

THE ARC REDD+ PROJECT



4K Earth Science Private Limited

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Summary

Amazon Reforestation Consortium (ARC) also the project proponent (PP) appointed 4K Earth Science Pvt. Ltd (4KES) to verify the project activity “The ARC REDD+ Project” in Brazil with VCS project ID PL1953. The verification took place together with the validation of the project.

Therefore, 4KES, acting as an independent third party, has assessed the documents and evidences provided, and performed an on-site assessment, which included a desk review, a site visit and a series of interviews with the technical and administrative staff as well as local stakeholders.

The purpose of the verification is to confirm that emission reduction claimed by the project during its first monitoring period from 1st January 2016 – 31st March 2019 is appropriate and in line with the validated Project Description (PD), monitoring report (MR), GHG emission reductions (ER) spreadsheet and is in accordance with the applicable standards, guidelines, procedures and rules.

The project started in the years 2015 consisted of 53,528 ha, which is in a critical region of the eastern amazon biome and also a biodiversity hotspot. The project area is located 300 km from Belem, the capital of Para state, Brazil. The primary objective of the project is to promote forest conservation, stop deforestation and help in climate change mitigation by reducing greenhouse gases emissions (GHGs) under Reducing Emissions Deforestation and Degradation (REDD) project category. The project has been developed using both Verified Carbon Standard (VCS) and Climate, Community and Biodiversity (CCB) standard.

The project has applied VCS methodology VM0015 v1.1, to quantify the GHG removals achieved in this project. Assuming the project is implemented as described in the PD, the project would achieve net GHG removal of 7,749,856 tCO₂e over the 30 year crediting period. The non-permanence risk rating according to the VCS tool is 11.75% at validation.

The method used for verification included desk review of the PD, MR, GHG ER, spreadsheets and supporting documents, exchange of information between 4KES and the PP, in which a number of clarification and corrective actions were requested. At the time of submission of this report, no pending issues were standing, being all the non-conformities sorted out by the PP.

After performing the verification audit, 4KES finds that the Project complies with all the requirements of the VCS & CCB and correctly applies the methodology VCS VM0015 v1.1 for the calculation of baseline, determining additionality and to monitor emission reductions in this monitoring period from 1st January 2016 – 31st March 2019. The project has generated 1,016,167 tCO₂e net emission reductions (NER) and 941,618 total tradable VCUs (Verified Carbon Units) during this monitoring period, after discounting 11.75% for buffer.

During the verification process 7 clarifications and 12 corrective actions concerning CCB verification were raised and closed.

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1 INTRODUCTION

1.1 Objective

4KES has been contracted by Amazon Reforestation Consortium (ARC), to undertake the verification of the project activity “The ARC REDD+ Project” in Brazil (which was under the VCS pipeline with ID PL1953).

The objective of this verification are as following:

- To verify that the actual monitoring system and procedures are in full compliance with the system and procedures described in the monitoring plan of validated PD as well as with the applicable methodology;
- To verify the monitoring report with deviations are in compliance with monitoring plan and VCS and CCBA rules
- To verify that the data reported were accurate, complete, consistent, transparent and free of material error or omission by checking the monitoring records and the emissions reduction calculation; and
- To verify and certify GHG emission reduction reported for the project for the period from **1st January 2016 – 31st March 2019**

Verification is a requirement for all VCS projects and is seen as necessary to provide assurance to stakeholders of the quality of the project and its intended generation of Verified Carbon Units (VCUs) *for that monitoring period*.

1.2 Scope and Criteria

The scope of the verification was the independent and objective review and ex-post determination of the monitored reductions in GHG emissions from “The ARC REDD+ Project” in Brazil by 4KES (VVB). The verification of this project was based on the validated project description (PD), final validation report (FVR), first monitoring reports (MR) and supporting documents made available to the verification team. These documents were reviewed against the requirements of the VCS standard version 4.0, VCS guidelines, related rules and guidance, and the VCS Validation and Verification manual version 3.2.

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

To establish a traceable and transparent verification opinion, 4KES has applied a risk-based approach for the verification of the project, focusing mainly on the significant risks to meet the qualification criteria and the ability to generate Verified Carbon Units (VCUs). Accuracy, completeness, relevance, reliability and credibility combined with a conservative approach were also verified. The work carried out by 4KES is free from any conflict of interest.

1.3 Level of Assurance

The project has been verified in line with VCS requirements & guidelines. This infers that based on the procedures and guidelines, 4KES should verify and state that whether the information in the MR is significantly correct and is a fair representation of the actual project details, and is prepared in accordance with the VCS requirements, guidelines and applied methodology for information pertaining to GHG quantification, monitoring and reporting.

1.4 Summary Description of the Project

The ARC REDD+ Project primary objective is to promote forest conservation and reduce potential greenhouse gas emissions (GHG) under Reducing Emissions Deforestation and Degradation (REDD) project category. Specifically, the project is of the “Avoided Unplanned Deforestation” (AUD) project category. Project is mainly focused on conserving the native forest through protection and the avoiding further actors of deforestation who are seeking to degrade. The native forest conservation will be able to support and protect more flora and fauna. The total project area, of 53,528 ha, is in a critical region of the eastern amazon biome” which is at high deforestation risk. The project area is located 300 km from Belem, the capital of Para State, Brazil.

The proponent of the project (PP) is ‘Amazon Reforestation Consortium’ (ARC) and other party involved in the project is ‘Transportadora Floresta do Araguaia Ltda’ (TFA) (who is the owner of the project area land).

The summary of benefits from the project is provided as below:

Climate Benefits: The project is expected to reduce the annual average GHG reduction of 258,329 tCO₂e and 7,749,856 tCO₂e for the entire crediting period of 30 years.

Community benefits: The project will build capacity and skill of the communities in the project area and help in additional livelihood generation. Also the project will provide cook stoves for the local population and conduct training on sustainable land use practices like agroforestry to conserve the native forest and increase tree cover. With the project implementation people will now have strengthened governance and forest management framework which will be in line of their traditional land management techniques and customs.

Biodiversity Benefits: The project will create of animal corridor, maintain forest cover and reduce habitat fragmentation. The project will ensure the conservation of threatened animal and plant species. The project also strengthens governance in and around the project area by employing security guards for forest protection.

CAR 03, CAR 04, CAR 05, CAR 09, CAR 10 & CAR 11 were raised and resolved successfully. Refer Appendix 2 for the same.

2 VERIFICATION PROCESS

The verification process is based on the approach depicted in the VCS Standard v.4.0 and VCS Validation and Verification manual v.3.2.

