> <p>- Bamboo sales estimates /34/</p> <p>- Purchase price of property /18/</p> | <p><b>CL7<br/>CAR10</b></p> | <p><b>OK</b></p> |
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| G.2.5 In case project participants use values from Feasibility Study Reports (FSR) is it possible to verify that the period between the FSR date and investment decision was reasonably short and FSR values did not change materially?                                           | /1/ | DR | N/A  | N/A | N/A |
| G.2.6 Are all the values consistent between FSR and VCS PD and are inconsistencies properly justified?                                                                                                                                                                            | /1/ | DR | N/A  | N/A | N/A |
| G.2.7 Were all the values from FSR applicable and valid at the time of the investment decision?                                                                                                                                                                                   | /1/ | DR | N/A. | N/A | N/A |
| G.2.8 Is it reasonable to assume that no investment would be made at a rate of return lower than the benchmark by, for example, assessing previous investment decisions by the project participants or some verifiable circumstances that have lead to a change in the benchmark? | /1/ | DR | N/A  | N/A | N/A |
| <b>G.3. Barrier analysis</b>                                                                                                                                                                                                                                                      |     |    |      |     |     |

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| G.3.1 Are there any issues addressed in the barrier analysis that have a clear impact on the financial viability of the project activity and that shall be assessed by an investment analysis?                                                                                                                                                                                                    | /1//8/ | DR | Not applicable | N/A | N/A |
| G.3.2 Do the listed barriers exist <u>and</u> is their existence substantiated?<br>Note:<br>(a) by independent sources of data such as relevant national legislation, surveys of local conditions and national or international statistics and/or<br>(b) by interviews with relevant individuals: including members of industry associations, government officials or local experts if necessary? | /1//8/ | DR | Not applicable | N/A | N/A |

|                                                                                                                                                                                                                                              |         |    |                                                                                                         |     |     |
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| G.3.3 Would any of the identified barriers prevent the implementation of the project activity but not equally prevent the implementation of the possible alternatives, in particular the implementation of the identified baseline scenario? | /1//8/  | DR | Not applicable                                                                                          | N/A | N/A |
| <b>G.4. Common practice analysis</b>                                                                                                                                                                                                         |         |    |                                                                                                         |     |     |
| G.4.1 Does the additionality tool require common practice analysis for the project?                                                                                                                                                          | /1/ /8/ | DR | For the REDD project the additional tool require common practice analysis (VCS Additionality Tool V3.0) | OK  | OK  |

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| G.4.2 If the PPs claim in the VCS PD that VCS project activity is the “first of its kind”, is it justified? | /1//35/ | DR | <p>Page 119 of the PD claims that the “Agrocortex has the only business sustainable forest management that is FSC certified and now seeking REDD status in the state of Acre.” This information has been checked in the site of FSC. The VVB also searched the site for other FSC certified forest management plans in the south of the state of Amazonas, near the border with Acre, and none were found.</p> <p>It is concluded that if the level of penetration of other certified FSC forest management plans are none existent in the region of Southern Amazonas State and Acre State, the level of penetration of FSC certified forest management plans also seeking REDD will be even smaller if not registered in the VCS since the extra costs for carbon monitoring would not pay off.</p> | OK | OK |
| G.4.3 Are the geographical scope of the project activity identified correctly?                              | /1/     | DR | <p>The geographical scope is southern Amazonas on the border with Acre and Acre state itself.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | OK | OK |

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| G.4.5 Are there similar operational project activities, other than VCS activities, “widely observed and commonly carried out” in the defined region?                                                                                                                               | /1/ | DR | See assessment at G.4.2 above.                                                                                                                                                                                                                                                                                                           | OK | OK |
| G.4.6 In case there are similar commercially operated project activities, other than VCS activities, already “widely observed and commonly carried out” in the defined region, are there essential distinctions between the VCS project activity and the other similar activities? | /1/ | DR | Although the VVB did not find in the FSC page other certified forest management plans in the State of Acre and Southern Amazonas, the PP did (see page 119 of the PD). The PP makes it clear though that those two are community based forest management and also they have much smaller areas compared to the Agro cortex project area. | OK | OK |
| <b>H. Methodology Deviations</b>                                                                                                                                                                                                                                                   |     |    |                                                                                                                                                                                                                                                                                                                                          |    |    |
| H.1. Has any methodology deviation been applied? If yes, has the deviation been justified?                                                                                                                                                                                         | /1/ | DR | Deviation has not been applied on the project.                                                                                                                                                                                                                                                                                           | OK | OK |
| <b>I. Quantification of GHG Emission Reductions and Removals</b>                                                                                                                                                                                                                   |     |    |                                                                                                                                                                                                                                                                                                                                          |    |    |