2.1 Audit Team Composition (Rules 4.3.1)

The following team members from 4KES were involved in verification process:

Name	Role	Component Reviewed
Ma Paa Puratchikkanal	Team Leader	Completeness check, desk review, onsite inspection, Interview with project representatives and stakeholders, issuance of findings, report finalization.
Ms. Zainab Hassan	Technical Expert	Desk review, Technical and forestry, CCB requirements check as per methodology and verification report preparation,
Mr Ewerton	Technical and Local Expert	Onsite inspection, Interview with project representatives and local stakeholders
Dr. Sudha Padmanabha	Expert to Technical Reviewer	Independent Technical review of the report as per the VCS guidance and applied Methodology requirements for the forestry sector.
Mr. Narendra Kumar	Technical Reviewer	Independent Technical Review of checking the compliance requirements to the VCS/CCB Guidance, templates, forms used and data, ERs verification and reporting of information related to final reports and quality check.

2.2 Method and Criteria

The verification process of ARC REDD+ project consisted of the following steps:

- Document review of the PD, monitoring report and preparation of verification protocol;
- On-site visit to the project activity and interviews with PP and project consultant;
- Resolution of outstanding issues
- Evaluation of the findings through direct communication with the PPs
- Preparation of the verification report.
- Internal quality control and technical review (TR) by the 4KES.

- Issuance of final verification report

Site inspections were carried out including the re-measurement of some sub-set of the permanent sample plots assessed as part of the PP's monitoring procedures. However, because the biomass inventory (for REDD) was validated and has not changed, inventory plots were not selected for detailed review/re-measurement. During validation site visit, the permanent sample plots (PSP) (25% of PSPs i.e. 20 out of 80 PSPs) were validated. This helped in efficient validation and verification at low cost. A risk based approach was used to select the samples to allow a review of members targeted to represent a wide geographic range of sites; sufficient to provide the necessary sample size and to meet a reasonable level of assurance. Field sampling and techniques were based on the best professional judgment of the VVB to meet a reasonable level of assurance.

To establish a reasonable level of assurance and verify the validated data for historical land use analysis and ERs, extensive review of all remote sensing (RS) data was undertaken.

The PA and adjacent lands were toured to allow the VVB to establish a reasonable level of assurance regarding the implementation of project activities (to select key areas for direct observation of unplanned deforestation monitoring, ways in which stratification was done, fire conditions, and stated project activities), and to further confirm the reported areas of ex post disturbance.

To ensure the risk of auditing error is minimized to a reasonable level and ensure effectiveness & efficiency, a project specific verification and sampling plan was developed to guide the verification auditing process. The methodology of the verification and sampling plan is based on the VCS and CCBA guidance documents and ISO 14064-3:2006. Any modifications applied to the plan were made based upon the conditions observed for monitoring to detect the processes with highest risk of material discrepancy.

2.3 Document Review

Monitoring report from 1st January 2016 – 31st March 2019, ER spreadsheet, validated PD and supporting documents was primarily used for the verification report finalization. This process included:-

1. Review of data and information presented to verify their completeness
2. Review of the PD, MR and monitoring plan & methodology and Internal standard operating procedures (SOPs) considered to finalize the MR.
3. Data management and QA/QC system for reporting and finalizing the emission reductions (ERs).

The verification assessed the Project's compliance with the following documents:

- VCS Standard version v4.0
- CCB Standard v3.1
- Agriculture, Forestry, and Other Land Use (AFOLU) Requirements v3.6

- VM0015 REDD Methodology v1.1
- AFOLU Non-Permanence Risk Tool v4.0
- VCS Verification Template CCBv3.0 VCSv3.4.
- VCS Validation Verification Manual v3.2
- ISO 14064-3:2006 (for sampling).

4KES reviewed the MR and the ER excel sheet and asked the PP to submit all the supporting documents which has served as the basis for finalization of the MR. The CARs and CLs were raised, and then the revised monitoring report and the supporting documents were evaluated to confirm the actions taken by the PP to the CARs and CRs issued by 4KES. The documents reviewed by 4KES are listed in Appendix 1 of this report. 4KES reviewed the final version (v03) of the monitoring report to confirm that all changes agreed had been incorporated.

2.4 Interviews

The interviews were carried out with communities in the visit to the Project Zone 29/11/2019 to 3/12/2019. VVB team also visited the Project Proponent's (PP's) office during 29/11/2019. Below is a list of people interviewed.

Sr. No	Date	Name of the person	Role/Designation	Topic
1	29/11/2019	Mr. Micheal Greene	Director, ARC	VCS MR, Excel Sheets, VER calculations, financials, project roles and responsibilities allocated, ownership and project details, sampling and ecological survey details, monitoring and reporting and related SOPs.
2	29/11/2019	Ms. Daniela Gontijo	TFA Group	Mandatory licenses, Ownership and legal requirements, extent of forest coverage Community participation and benefits.
3	29/11/2019	Mr. Vanderley de Oliveira	Groupa Dacko	Community participation, local coverage and stakeholder meetings. CCB Implementation. Grievances and how the assessment is done address the same. Risks identified and plans to mitigate them. Double counting, net impact of the project on the bio-diversity.
4	29/11/2019	Dr. Evelise Pires	ARC	Baseline emissions, computations, leakage and project emission assessments
5	30/11/2019	Assis	Stakeholder and	Project stakeholders, farmers'

		Guilhermino de souza	community participants	issues, community benefits, participation, extent of implementation, continued progress scenario, monitoring of the bio-diversity, impacts, mitigation, farming production and expectation from the project. Socio-economic consideration, Training programs provided, Agroforestry, cook stove implementation, extent and future steps. Grievances redressal. Registered legal land owners, eligibility under the mechanism, and those meeting the requirements and the criteria.
6	30/11/2019	Pedro de Macedo Coelho		
7	30/11/2019	Jose Rodrigo Oaiva Felomeno		
8	30/11/2019	Jose Barbosa Faias		
	30/11/2019	José Maria de Aguiar		
	30/11/2019	Francisco Elenilson do Carmo de Souza		
	30/11/2019	José Rodrigo Paiva Felomeno		
	30/11/2019	Pedro de Macedo Coelho		
	30/11/2019	Luis Carlos Carneiro Sales		
	1/12/2019	Assis Guilherme de Souza		
	1/12/2019	Ermelindo Carmo de Jesus Silva		
	1/12/2019	Alex Martins Bastos		
	1/12/2019	josé de Ribamar Luzia Mendes		
	1/12/2019	Luciano Veras dos Santos		
	1/12/2019	Samuel Ferreira Paixão		
	1/12/2019	Raimundo Clesiano da Silva		
	2/12/2019	Francisco Marcelo de Oliveira		
	2/12/2019	José Ribamar da Silva		
	2/12/2019	Jucivaldo Monteiro de Melo		
	2/12/2019	Gilvanio de Macedo		
	2/12/2019	José Barbosa Farias		
	2/12/2019	Leonildo Sousa		

		Fontoura		
	2/12/2019	José Gonçalves de Oliveira		
	2/12/2019	Leandro de Souza Fontoura		
	2/12/2019	Antônio Henrique da Silva Barbosa		
	2/12/2019	Marcos Paulo Lima dos Santos		
	2/12/2019	Antônio Elison da Silva Cruz		

2.5 Site Inspections

The objectives of the on-site inspections performed were to:

- Confirm the implementation and operation of the project;
- Cross-check the information provided in the MR documentation with other sources;
- Review the measurement of sample plots, sampling design, collecting, analyzing and reporting monitoring data and parameters;
- Confirm the correct implementation of procedures for operations and data collection;
- Check the monitoring equipment (for calibrations and maintenance) against the requirements of the PD,
- Review of ER spreadsheet for verify the calculations and assumptions used to obtain it;
- Review and ensure the QA/QC procedure followed to ensure maximum accuracy measurement, reporting and verification of the reported monitoring parameters and calculation,

The site inspections were carried out including the re-measurement of a sub-set of the sample plots assessed as part of the PP's monitoring procedures.

2.6 Resolution of Findings

Aim of this step was to resolve the corrective action requests (CARs) and clarification requests (CLs) and any other outstanding issues which needed to be clarified prior produce the final verification report on the monitoring report and the project design. The basis were concerns raised during the desk review, on-site audit assessments and the follow up interviews. The CLs and CARs and the responses provided for the raised concerns are documented in Appendix 1 to guarantee the transparency of the verification process.

As an outcome of the verification process, the team can raise different types of findings:

A Clarification Request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable VCS & CCB requirements have been met

A CAR was issued, where:

- Non-conformities in monitoring and/or reporting with the monitoring plan and/or methodology;
- Evidence provided is not sufficient to prove conformity;
- Mistakes in assumptions, data or calculations that impair the ER;
- FARs stated during verification that are not solved until the on-site visit.

During the verification process, total 12 CARs and 07 CLs were raised and resolved satisfactorily. The list of CARs/CLs raised and the response provided, the mean of verification, reasons for their closure and references to correction in the relevant documents are provided in Appendix 2 of this report. Appropriate changes to the CCB VCS MR v3 /41/.

2.6.1 Forward Action Requests

No FARs raised during this verification process.

2.7 Eligibility for Validation Activities

4KES is accredited for validation and verification for the scope 14 as well as by the VERRA board.

3 VALIDATION FINDINGS

No Validation activities were performed and is not applicable. No gap validation is required; no methodology deviations were needed in the verification; and no new instances were added to the project activity.

3.1 Participation under Other GHG Programs

Not applicable. The same is verified through the interview with the PP confirming. The double counting risks were also checked and verified that no such risk is applicable as mentioned in the validated PD.

3.2 Methodology Deviations

Not applicable. No methodology deviation found during this monitoring period.

3.3 Project Description Deviations (*Rules 3.5.7 – 3.5.10*)

Not applicable. No PD deviations applied to the project were validated as part of the verification process described in this report.

3.4 Minor Changes to Project Description (*Rules 3.5.6*)

Not applicable. No minor changes to the PD were validated as part of the verification process described in this report.

3.5 Grouped Project (*G1.13 – G1.15, G4.1*)

Not applicable. The project is not a grouped project.

4 VERIFICATION FINDINGS

4.1 Public Comments (*Rules 4.6*)

In accordance with the requirement in clause 3.16.5 of the VCS standard v.4.0 “All VCS projects are subject to a 30-day public comment period. The date on which the project is listed on the project pipeline marks the beginning of the project’s 30-day public comment period”.

The PP listed their project activity in the VCS pipeline for 30 days from 29/10/2019 to 28/11/2019 (<https://www.vcsprojectdatabase.org/#/ccb-pipeline-project-details/PL1953>) for public comments.

No comments received during the commenting period, as evident from the VCS pipeline web interface.

4.2 Summary of Project Benefits

Please see Section 1.4 of this report for a summary description of the project. Verification team checked section 1.2 of the PD and sections 1.1 and 1.2 of the MR and found that the section is completed appropriately. The estimated benefits are included and benefits that will not be monitored and/or are not applicable are labelled accordingly. Verification team also confirms that all achievements reported in the MR are substantiated with information provided in the body of the document.

CAR 02 was raised and resolved successfully. Refer Appendix 2 for the same.

4.3 General

4.3.1 Implementation Status (*G1.9*)

- No material discrepancies found between project implementation and the project description.
- The VVB checked the monitoring plan and the completeness of monitoring and found that there is no material discrepancies between the actual monitoring system, and the monitoring plan set out in the project description and the applied methodology.
- The PP has not applied for approval of this project under any other GHG emission trading program and also there is no risk of double counting (as mentioned in section 3.1 of this report and 2.1.9 of the MR) of ER generated by the project.
- There is no validated methodology deviations, project description deviations or any minor changes to the project description found during the verification of this monitoring report.

CAR 01 raised and resolved successfully. Refer Appendix 2 for the same

4.3.2 Risks to the Community and Biodiversity Benefits (G1.10)

A comprehensive risk assessment to the climate aspect of the Project is verified in section 3.3.10 of this report.

Table 7 of the PD /11/ lists 8 main risks and what will be done to mitigate. The MR /42/ is developed completely according to the validated PD and it which are assessed as below:

Risk	Assessment of Measure	VVB Conclusion
Non continuity of the project activities	The project owners signed project agreements. The VVB team checked the agreement /20/ and found that the owners are committed to conserve the productive systems implemented in their properties. As per the agreement, if a beneficiary want to sell the land, he/she may transfer the commitments and benefits to the new land owner; it will favor the permanence of project benefits regardless the changes in ownership. It also ensures that even policy changes should not affect the conservation program of the project area.	The VVB finds that the mitigation measures provided by PP are appropriate to cover risk.
Invasion of project land by outsiders	PP proposed regular patrols, signage, purchasing of more vehicles to conduct patrols /14//40/, increasing awareness of community members about conservation and the rules of the resource plan, strengthening and authenticating land rights	The VVB finds that the mitigation measures provided by PP are appropriate to cover risk.
Climate change /drought	PP proposes reduces carbon emissions and creates a better local ecosystem though reducing deforestation and enhancement of forest carbon stock /40//12/. Also PP proposes diversification of livelihood sources to reduce reliability on livestock which will reduce the impact of climate change/draught over communities.	The VVB finds that the mitigation measures provided by PP are appropriate to cover risk.
Weak leadership /governance	PP proposes providing leadership training and capacity building activities /50/ for the community leadership and village leadership teams, measures to increase transparency around income and expenditure of funds as mitigation measures. Also, the P has extensive prior experience in developing and managing REDD+ projects.	The VVB finds that the mitigation measures provided by PP are appropriate to cover risk.
Limited allocation of income	As described in PD, most of the project activities are designed to reduce the maintenance costs and/or increase the profitability of the systems. Also, the land owners are trained along with the	The VVB finds that the mitigation measures provided by PP are