|                                                                                                                                                                    |             |    |                                                                                                                                                                      |       |    |
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| I.1. Has the procedure for quantification of the <b>baseline</b> emissions and/or removals been properly described? Have all the relevant equations described?     | /1/ /2/     | DR | The procedure for quantification of the baseline emissions and/or removals is properly described. All the relevant equations are described on VCS – PD.              | OK    | OK |
| I.2. Are the estimated <b>baseline</b> emissions calculated correctly?                                                                                             | /1/ /2/     | DR | The estimated <b>baseline</b> emissions were calculated correctly. However, the emissions of the project period must to be adjusted.<br>(depend on CAR 2 and CAR 3)  | CAR 4 | OK |
| I.3. Has the procedure for quantification of the <b>project area</b> emissions and/or removals been properly described? Have all the relevant equations described? | /1/ /2/ /4/ | DR | The procedure for quantifying carbon emissions by the project activity has been appropriate for this case.<br><br>In the PD are described in the relevant equations. | OK    | OK |
| I.4. Are the estimated <b>project area</b> emissions calculated correctly?                                                                                         | /1/ /2/ /4/ | DR | The calculations are presented in the right way. However, the emissions of the project period must to be adjusted.<br>(depend on CAR 3)                              | CAR 5 | OK |
| I.5. Has the procedure for quantification of <b>leakage belt</b> been properly described? Have all the relevant equations described?                               | /1/ /2/ /4/ | DR | The procedure for quantifying carbon emissions by the project activity has been appropriate for this case.<br><br>In the PD are described in the relevant equations. | OK    | OK |

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| I.6.                      | Are the estimated leakage belt calculated correctly?                                                                                                 | /1/ /2/ /4/ | DR | The calculations are presented in the right way. However, the emissions of the project period must to be adjusted.<br>(depend on CAR 3)                           | CAR 6 | OK |
| I.7.                      | Has the procedure for quantification of net GHG emission reductions and removals been properly described? Have all the relevant equations described? | /1/ /2/     | DR | The procedures for quantification were appropriately described as the equations.                                                                                  | OK    | OK |
| I.8.                      | Are the net GHG emission reductions and removals calculated correctly?                                                                               | /1/ /2/     | DR | The results of GHG emissions do show up correctly calculated. However, the GHG emission reduction of the project period must to be adjusted.<br>(depend on CAR 3) | CAR 7 | OK |
| I.9.                      | Have the major risks and uncertainties, which can influence the emission reduction estimates, been identified and addressed in the VCS PD?           | /1/ /4/     | DR | It were clear the risks and uncertainties of the project on the PD (Tab. 67).                                                                                     | OK    | OK |
| <b>J. Monitoring plan</b> |                                                                                                                                                      |             |    |                                                                                                                                                                   |       |    |
| J.1.                      | Are all parameters required by the selected approved methodology or tool identified and listed in the VCS PD?                                        | /1/         | DR | The parameters required by the selected approved methodology or tool identified are listed in the VCS PD.                                                         | OK    | OK |

|      |                                                                                                                                         |     |    |                                                                                                                                                                                                                                                                               |       |    |
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| J.2. | Is the measurement method clearly stated for each value to be monitored and deemed appropriate?                                         | /1/ | DR | For each value to be monitored (total 24) the measurement method is clearly stated and deemed appropriate.                                                                                                                                                                    | OK    | OK |
| J.3. | Are values of the ex-ante parameters / monitoring parameters selected correctly and conservative in accordance to methodology or tools? | /1/ | DR | The mainly values of ex-ante parameters / monitoring parameters were selected correctly and the conservative way in accordance to methodology or tools.<br>However, the average stock biomass per hectare (above and below-ground) must to be corrected.<br>(depend on CAR 3) | CAR 8 | OK |
| J.4. | Is the measurement equipment for each parameter described and deemed appropriate?                                                       | /1/ | DR | The measurement equipments for each parameter were described and are deemed appropriate. For example: Remote sensing and GIS.                                                                                                                                                 | OK    | OK |
| J.5. | Is the measurement accuracy addressed and deemed appropriate?                                                                           | /1/ | DR | The measurement accuracy was addressed and is deemed appropriate for the project activity.                                                                                                                                                                                    | OK    | OK |
| J.6. | Are procedures in place on how to deal with erroneous measurements <u>and</u> are the corrective actions identified?                    | /1/ | DR | It was not clear about the procedures how to deal with erroneous measurements and the corrective actions.                                                                                                                                                                     | CL 5  | OK |
| J.7. | Is the frequency of measurement identified and deemed appropriate?                                                                      | /1/ | DR | The frequency of measurement was identified on PD and is deemed appropriate. The main frequency of measurement is annually.                                                                                                                                                   | OK    | OK |