	implementation of the activities /50/, in order to enable that subsequently, the activities can be developed by themselves. The same is confirmed though interview with PP and verification of sample training records /50/.	appropriate to cover risk.
Lack of budget for implementation of activities and / or project monitoring	As described in PD, most of the project activities are designed to reduce the maintenance costs and/or increase the profitability of the productive systems. Also, the land owners are trained along with the implementation of the activities, in order to enable that subsequently, the activities can be developed by themselves. The PP has an extensive experience in implementing projects with rural communities (especially in the project region) related to forest conservation and productive alternative systems. Based on the interview with PP and checking the track records of the PP /55/, the VVB confirms the same.	The VVB finds that the mitigation measures provided by PP are appropriate to cover risk. This risk is mitigated based on its certified experience and management and mobilizing resources capacities at the country and international level.
Forest fires and other threats	As per interview with PP, the PP has confirmed that the land owners are trained by ARC in order to perform the technical tasks in an appropriate manner. Regular patrolling, signage, purchasing of more vehicles to conduct patrols and increasing awareness of community members about forest fires. As per discussion with monitoring team, verification team has also confirmed that the PP conducts regular visits to the properties which allow them to monitor as well as identify potential risks /65/. This will reduce the risk of forest fires and other threats	The VVB finds that the mitigation measures provided by PP are appropriate to cover risk.
Policy change by local governments	Since REDD+ requires governments to establish national carbon-oriented forest management plans, reliable baseline data, MRV mechanisms, and national institutions for the trading and payment of carbon stocks in the forests, the governments could be inclined to recentralize their forest management systems. Hence, the policy change by local government against the project activity is unlikely.	The VVB finds that the mitigation measures provided by PP are appropriate to cover risk.

As per the VVB, PP has identified all relevant risks of the projects and the mitigation measures provided for each risk is adequate to minimize/mitigate the relevant risks.

CAR 07 was raised and resolved successfully. Refer Appendix 2 for the same.

4.3.3 Community and Biodiversity Benefit Permanence (G1.11)

The measures implemented to maintain and enhance the climate, community and biodiversity benefits beyond the project lifetime, as identified by the project proponent (as mentioned in section 2.2.7 of the MR) is reasonable and ensures the continuity of the project beyond the project life. The measures include both legal & regulatory aspects protecting the project lands, building capacity and awareness generation of the local communities and attempts to tie community success to project success. During on-site visit, VVB observed alternative livelihood programs /50/ /53/ and found people were receptive to these activities. Local people were aware regarding forest protection and conservation benefits.

4.3.4 Stakeholder Access to Information (G3.1- G3.3)

The access of project documents to the stakeholder is described in section 2.3.1 to section 2.3.6 of the MR /42/ and section 2.3.1 to section 2.3.6 of the validated PD /11/. The PP has provided the information through writing (printed version of all project related document available in PP office), virtual (all information available on PP's website) and oral (through consultations and one to one meetings).

All the complete documentation of the ARC REDD project has been made accessible to stakeholders and communities through various meetings that the PP has organized for MR reporting and finalization of the same. All these summary documents have been explained in a simple and understandable way to the "Community Stakeholders" by the PP. The PP has been always widely available for any question or doubt that arises from the communities.

Each person responsible for every stakeholders group took care to advertise all members of the group about the possibility to participate at the meetings usually through the internal bulletin boards and with emails.

During all consultation the PP explained the possible economics, social and biodiversity impacts (in terms of costs, risks and benefits) that the project might have on individual or collective. This analysis was performed through the use of questions, comments and opinions regarding to the exposed topics.

The project cycle including the validation and verification process was explained to the stakeholders during consultations. After the consultations, paper documentations were also released to ensure that each of the stakeholders understood the concept and process clearly.

This was verified during the site visit and documents proof submitted by the PP /36//37/ and /39/ and /44/. VVB team finds that the measures provided by PP are appropriate and adequate to provide the information to the stakeholders and ensure their full participation in the MR results and report finalization process.

CAR 12 was raised and resolved successfully. Refer Appendix 2 for the same.

4.3.5 Stakeholder Consultation (G3.4 – G3.5)

The monitoring report discusses the way stakeholders were involved in the project design initially. It also lists the ongoing meetings with different stakeholders, especially community groups. Meetings/consultations regarding design and implementation of benefit sharing arrangements are

included. Community members are involved in land use planning and the monitoring methods and results were also discussed with them, which is being facilitated by the PP as a project activity.

During site visit Interviews with community members & their legitimate representatives and project team, indicate that the communities are still involved with the project implementation, including regarding the benefits they would like to see from the project. Requests from community members are being considered. Adequate levels of information are reaching stakeholders. Communication between the project and communities is on regular basis, strong and open, by all appearances. Stakeholders seem to be generally satisfied, with the project during this monitoring period. Hence, concluded that the project carried out effective community consultation. Supporting evidences submitted by the PP /11///36//37//39//46/ and /48/.

4.3.6 Stakeholder Participation in Decision-making and Implementation (G3.6)

The step has been clearly explained in section 2.3.10 of the MR. During the site visit and the supporting documents assessed, it was found that the measures by the PP has enabled effective participation of all communities that want and need to be involved in project implementation, monitoring, and evaluation. Supporting evidences submitted by the PP /36//30//37/ and /39/.

4.3.7 Anti-discrimination (G3.7)

The step has been described in section 2.3.11 of the MR /42/ and validated PD /11/. The Human resource (HR) policy /48/ provides a clear statement on discrimination relating to gender, religion and sexual harassment. The stakeholder involvement was inclusive without any discrimination of gender, cultural identity and religion. The HR policy of the PP Company has been reviewed and assessed by the VVB and guarantee that no type of discrimination is tolerated at any point of the project development.

4.3.8 Stakeholder Feedback and Grievance Redress Procedure (G3.8)

So far no grievance received by the PP during this monitoring period. However, the grievance redress procedure has been discussed in section 2.3.12 the validated PD /11/. The PP company grievance policy /49/ has outlined clear grievance redress mechanism. The policy has been assessed by the VVB during the site visit and found to be appropriate in addressing any grievance in the future of the project.

4.3.9 Worker Relations (G3.9 – G3.12)

The PP keeps on providing trainings for the farm workers, nowadays training activities are executed with regular intervals of 3 month. The community members (above age of 18 years) were provided with job opportunities without any discrimination of age, sex, marital status, ethnicity, social status or religious convictions, political ideas and / or sexual orientation. The monitoring report also states that community members with recognized ability receive additional training to help advance their careers.

The recruitment policy /51/ and company code of conduct /52/ were validated by the VVB. The PP's company policies have the guidelines to ensures workers safety and minimize risks by providing best work practices /54/.

The details of all applicable laws were assessed and all these laws aim to achieve justice in the relations arising between employers and workers, under a spirit of economic coordination and social balance /52//53/. All hiring processes that occur inside the Project are governed by the labor code, in addition to the internal quality system that has processes and procedures associated with the management of human resources. All workers employed have a contract, in which its duties, rights and laws that protect them are reported.

It is clear to the VVB team that the project is building local capacity through job skills training /50/ which is on-going and also conclude that the relationship between workers and the project upholds the intent and design presented in the validated project description.

4.3.10 Management Capacity (G4.2 – G4.3)

This has been explained in section 2.4.1 to section 2.4.5 of the validated MR. The same has been checked and verified during the site visit. In the opinion of VVB, the PP and its team has robust management team experience to ensure successful implementation and sustainability of the project.

The financial health of the implementing organization is adequate to support project implementation. The financial audits of the company since the project has started and confirms financial health of the PP. Additionally, the ARC's combined REDD+ project development experience have contributed to a detailed financial model for the development and management of the Project. Predicted credit sales and an accurate estimated annual budget demonstrate sufficient cash flow from predicted contracted sales to sustain the project through the end of the crediting period. PP team has developed the project through a US based investors in partnership with other organisations within the State of Para in Brazil. Documents supporting these investments can be produced to the project auditor for inspection. ARC has equity investors and a concise business plan and financial modal that are available on request. The project partners are all well-funded, sufficiently capitalized organizations, and include a major company's support like Dacko Nursery and TFA with impressive histories of financial sustainability. Hence, it is concluded by the VVB that the PP financial strategies are sound enough to develop and sustain the project

The VVB has checked and assessed the company policies /44//48/ and audit reports /55/ and found that that its resources are allocated responsibly and free of corruption. Additionally, the project comply with all law and regulation of the host country including anti-corruption law /43/.

Hence, it is concluded that the project is not involved or allows any form of corruption.

Hence, concluded that the project has the capacity to implement the project in accordance with the validated project description.

CL-02 & CL-03 were raised and resolved successfully. Refer Appendix 2 for the same.

4.3.11 Commercially Sensitive Information (Rules 3.5.13 – 3.5.14)

Not applicable.

4.3.12 Rights Protection and Free, Prior and Informed Consent (G5.1-G5.5)

During the site visit it was found that the:

- The project zone is represented by a private property. The land documents was provided by the PP for the same.
- The tenancy agreements between the Land Owner and the PP and the Parcels where the Project is implemented was checked and it proves that the Project doesn't invade any community property or government property.
- Project was not complicit of involuntary relocation of property rights holders because within the Project boundaries there have been no communities living or depending on the resources located inside the area. The local environmental authorities (IMASUL) knew about the Project before the Project Start Date and gave approval for the establishment of the plantations.
- There are no illegal activities inside the Project Zone or in neighboring areas.
- In the Project Zone there are no ongoing or unresolved disputes or conflicts regarding rights to lands. All the activities produced by the Project has produced only benefits to the stakeholders and no action can create any kind of dispute.

Hence concluded, that the project has protected the rights of indigenous peoples, communities and other stakeholders in accordance to the third edition of the *Climate, Community & Biodiversity Standards* and the validated project description. Documents referred /11//20//36//37//39//42/46/ and /48//56/

CL 05 was raised and resolved successfully. Refer Appendix 2 for the same.

4.3.13 Legal Status (G5.6)

The monitoring report lists all the applicable national and local laws and regulations that are relevant to project activities, including labor laws. The same /43/ has been assessed by the VVB. It states the project is in compliance with these laws and regulations. The verification team finds that the project do not violate any local or national laws or regulations. Staff are aware of their rights and duties.

4.4 Climate

4.4.1 Accuracy of GHG Emission Reduction and Removal Calculations

The data and parameters used to calculate the GHG emission reductions and removals, and the steps taken to assess the following for each of them:

Data/Parameter	Description	Accuracy of	Whether	Appropriateness of default
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		GHG emission reductions and removals	methods and formulae set out in the PD have been followed	values
Deforestation	<i>Maps of forest cover areas converted into non-forest cover areas</i>	0.40%/year (validated and as per section 1.1.2 of the methodology)	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	0.40%/year on average (2000-2014)
CF	<i>Carbon contained in dry biomass</i>	0.485 (Validated)	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	0.485
ABSLRRt	<i>Annual area of baseline deforestation within the RR at year t</i>	18,787.9 ha	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	18,787.9 ha
ABSLRR	<i>Cumulative area of baseline deforestation in the reference region at year t</i>	187,879.5 ha Checked as per the methodology requirements.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	187,879.5 ha

ABSLPA _t	Annual area of baseline deforestation in the project area at year <i>t</i>	1,061.9 ha Validated and as provided in the section 3.1.1 of Monitoring Report.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified from the Monitoring Report 3.1.1	1,061.9 ha
ABSLPA _{icl,t}	Area of initial (pre-deforestation) forest class <i>icl</i> deforested at time <i>t</i> within the project area in the baseline	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD	NA
ABSLPA _{i,t}	Annual area of baseline deforestation within stratum (i) of the project area at year <i>t</i>	1,062 ha Validated and verified.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	1,062 ha
ABSLPA	Cumulative area of baseline deforestation within the project area at year <i>t</i>	12,421 ha Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified from the Monitoring Report 3.1.2	12,421 ha
ABSLPA _{z,t}	Area of the zone <i>z</i> “deforested” at time <i>t</i> within	1061.91 ha Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD	1061.91 ha

	the project area in the baseline case; ha		and verified as reported from the Monitoring Report 3.1.1	
ABSLLKt	Annual area of baseline deforestation within the leakage belt at year t	17,726 ha Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified from the Monitoring Report 3.1.1	17,726 ha
ABSLLK _{icl,t}	Area of initial (post-deforestation) forest class fcl deforested at time t within the leakage belt in the baseline case	17,726 ha Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	17,726 ha
ABSLLK _{i,t}	Annual area of deforestation in stratum (i) within the leakage belt at year t	17,726 ha Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	17,726 ha
ABSLLK	Cumulative area of baseline deforestation within the leakage belt at year t	175,459 ha Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from	175,459 ha

			the Monitoring Report 3.1.1	
CFj	Carbon fraction for tree tr, of species, group of species or forest type j	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
Cabcl	Average carbon stock per hectare in the above-ground biomass carbon pool of LU/LC class cl	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
Rj	Root shoot ratio	N/A, Validated.	Confirmed that reported value (default) is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
Cbbcl	Average carbon stock per hectare in the below-	N/A, Validated	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD	NA

	ground biomass carbon pool of LU/LC class cl		and verified as reported from the Monitoring Report 3.1.1	
Ctot(icl)	Average carbon stock per hectare in the below-ground biomass carbon pool of LU/LC class cl	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
Ctot _{icl,t}	Average carbon stock of all accounted carbon pools in forest class icl at time t	N/A Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
Cabfcl	Average carbon stock per hectare in the above-ground biomass carbon pool of final post-deforestation class fcl	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
Cp	Average carbon stock per hectare in	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1	NA