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| J.8. Is the monitoring plan documented according to the approved methodology and in a complete and transparent manner?                                                  | /1/ | DR | The monitoring plan is documented according to the approved methodology and in is a complete and transparent manner.                                                               | OK  | OK  |
| J.9. Are the sampling, measurement methods and procedures defined?                                                                                                      | /1/ | DR | It were defined on PD the sampling, measurement methods and procedures, <u>including the updating forest carbon stocks estimates through of forest inventories of Agro cortex.</u> | OK  | OK  |
| J.10. Are procedures identified for maintenance of monitoring equipment and installations?                                                                              |     | DR | Not applicable.                                                                                                                                                                    | N/A | N/A |
| J.11. Are the equipment calibration intervals identified and justified?                                                                                                 |     | DR | Not applicable.                                                                                                                                                                    | N/A | N/A |
| J.12. Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)? | /1/ | DR | It were identified the procedures on PD.                                                                                                                                           | OK  | OK  |
| J.13. Are the monitoring arrangements described in the monitoring plan feasible within the project design?                                                              | /1/ | DR | It were considered feasible the monitoring arrangements.                                                                                                                           | OK  | OK  |

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| J.14. Are the means of implementation of the monitoring plan, including the data management and quality control procedures, sufficient to ensure that the emission reductions achieved by / resulting from the project activity can be reported ex post and verified? | /1/             | DR | The means of implementation of the monitoring plan are considered sufficient                                                                                                                                                                                                                                                              | OK | OK |
| J.15. Do the PPs make provisions for personnel training needs?                                                                                                                                                                                                        | /1//36//37//38/ | DR | The PD states that training on reduced impact logging, safety at work, occupational health and safety, first aid and firefighting will be promoted. During the site visit the VVB evidenced the training lists for chainsaw operation, first aid and techniques for planning and operation of dragging in forest management /36//37//38/. | OK | OK |
| J.16. Is the authority and responsibility of overall project management clearly described?                                                                                                                                                                            | /1/             | DR | The authority and responsibilities is clearly described in section 4.3 table 65.                                                                                                                                                                                                                                                          | OK | OK |
| J.17. Are procedures identified for review of reported results/data?                                                                                                                                                                                                  | /1/             | DR | The procedures for review of results were identified on the PD.                                                                                                                                                                                                                                                                           | OK | OK |

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| J.18. Is the data archiving period for this project activity stated in the VCS PD and appropriate?<br><br><i>Note: All archived monitoring data, required for verification and issuance, should be kept for at least two years after the end of the crediting period or the last issuance of CER.</i> | /1/ | DR | The PD describe that the data archiving period will be of two years.                                                  | OK | OK |
| <b>K. Monitoring of the leakage</b>                                                                                                                                                                                                                                                                   |     |    |                                                                                                                       |    |    |
| K.1. Does the monitoring plan provide for the collection and archiving of all relevant data necessary for determining leakage?                                                                                                                                                                        | /1/ | DR | The monitoring plan is providing the collection and archiving of all relevant data necessary for determining leakage. | OK | OK |
| K.2. Is the choice of project leakage indicators made according to selected methodology in a reasonable and conservative manner?<br><i>Note: local knowledge and sectoral expertise shall also be considered.</i>                                                                                     | /1/ | DR | It was considered the choice of project leakage indicators according with methodology.                                | OK | OK |
| K.3. Is the measurement method clearly stated and deemed appropriate for each leakage value?                                                                                                                                                                                                          | /1/ | DR | It was considered appropriate and clear the measurement method.                                                       | OK | OK |
| <b>L. Sustainable development</b>                                                                                                                                                                                                                                                                     |     |    |                                                                                                                       |    |    |

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| L.1. If VCS PD indicates any additional environmental benefits of the project, other than GHG emission reductions, were those benefits properly substantiated? | /1/ | DR | The PD mentioned the implementation of the SOCIALCARBON project, which is being developed by Instituto Ecológica with focus on implementing environmental and social activities within the project area.                                                                                                               | OK  | OK |
| <b>M. Stakeholders' consultation and comments</b>                                                                                                              |     |    |                                                                                                                                                                                                                                                                                                                        |     |    |
| M.1. Were the stakeholders identified in appropriate and complete manner?                                                                                      | /1/ | DR | CL8 What were the local community associations, labour unions and NGOs invited? How were these identified and found to be relevant? Also for stakeholders invited by post, were ARs used?<br><br>Furthermore, insert in the PD a summary of comments provided during stakeholder consultation and how it was answered. | CL8 | OK |
| M.2. Are the identified stakeholders plausible?                                                                                                                | /1/ | DR | See CL8                                                                                                                                                                                                                                                                                                                | OK  | OK |
| M.3. Does VCS PD describe the means being used to invite local stakeholder's comments?                                                                         | /1/ | DR | Section 5.3 of the PD describes the means used to invite local stakeholders comments.                                                                                                                                                                                                                                  | OK  | OK |
| M.4. Were those means appropriate?                                                                                                                             | /1/ | DR | Letters were sent to government agencies and a personal invitation done to local community.                                                                                                                                                                                                                            | OK  | OK |
| M.5. Was the project presented to the stakeholders in unbiased manner?                                                                                         | /1/ | DR | A normal presentation was carried out during consultation and questions answered at the end                                                                                                                                                                                                                            | OK  | OK |