	the carbon pool p		of validated PD and verified as reported from the Monitoring Report 3.1.1	
C_{totfcl, t}	Average carbon stock of all accounted carbon pools in non-forest class fcl at time t;	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
ΔC_{ab}ABSLKK	Cumulative baseline carbon stock changes for the above-ground biomass pool in the leakage belt	49,851,558.41 tCO ₂ -e — N/A Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	49,851,558.41 tCO ₂ -e
ΔC_{bb}ABSLKK	Cumulative baseline carbon stock changes for the below-ground biomass pool in the leakage belt	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
ΔC_{ab}BSLPA	Cumulative baseline carbon stock	2,956,763 tCO ₂ e- Validated and	Confirmed that reported value is equal to that in Section 3.3.1	2,956,763 tCO ₂ -e

	changes for the above-ground biomass pool in the project area	verified as in MR.	of validated PD and verified as reported from the Monitoring Report 3.1.1	
$\Delta C_{bb}ABS_{LPA}$	Cumulative baseline carbon stock changes for the below-ground biomass pool in the project area	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
ΔC_{BSLPA}	Total baseline carbon stock changes in the project area	1,073,286 Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	1,073,286 tCO ₂ -e
ΔC_{PSPA}	Cumulative project carbon stock change within the project area at year t	53,884 tCO ₂ -e Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	53,884 tCO ₂ -e
ΔC_{UDdPA}	Cumulative actual carbon stock change due to unavoided	157,635 tCO ₂ -e Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as	157,635 tCO ₂ -e

	unplanned deforestation at year t in the project area		reported from the Monitoring Report 3.1.1	
ΔREDDt	Net anthropogenic greenhouse gas emission reduction attributable to the AUD project activity at year t	1,061,167 tCO ₂ e- Validated and verified as in MR.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	1,061,167 tCO ₂ -e
DLF	Displacement leakage factor	N/A, Validated and verified as in MR. Value of zero applied as per VM0015 requirements	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
EI	ex-ante estimated Effectiveness Index	N/A, Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	NA
ELK	Cumulative sum of ex-ante estimated leakage emissions at	Validated.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from	0

	year t		the Monitoring Report 3.1.1	
RFt	Risk factor used to calculate VCS buffer credits	~~11.75%~~ Validated and verified as in MR.AFOLU Non-permanence Risk Tool V4.0 was applied to calculate the risk factor and risk assessment is submitted to VVB	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	11.75%
VBCt	Number of Buffer Credits deposited in the VCS Buffer at time t;	119,549 tCO ₂ -e (Validated and verified as in MR. Buffer withholding based on the non-permanence risk assessment tool.	Confirmed that reported value is equal to that in Section 3.3.1 of validated PD and verified as reported from the Monitoring Report 3.1.1	119,549 tCO ₂ -e

VVB has checked the accuracy of calculations in the MR /42/, GHG ER spreadsheet formulae /12/, conversions and aggregations, and use of the data and parameters and found it to be consistent and correct. The methods and formulae set out in the project description for calculating baseline emissions, project emissions and leakage have been followed. The default values used in the monitoring report are appropriate. Analysis of project inventory data used appropriate formulas, conversions, and parameters, supported by scientific literature. In conclusion, the quantification methods for GHG emission reductions and removals have been performed correctly and in accordance with the validated PD /11/ and VM0015 v1.1 /4/.

CL 04, CL-06, CL07, CAR-06 & CAR-08 were raised and resolved successfully. Refer Appendix 2 for the same

4.4.2 Quality of Evidence to Determine GHG Emission Reductions and Removals

Overall, the evidence used to determine the GHG emissions reductions and removals is of sufficient quantity (i.e., all necessary information has been provided to allow the audit team to trace and, as necessary, recalculate the quantification of GHG reductions and removals), and of

appropriate quality (i.e., information presented is free of misstatements, whether material or immaterial) to allow the audit team to render a verification opinion. Throughout the verification, the project proponent demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided.

4.4.3 Non-Permanence Risk Analysis

An overall rating was calculated to be 11.75%. The non-permanence risk report and risk calculation Sheet are provided by PP, the risk assessment was conducted according to the VCS Procedural Document “AFOLU Non-Permanence Risk Tool” (version 04) /7/.

Each risk category was calculated based on the VCS guidance. The information was cross-checked and verified through document review, onsite visits of the project area and interviews conducted. Details of the assessment are provided as follow.

Risk factor	Rational	Conclusion
Internal risk		
Project management risk	Management team does not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area. Therefore this mitigation has scored 2 There is a specific mitigation plan made by project proponent for potential risks to the project, which has been verified in the monitoring plan, therefore this mitigation is scored as -2. Hence the total score of the risk is 0	A risk rating of 0 is appropriate given the rationale provided and all statements made are substantiated.
Financial Viability	Project Cash flow breakeven period is between 4 and 7 years from the current risk assessment. Therefore this mitigation is scored as 1. Project has secured 40% and less than 80% of funding needed to cover the total cash out before the project reaches breakeven. Therefore this mitigation is scored as 1. Hence the total score of the risk is 2	A risk rating of 2 is appropriate given the rationale provided and all statements made are substantiated.
Opportunity cost	NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with the project activities; or where baseline activities are	A risk rating of 0 is appropriate given the rationale provided and all statements made are substantiated.

	subsistence-driven, net positive community impacts are not demonstrated. Therefore this mitigation is scored as 8. Mitigation: Project is protected by legally binding commitment to continue management practices that protect the credited carbon stocks over at least 100 years (see project longevity). Therefore this mitigation is scored as -8. Hence the total score of the risk is 0	
Project longevity	The project crediting period is 30 years. Agreements between the landowner and the project owner are available defining the validity and the land used. The right of forest planting and management within the project boundary during the project crediting period as verified by checking the project agreement is with the PP. Therefore this mitigation is scored as 0.	A risk rating of 0 is appropriate given the rationale provided and all statements made are substantiated.
Total internal risk	0	
External risk		
Land Tenure and Resource Access/Impacts	Project area is protected by legally binding commitment (e.g., a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period. Therefore this mitigation is scored as 0.	A risk rating of 0 is appropriate given the rationale provided and all statements made are substantiated.
Community Engagement	Less than 50% of the households living within the project area who are reliant on the project area, have been consulted. Therefore this mitigation is scored as 10.	A risk rating of 10 is appropriate given the rationale provided and all statements made are substantiated.
Political Risk	The project is located in Brazil. Average score of all six indicators for the five most recent years (20012-2017) is -0.44. Therefore this mitigation is scored as 2 Brazil has an established Designated	A risk rating of 0 is appropriate given the rationale provided and all statements made are substantiated.