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| M.6. If a stakeholder consultation process is required by regulations/laws in the host country, has the stakeholder consultation process been carried out in accordance with such regulations/laws ? | /1/ | DR | Not applicable. Under Brazilian law there is no need to carry out a stakeholder consultation process for REDD projects. | OK  | OK |
| M.7. Is a summary of the stakeholder comments provided in the VCS PD?                                                                                                                                | /1/ | DR | See CL8                                                                                                                 |     | OK |
| M.8. Has due account of any stakeholder comments been taken by PPs and reflected in the VCS PD?                                                                                                      | /1/ | DR | See CL8                                                                                                                 |     | OK |
| <b>N. Environmental impacts</b>                                                                                                                                                                      |     |    |                                                                                                                         |     |    |
| N.1. Is the documentation supplied by the PPs regarding environmental impacts relevant and accurately reflected in the VCS PD?                                                                       | /1/ | DR | The documentation is relevant and accurately reflected in PD.                                                           | OK  | OK |
| N.2. Is an environmental impact assessment (EIA) required for the VCS project activity?<br><i>Note: determine by using a review of relevant legislation and local expertise.</i>                     | /1/ | DR | Not applicable.                                                                                                         | N/A | OK |

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| N.3. In case an EIA is required, has the EIA has been approved by local authorities and is the outcome accurately reflected in the VCS PD? | /1/ | DR | Not applicable.                                                                                                                                                                                                                                                                                                                                          | <b>N/A</b> | OK |
| N.4. Does the VCS PD include a brief description of the environmental effects of the project, including transboundary?                     | /1/ | DR | The PD includes a brief description of the environmental effects.                                                                                                                                                                                                                                                                                        | <b>OK</b>  | OK |
| N.5. Are those effects properly addressed in the design of the project activity?                                                           | /1/ | DR | CL 9 with regards to fishing in the area of the project activity, please indicate whether fishing will be included in the biodiversity monitoring and what will be done in terms of communicating to the community that they are still allowed to fish, and when they will be allowed to fish in the area as informed during the visit to Manoel Urbano. | <b>OK</b>  | OK |
| N.6. Does the project comply with environmental legislation in the host country?                                                           | /1/ | DR | The project is in compliance with the Brazilian environmental legislation.                                                                                                                                                                                                                                                                               | <b>OK</b>  | OK |

| Table 2: List of Requests for Corrective Action (CAR)<br>ion (CL)                                                                                             |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                               |
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| Observation (CAR/CL)                                                                                                                                          | Reference | Summary of project owner response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Validation team conclusion                    |
| CAR1 Demonstrate that emissions from biomass burning shall be expected to contribute less than 5% of the overall expected average annual emission reductions. | F.2.4     | <p>According to the applied methodology, the exclusion of a source of GHG emission is allowed only if the omission is conservative or the source is insignificant.</p> <p>Emissions of non-CO<sub>2</sub> gases from biomass burning in the baseline were conservatively omitted. According to the methodology, CH<sub>4</sub> emissions from biomass burning can be counted when fire is the main technology used to deforest, which is the case within the project region. However, the project proponent considers that excluding this source of baseline emissions is conservative.</p> <p>No fire is predicted to occur in the project scenario resulting from REDD or sustainable forest management activities.</p> <p>Furthermore, non-CO<sub>2</sub> leakage emissions from biomass burning from displaced baseline activities, which were conservatively omitted in the baseline, were also ignored, as in the worst case scenario they would be similar</p> | <p>Response accepted</p> <p>CAR is closed</p> |

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|  |  | <p>to baseline emissions (according to the applied methodology). Therefore, GHG emissions from biomass burning were excluded because its exclusion did not lead to a significant over-estimation of the net anthropogenic GHG emission reductions of the AUD project activity. This was better described in the VCS PD, section 2.3 – Project Boundaries.</p> |  |
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| CAR2 | The values of deforested areas in the years 2020-2024 and 2027 were significantly anomalous leading to negative deforestation, which does not make sense (Tables 24, 26, 27, 29, 30, 32, 34 and 36 on the PD). | F.4.9 | The negative values of deforested areas were corrected in the calculations spreadsheet and in all tables of the VCS PD.                                                                                                                                                                                                                                                                                                                                         | Correction made<br><br>CAR is closed |
| CAR3 | The project has the conditions to make more accurate deforestation projections and estimates own emissions with the characteristics of the forest cover (phytophysiognomies) for each site (RR, LK and PA).    | F.5.2 | The phytophysiognomies groups for each site (RR, LK and PA) were corrected in the calculation spreadsheet and VCS PD.<br><br>A total of 14 different forest phytophysiognomies were identified in the reference region, 3 in the project area and 8 in the leakage belt. These forest phytophysiognomies were grouped in accordance to their presence in each site (RR, PA and LK), following a criterion of the predominant category of each phytophysiognomy. | Correction made<br><br>CAR is closed |
| CAR4 | The estimated baseline emissions of the project period must to be adjusted, since depend on CAR 2 and CAR 3.                                                                                                   | I.2   | Baseline emissions were corrected in the calculation spreadsheet and VCS PD.                                                                                                                                                                                                                                                                                                                                                                                    | Correction made<br><br>CAR is closed |
| CAR5 | The calculations of emissions on PA of the project period must to be adjusted, since depend on CAR 3.                                                                                                          | I.4   | Project emissions were corrected in the calculation spreadsheet and VCS PD.                                                                                                                                                                                                                                                                                                                                                                                     | Correction made<br><br>CAR is closed |
| CAR6 | The calculations of emission on LK of the project period must to be adjusted, since depend                                                                                                                     | I.6   | Leakage emissions were corrected in the calculation spreadsheet and VCS                                                                                                                                                                                                                                                                                                                                                                                         | Correction made                      |