	National Authority under the CDM and has at least one registered CDM Afforestation/Reforestation project, therefore this mitigation is scored as -2. Therefore this mitigation is scored as 0	
Total external risk	10	
Natural Risk		
Natural Risk (e.g., Fire, Pest and Disease outbreaks, Extreme Weather)	Major : Fire (F) 0.5 Pest and Disease Outbreaks (PD) 0 Extreme Weather (W) 1 Geological Risk (G) 0 Other natural risk (ON)0.25 Therefore this mitigation is scored as 1.75	A risk rating of 1.75 is appropriate given the rationale provided and all statements made are substantiated.
Overall risk rating	Internal Risk + External Risk + Natural Risk 0+10+1.75 = 11.75	

The calculation has been verified as per the VCS tool applied for the non-permanence risk calculation and it concluded to be appropriate. The AFOLU Non-Permanence Risk Tool requires a minimum risk rating of 10. The calculation of total tradable VCUs is done by multiplying the risk factor with the calculated net emission reductions as per the GHG ER spreadsheet /12/.

4.4.4 Dissemination of Monitoring Plan and Results (CL4.2)

The monitoring plan, as well as its results obtained is available to the stakeholders/ public on the PP website /44/. This has been verified during the site visit and personal interview with the management team of the project.

4.4.5 Optional Gold Level: Climate Change Adaptation Measures (GL1.3)

Not applicable.

4.4.6 Optional Gold Level: Climate Change Adaptation Benefits (GL1.4)

Not applicable.

4.5 Community

4.5.1 Community Impacts (CM2.1)

The community impacts are clearly mentioned in section 4.1.1 of the MR /42/ and section 4.2 of the PD /11/. From the supporting documents submitted like communities comments received during the consultations /41//30//36//37/ and /39/ and on site discussions & observations, no

negative impacts on identified stakeholders are expected. In fact, the project is having direct positive impacts like new livelihood sources, direct sustainable income opportunities, increased awareness and knowledge, increased literacy, getting better commute, housing and other infrastructure facilities, collaboration between local communities and provincial and national governments, reduced threats through increased patrols, and having improved microclimate and biodiversity on its community. Hence, the VVB concluded that the assessment of impacts made in the MR is accurate.

CL 01 was raised and resolved successfully. Refer Appendix 2 for the same

4.5.2 Negative Community Impact Mitigation (CM2.2)

As stated above, the project have positive impacts on the project, no negative impact observed by the VVB. This was verified assessing the supporting documents submitted /41//30//36//37/ and /39/ like communities comments received during the consultations and on site discussions & observations.

4.5.3 Net Positive Community Well-being (CM2.3)

It was assessed during the verification that the communities will carry on the business as usual activities in absence of the ARC REDD+ project. The ARC REDD+ project was designed, developed and implemented to address environment as well as community issues of the project area. All the benefits mentioned above in section 4.5.1 of this report and 4.1.1 of the MR /42/ are available to the members at zero cost.

The project has demonstrated that the project has a net well-being impact compared to the “without project” land use scenario.

4.5.4 Protection of High Conservation Values (CM2.4)

No High Conservation Values (HCVs) were negatively affected as a result of the ARC REDD+ Project. HCVs related to community identified by the Project are the better conditions of life and work of the communities linked to the Project itself /41/ and /65/. The project is designed to protect and conserve these areas from misuse, enhance community understanding of their value and to improve overall community well-being.

Descriptions in PD /11/ and MR /42/ has been checked, it is verified that the information on the community groups in baseline scenario is correct via checking the community members feedback during consultations, socioeconomic survey report /41/, PRA reports /30/ and onsite observations and discussions with the local stakeholders of the project.

4.5.5 Community Monitoring Plan (CM4.1, CM4.2, GL2.2, GL2.3, GL2.5)

The PP established a detailed community monitoring plan in section 4.4.1 of the validated PD /11/ and analysis of monitoring done during this monitoring period is described in section 4.3.1 of the MR /42/.

The VVB has assessed the monitoring plan and found that monitoring indicators are confirmed as consistent with the net positive change which created by the project. Also, in order to develop the social-environmental indicators for the results, several communitarian workshops has been

organized as a fundamental part of the Social Communitarian Monitoring System facilitated by the follow-up and evaluation of the benefits of the project to improve the quality of life of the communities. This system have trained communitarian monitors that are continuously carrying out the follow up activities evaluating the commitments, project activities and communities every 3 to 6 months. During the first monitoring period, the PP ran an annual diagnosis on the conditions of the farm workers community present in the Project /65/.

The monitoring survey was conducted as per the SOPs /14/. This is was confirmed during the on-site visit and the interview with the management team. The dates, frequency and sampling methods used are in accordance with the validated PD /11/. Effective measures are taken to maintain or enhance all identified high conservation values related to community well-being.

4.5.6 Other Stakeholder Impacts (CM3.2-CM3.3)

This is explained in sections 4.1.1 and 4.2.2 of the MR and section 4.3.1 of the validated PD. The project is designed to generate only positive impacts to the stakeholders living in the LMA and other near-by communities. No other stakeholders have been identified to use or depend from the resources in the Project's Area or LMA. The Project activities have not resulted in net negative impacts on the well-being of other stakeholders because all the activities were conducted in a private area and in addition to that all the stakeholders were always consulted and the results of this consultation can be considered very positive.

It is verified that the information on the community groups in baseline scenario is correct via checking the community members feedback during consultations, socioeconomic survey report, PRA reports /41//30//36//37/ and /39/ and onsite observations and discussions with the local stakeholders of the project.

4.5.7 Community Monitoring Plan Dissemination (CM4.3)

The monitoring plan, as well as its results obtained is available to the stakeholders/ public on the PP website /44/. This has been verified during the site visit and personal interview with the management team of the project.

4.5.8 Optional Gold Level: Short-term and Long-term Community Benefits (GL2.2)

Not applicable.

4.5.9 Optional Gold Level: Smallholder/community member Risks (GL2.3)

Not applicable.

4.5.10 Optional Gold Level: Marginalized and/or Vulnerable Community Groups (GL2.4)

Not applicable.

4.5.11 Optional Gold Level: Net Impacts on Women (GL2.5)

Not applicable.

4.5.12 Optional Gold Level: Benefit Sharing Mechanisms (GL2.6)

Not applicable.

4.5.13 Optional Gold Level: Governance and Implementation Structures (GL2.8)

Not applicable.

4.5.14 Optional Gold Level: Smallholders/Community Members Capacity Development (GL2.9)

Not applicable.

4.6 Biodiversity**4.6.1 Biodiversity Changes (B2.1)**

The biodiversity changed in a positive manner after the project implementation and maintaining the rainforest which is also a biodiversity hotspot through deforestation. The changes are listed in detail in section 5.1.1 of the MR /42/.

The VVB team believes that maintaining the current high level of biodiversity is appropriate and will generate multiple co-benefits. Significant positive changes are not observed in biodiversity during this verification, however, some of the biodiversity parameters are improved like soil, tree density & cover and natural regeneration /63//64/. This was confirmed period through on-site observations, interview with local experts and communities and assessing the climate and biodiversity baseline data /63/ & review of monitoring period remote sensing data /58/ and /59/ for disturbance.