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| on CAR 3.                                                                                                                                                                                                                                                                                                                                                                                                               |       | PD.                                                                                                                                                                                                                                                                                   | CAR is closed                                                                                                                                                                                                                                                                      |
| CAR7 The GHG emission reduction of the project period must to be adjusted, since depend on CAR 3.                                                                                                                                                                                                                                                                                                                       | I.8   | GHG emission reductions were corrected in the calculation spreadsheet and VCS PD.                                                                                                                                                                                                     | Correction made<br><br>CAR is closed                                                                                                                                                                                                                                               |
| CAR8 The average stock biomass per hectare (above and below-ground) to monitoring plan must to be corrected, since depend on CAR 3.                                                                                                                                                                                                                                                                                     | J.3   | The average biomass stock per hectare was corrected for each site (RR, PA and LK) utilizing more accurate deforestation projections for each forest phytophysiology. This was corrected in the calculation spreadsheet and VCS PD.                                                    | Response accepted<br><br>CAR is closed                                                                                                                                                                                                                                             |
| CAR9 Section 1.9 of the PD provides a map of the project area and the VVB has checked the coordinates of the vertices used to delineate the project area boundary in the map against coordinates of the domain chain certificates /5/.<br><br>In order to have a clearer description of project location in the PD and to avoid future double counting of credits, PA coordinates should be stated in the PD.           | B.9   | The full contour coordinates of the project area were included in the Appendix I of the VCS PD.                                                                                                                                                                                       | Correct coordinates in PD v3.<br><br>CAR is closed.                                                                                                                                                                                                                                |
| CAR10 With regards to v3 of the financial spreadsheet:<br>a) the financial analysis should use the quotation of 2014 for the dollar<br>b) Provide contract Gerflor<br>c) Provide evidence of “project maintenance costs” and “planning of activities” 2017<br>d) Provide evidence of “forest conservation measures”<br>e) The value of the Carbon Project Development needs correcting<br>f) Provide evidence of MR and | G.2.4 | a) A quotation of 31-May-2014 is now used on version 4 of the cashflow spreadsheet.<br>b) The contract was made available to the VVB (please see subfolder “PMFS” on the shared folder of additionality.<br>c) Please see subfolder “Custos anuais manejo” in the same shared folder. | a) Quotation from before project start date now used.<br>b) Contract with Gerflor supplied<br>c) The subfolder “Custos anuais manejo” contained the spreadsheets “Custos Safra_operacao_Escal onados” with the project maintenance and planning budget for 2007. It also contained |

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| Social Carbon Report costs.                                                                                                 |     | <p>d) Please see subfolder “Custos com atividades socioambientais (conservation activities)” in the same shared folder.</p> <p>e) Value was corrected on version 4 of the cashflow spreadsheet. Please see subfolder “Desenvolvimento Projeto (PDD, MR, SCR)” in the same shared folder for evidence on such value.</p> <p>f) Please see subfolders “Desenvolvimento Projeto (PDD, MR, SCR)” and “Validação + Verificação” in the same shared folder.</p> | <p>“Cópia de Custos AMA MP 052017” and “Cópia de Custos AMA MP 062017” which were the downloads carried out during site visit to Agro cortex Oficce from the system with the company’s cost centres and realised expenses.</p> <p>d) Subfolder “Custos com atividades socioambientais (conservation activities)” provided with evidence of forest conservation measures costs.</p> <p>e) and f) The Carbon Project Development costs on the tab “Cash Flow Buffer” of the financial analysis spreadsheet v4 was corrected to the value in the Sustainable Carbon Proposal “Proposta-Contrato Agro cortex_ LRS e Sustainable Carbon 09 02 17_pdf” and MR and Social Carbon Report costs evidence provided.</p> <p>CAR is closed.</p> |
| CL1 Clarify why was not presented the logging authorization from the Brazilian Environmental Agency for operating the area. | E.1 | <p>The logging authorization from the Brazilian Environmental Agency for operating the area, which is the event that defined the project start date, will be made available to the validation team. Please, see document “Project Start Date_AUTEX 2014” in the shared folder “Pendências</p>                                                                                                                                                             | <p>Response accepted</p> <p>CL is closed</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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|  |  | Auditoria>Validação". |  |
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| CL2 Clarify why the start of the project is different to start of the crediting period.                                                                                                                          | E.2   | <p>The Project start date was on 02-June-2014 and the Project crediting period start date was on 01-July-2014. This date was defined due to calculation simplifications, as satellite images are usually obtained for a whole month, which makes it very difficult to conduct an analysis on a daily base.</p> <p>In addition, this procedure is in accordance with the VCS Standard Requirements, v3.7, which defines that validation shall be completed within five years from the project start date.</p>                                          | <p>Response accepted</p> <p>CL is closed</p> |
| CL3 Clarify why the biomass burning is excluded being that the biomass burning is a normal practice in the dynamics of deforestation in Brazil and can increase CH <sub>4</sub> and N <sub>2</sub> O emissions.. | F.3.4 | <p>According to the applied methodology, the exclusion of a source of GHG emission is allowed only if the omission is conservative or the source is insignificant. Emissions of non-CO<sub>2</sub> gases from biomass burning in the baseline, such as N<sub>2</sub>O and CH<sub>4</sub>, were conservatively omitted. According to the methodology, N<sub>2</sub>O emissions from biomass burning are considered insignificant according to VCS Program Update of May 24th, 2010. Furthermore, CH<sub>4</sub> emissions from biomass burning can</p> | <p>Response accepted</p> <p>CL is closed</p> |

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|  |  | <p>be counted when fire is the main technology used to deforest, which is the case within the project region. However, the exclusion of this source of baseline emissions is conservative.</p> <p>It is important to note that no fire is predicted to occur in the project scenario.</p> <p>Therefore, GHG emissions from biomass burning were excluded because its exclusion is conservative and did not lead to a significant over-estimation of the net anthropogenic GHG emission reductions of the AUD project activity.</p> |  |
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| <p>CL4 Clarify why this forest inventory and its results were not considered and used to estimate the carbon stocks of the PA forest.</p> | <p>F.5.2</p> | <p>According to GerFlor, the company responsible for conducting the forest inventory within the project area, the forest inventory carried out at the Seringal Macapá Farm in 2000 had no focus on carbon stock and followed the methodology and legislation applicable at the time (IBAMA Ordinance nº 48/1995).</p> <p>The objective of this forest inventory was for timber logging, thus tree species with no logging potential and non-tree species, such as bamboos, palm trees and vines, were not inventoried.</p> <p>The forest inventory was carried out in order to analyze the logging potential of the forest, not taking into account the total biomass volume, excluding the volume composed by species with no logging potential.</p> <p>Therefore, the results from the forest inventory carried out within the project area could not be considered for the present project development.</p> <p>On the other hand, carbon stocks were calculated on the basis of biomass</p> | <p>Response accepted</p> <p>CL is closed</p> |
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|  |  | <p>values from the study “Estimating state-wide biomass carbon stocks for a REDD plan in Acre”, carried out by Salimon <i>et al.</i> (2011). This scientific article is cited as one of the official sources of the Brazilian Environmental Ministry (or Ministério do Meio Ambiente – MMA, in Portuguese) for the Amazon Fund. The Amazon Fund can be used to support the development of monitoring and control systems for deforestation of Brazilian biomes.</p> <p>One of the responsibilities of the Amazon Fund is the elaboration of a map estimating the Amazonian vegetation biomass, by forest type. Salimon <i>et al.</i> (2011) was one of the scientific articles utilized for elaborating the map.</p> <p>In addition, this same scientific article was also used by another VCS PD in the State of Acre (<a href="http://www.vcsprojectdatabase.org/#!/project_details/1382">http://www.vcsprojectdatabase.org/#!/project_details/1382</a>), which is located nearby the project activity. This project was validated in 2015.</p> |  |
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| CL5 Clarify the procedures how to deal with erroneous measurements and the corrective actions.                                                                                                                                                                                                                                         | J.6   | Information was included on Section 4.3 of the VCS PD version 2. Please see subsections "Procedures for handling internal auditing and non-conformities" and "Organizational structure, responsibilities and competencies".                                                                                                                                                                                                                                                                                                                                                | Response accepted<br><br>CL is closed                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CL6 please provide exact references of IBGE used to construct graphs Figs 17, 18 and the ones used in the figures illustrating the 2006 agricultural census data so that the graphs shown in PD can be validated.                                                                                                                      | B.12  | The exact references from IBGE that were utilized for creating graphs and figures in the VCS PD were better described in the respective sections of the project document.                                                                                                                                                                                                                                                                                                                                                                                                  | The exact references from IBGE are now in the PD and the data is correctly reported.<br><br>CL is closed.                                                                                                                                                                                                                                                                                                                                                      |
| CL7 Why have you used 10% discount rate and what evidence can you provide of this discount rate at the time the financial analysis of the project was carried out in 2014?<br><br>Also explain where the production capacities as percentages of the full scale in the Cashflow CO2_v3 came from for the years of 2014, 2015 and 2016. | G.2.4 | The investment comparison analysis on version 2 of the VCS PD is now based on the Internal Rate of Return of the Project. The 10% discount rate for the calculation of NPV is no longer affecting the results of such analysis.<br><br>Production capacities for 2014 were based on the experience of Agro cortex. This value is also justified in the Post-Harvesting Report from the Annual Productive Unit (APU) 2, which was harvested in 2014. Please see report "Pos Exploratorio_UPA-2" on the shared folder of additionality, under subfolder "Receitas>Exploração | PP explained in an interview that the IRR was preferred by Agro cortex over NPV for decision making since analysis is easier with positive values and indicator easier to calculate.<br><br>VVB checked "Pos Exploratorio_UPA-2" and confirmed value of production capacity for 2014. 100% of the 50000 m <sup>3</sup> /year considered credible since this are already taking into account yearly average losses as seen during site visit.<br><br>CL closed. |

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|  |  | <p>Madeira”. In addition, the document named “Exploração Madeira 2017_Justificativa 50 mil m<sup>3</sup> ano”, which is inside the same shared subfolder, could also be used to justify Agrocortex estimates.</p> <p>Production capacity for 2015 and 2016 were assumed to be 100%, as the actual production for those years was not available at the time of investment decision.</p> |  |
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| <p>CL8 What were the local community associations, labour unions and NGOs invited? How were these identified and found to be relevant? Also for stakeholders invited by post, were ARs used?</p> <p>Furthermore, insert in PD a summary of comments provided during stakeholder consultation and how it was answered.</p> | <p>Stakeholders invited to the consultation are described on Section 5.3 of the VCS PD version 2. Local community associations were identified from the social and environmental impact assessment of the sustainable forest management carried out by Agro cortex within the Project Area and surroundings in May, 2015. This document is referred on Section 5.3 of the VCS PD. Moreover, this stakeholders list is updated every year for sending the Public Summary of the Sustainable Forest Management Plan, as part of the FSC requirements. Furthermore, Agro cortex management team and Ecológica Assessoria have identified other institutions on the region that might have interest in the consultation for the REDD Project. These include government agencies and national and international NGOs that are involved with forest management and sustainable development.</p> <p>All ARs from invitations sent by post will be made available</p> | <p>VVB checked ARs for the stakeholders invited by post and found that the syndicate of rural workers of Manuel Urbano (Sindicato dos Trabalhadores Rurais de Manoel Urbano) and the NGO PESACRE were invited.</p> <p>PD states that no negative input was received during the local stakeholder consultation carried out before the validation.</p> <p>CL closed.</p> |
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|  |  | <p>to the validation team. Please, see document “ARs” in the shared folder “Pendências Auditoria&gt;Validação”.</p> <p>The local stakeholders’ consultation was held on 20/06/2017 in the Agro cortex industrial complex located in Manoel Urbano, State of Acre. The presentation raised several questions from the participants, which were promptly answered. No answer was obtained during the 30 days comment period, thus it was assumed that stakeholders have no objections to the project activity. This information was included in the VCS PD, sections 5.3 and 5.4.</p> |  |
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| <p>CL9 With regards to fishing in the area of the project activity, please indicate whether fishing will be included in the biodiversity monitoring and what will be done in terms of communicating to the community that they are still allowed to fish, and when they will be allowed to fish in the area as informed during the visit to Manoel Urbano.</p> | <p>A social and environmental impact assessment of the sustainable forest management was carried out by Agrocortex within the Project Area and surroundings in May, 2015. Since then, Agrocortex has been organizing annual meetings with communities living within the leakage management area, which is located in the southern border of the project area.</p> <p>These meetings address a variety of issues, including hunting and fishing. One of the discussed topics is about the difference between the customary and the predatory hunting and fishing. It is constantly clarified that the customary activity that communities practice may continue as it has always been; however, the predatory activity is prohibited because it can bring harmful results for the biodiversity and for the community itself, since it may lead to a decrease of animals supply.</p> <p>The community understands and supports the prohibition of predatory hunting and fishing in the region,</p> | <p>The VVB will make sure the impact on fishing will be monitored through the SOCIALCARBON indicator described on the biodiversity resource: biodiversity monitoring.</p> <p>CL is closed.</p> |
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|  |  | <p>and also within the project area by Agro cortex employees. It is important to note that Agro cortex offers all meals for all employees, thus there is no need of fishing/hunting within the project area.</p> <p>Furthermore, the impact of hunting/fishing shortage will be monitored through the following SOCIALCARBON indicator described on the biodiversity resource: biodiversity monitoring.</p> |  |
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**Table 3: List of forward action requests (FARs)**

| FAR number | Reference | Summary of project owner response | Validation team conclusion |
|------------|-----------|-----------------------------------|----------------------------|
| FAR 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:

**Talita Carvalho Beck**

è qualificato come:  
 is qualified as:

**TEC, VAL, VER, TL  
 LOCAL EXPERT**

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

| AREE TECNICHE<br>TECHNICAL AREAS | DESCRIZIONE DELL'AREA TECNICA<br>TECHNICAL AREA DESCRIPTION | SCOPO SETTORIALE<br>SECTORAL SCOPE |
|----------------------------------|-------------------------------------------------------------|------------------------------------|
| 1.1                              | Thermal energy generation                                   | 1                                  |
| 1.2                              | Renewables                                                  | 1                                  |
| 13.1                             | Solid waste and wastewater                                  | 13                                 |
| 14.1                             | Forestry                                                    | 14                                 |

| REVISIONE<br>REVISION | DATA<br>DATE | MOTIVAZIONI PER LA REVISIONE<br>REASON FOR THE REVISION                         |
|-----------------------|--------------|---------------------------------------------------------------------------------|
| 0                     | 19/07/2016   | First issue with new template (this certificate is linked to CDM qualification) |
| 1                     | 14/06/2017   | Update qualification in TA 14.1 and Local expert                                |

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



**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:

Geisa Maria Principe Branco Saettoni

è qualificato come:  
 is qualified as:

TEC, VAL, VER, TL, ITRP

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

| AREE TECNICHE<br>TECHNICAL AREAS | DESCRIZIONE DELL'AREA TECNICA<br>TECHNICAL AREA DESCRIPTION | SCOPO SETTORIALE<br>SECTORIAL SCOPE |
|----------------------------------|-------------------------------------------------------------|-------------------------------------|
| 1.1                              | Thermal energy generation                                   | 1                                   |
| 1.2                              | Renewables                                                  | 1                                   |
| 1.3.1                            | Solid waste and wastewater                                  | 13                                  |

  

| REVISIONE<br>REVISION | DATA<br>DATE | MOTIVAZIONI PER LA REVISIONE<br>REASON FOR THE REVISION                         |
|-----------------------|--------------|---------------------------------------------------------------------------------|
| 0                     | 19/07/2015   | First issue with new template (this certificate is linked to CDM qualification) |

Responsabile di schema  
 Scheme Leader  
 Rita Valoroso

\*SCHEMI VOLONTARI/VOLUNTARY SCHEMES: ACR American Carbon Registry, CCB The Climate, Community & Biodiversity Alliance, CCB Gold Standard, J-Unit Implementation, SCS Social Carbon Standard, VCS Verified Carbon Standard.

TEC: Technical expert, VAL: Validator, VER: Verifier, TL: Team leader, FRI EXP: Freelance expert, ITRP: Independent technical reviewer

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|                                                          |                                                                                                                                                                                                      |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UNEP/CCDC                                                | quali RINA Operative Designate (OCDE), per condurre la Validazione e la Verifica di Progetti CDM<br>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<br>to carry out Validation and Verification of VCS Projects                                                                                |
| CCB Foundation                                           | per condurre la Validazione e la Verifica di Progetti CCB<br>to carry out Validation and Verification of CCB Projects                                                                                |
| Ecological Institute                                     | per condurre la Validazione e la Verifica di rapporti SCS<br>to carry out Validation and Verification of SCS Reports                                                                                 |
| American Carbon Registry<br>ACR                          | per condurre la Validazione e la Verifica di Progetti ACR<br>to carry out Validation and Verification of ACR projects                                                                                |
| The Climate, Community &<br>Biodiversity Alliance<br>CCB | per condurre la Validazione e la Verifica di Progetti co-benefit CCB<br>to carry out Validation and Verification of co-benefit CCB projects                                                          |



**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:

**Rekha Menon**

è qualificato come:  
 is qualified as:

**TEC, VAL, VER, TL, ITRP**

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

| AREE TECNICHE<br>TECHNICAL AREAS | DESCRIZIONE DELL'AREA TECNICA<br>TECHNICAL AREA DESCRIPTION | SCOPO SETTORIALE<br>SECTORAL SCOPE |
|----------------------------------|-------------------------------------------------------------|------------------------------------|
| 1.2                              | Renewables                                                  | 1                                  |
| 2.1                              | Electricity distribution                                    | 2                                  |
| 13.1                             | Solid waste and wastewater                                  | 13                                 |
| 13.2                             | Manure                                                      | 13                                 |
| 14.1                             | Afforestation and reforestation                             | 14                                 |

| REVISIONE<br>REVISION | DATA<br>DATE | MOTIVAZIONI PER LA REVISIONE<br>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 Valoroso

*Rita Valoroso*

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