4.6.2 Mitigation Actions (B2.3)

No negative impacts on biodiversity were detected inside of the Project Area and Project Zone resulting from Project activities. Because of that no mitigation actions taken during this monitoring period. The same was assessed and verified during the site visit and interviews with local experts and project team.

4.6.3 Net Positive Biodiversity Impacts (B2.2)

In absence of project scenario, BAU scenario would have continued and was considered to be forest land use change with damaged forest cover, due to extensive cattle grazing and agriculture practices. Fire has often been used to stimulate pasture sprouting in the grazing areas and also in the Legal Reserve areas. Farm workers occasionally practiced hunting outside and inside the farm borders, including Legal Reserve areas. All these practices have brought to a drastic reduction in biodiversity over the years. The Project Scenario has led to improved biodiversity (flora and fauna) as mentioned in the sections above of this report and also in section 5.1.1 of the MR /42/. This was also confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

Hence, it is concluded the net impact of the project's activities on biodiversity are positive.

4.6.4 High Conservation Values Protected (B2.4)

Checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities, the VVB concluded that the project will not negatively affect any biodiversity-related HCVs

4.6.5 Invasive Species (B2.5)

No record invasive and deleterious species /64/ in the project area during this monitoring period. This was verified during on-site assessment and by checking the monitoring records.

4.6.6 Impacts of Non-native Species (B2.6)

Due to existing agricultural markets and increased economic incentives for small-scale farmers, TFA does use non-native species in its agroforestry programs: rubber, eucalyptus, cardamom and rambutan. However, these species are non-invasive and were introduced into Brazil as agricultural species over 50 years ago. The Brazil government considers these species to be “naturalized” and to pose no threats to biodiversity within the country. This was verified during on-site assessment and by checking the monitoring records /64/ and /65/.

4.6.7 GMO Exclusion (B2.7)

Not applicable. The PP guarantee that no genetically modified organisms (GMOs) will be used in the Project to generate GHG emissions reductions or removals. No GMOs were used during this monitoring period. This was verified during on-site assessment and by checking the monitoring records.

4.6.8 Inputs Justification (B2.8)

Not applicable. The ARC REDD Project had not used any fertilizers, pesticides, biological control agents and other petroleum-based inputs for the project activities. The Project did not use any such products during this monitoring period. This was verified during on-site assessment and by checking the monitoring records.

4.6.9 Negative Offsite Biodiversity Impacts (B3.1) and Mitigation Actions (B3.2)

Not applicable.

4.6.10 Net Offsite Biodiversity Benefits (B3.3)

Due to the environmental-friendly techniques adopted in the project activity, net biodiversity impacts will be either positive or neutral /65/. Biodiversity within the project zone is impacted positively /64/, especially over the ‘without project’ scenario. Leakage are managed in the leakage management zone (LMZ). No negative offsite biodiversity impacts identified or reported. This was confirmed by checking and assessing the climate and biodiversity baseline data /63/ and interview with local experts and communities.

4.6.11 Biodiversity Monitoring Plan (B4.1, B4.2, GL3.4)

Results of monitoring were reported according to the parameters described in the validated PD/11/. The biodiversity monitoring plan is detailed in section 5.3.1 of the MR /42/. The VVB has assessed the monitoring plan and found that monitoring indicators are confirmed as consistent with the net positive change which created by the project. The biodiversity monitoring plan is appropriate and it meets the requirements of B4.1 and B4.2 of the CCB standard /9/.

The monitoring survey was conducted as per the SOPs /14/. This is was confirmed during the on-site visit and the interview with the management team. Effective measures are taken to maintain or enhance all identified high conservation values related to biodiversity.

4.6.12 Biodiversity Monitoring Plan Dissemination (B4.3)

The monitoring plan, as well as its results obtained is available to the stakeholders/ public on the PP website /44/. This has been verified during the site visit and personal interview with the management team of the project.

4.6.13 Optional Gold Level: Trigger Species Population Trends (GL3.3)

Not applicable.

4.6.14 Optional Gold Level: Effectiveness of Threat Reduction Actions (GL3.4)

Not applicable.

4.7 Additional Project Implementation Information

Not applicable.

4.8 Additional Project Impact Information

Not applicable.

5 VERIFICATION CONCLUSION

4KES has been appointed by ARC Group Ltd to perform the verification of the net emission reductions (NER) reported for the project titled “The ARC REDD+ Project” (Project ID: PL1953) for the first monitoring period from 1st January 2016 – 31st March 2019. The verification was based on the validated project description (PD), corresponding validation report, monitoring report, emission reduction spreadsheets, other supporting documents made available by the PP to 4KES, currently valid documentations of the VCS and CCBA and on-site assessment by the 4KES verification team.

On the basis set out within the project’s Monitoring Plan mentioned in the registered PD v.3.0 and the applied VCS Methodology VM0015 v.1.1, the management team of ARC has prepared the GHG emissions data and the reported GHG ERs.

The verification was carried out in accordance with the requirements of the VCS Validation and Verification manual v3.2 and VCS Standard v4.0. As a result of the verification, the verification team confirms that for this reporting period:

- The project is implemented as described in the validated PD
- The monitoring plan is in accordance with the approved monitoring methodology indicated in the validated PD and applied methodology VCS VM0015 v.1.1.
- The monitoring has been carried out in accordance with the validated PD
- The monitoring aspects (i.e. additional monitoring parameters, monitoring frequency and calibration frequency) were in place and functional
- The GHG emission reductions achieved were calculated correctly on the basis of approved monitoring methodology and without any material misstatements;

We have verified that the information included in the final monitoring report (v.3.0, dated 24th March 2020) was correct and that the emission reductions achieved had been determined correctly and fairly stated.

Based on the information the VVB have seen and evaluated, confirms the following statement:

Reporting period VCS: From 1st January 2016 – 31st March 2019

Verified GHG removals in the above reporting period:

Project Year	Baseline GHG Emissions	Project GHG Emissions	Leakage	Net anthropogenic GHG emission reductions	VCUs tradable	Buffer credits
1 Jan 2016 to 31 Dec 2016	262,586	13,129	0	249,456	221,370	28,086
1 Jan 2017 to 31 Dec 2017	351,711	17,586	0	334,125	296,489	37,636
1 Jan 2018 - 31 Dec 2018	406,556	20,328	0	386,228	342,703	43,525
1 Jan 2019 - 31 Mar 2019	96,166	4,808	0	91,357	81,056	10,302
Total	1,117,017	55,851	0	1,061,167	941,618	119,549

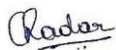
GHG Emission Reductions and Removals	tCO ₂ e
Baseline Emissions	1,117,017
Project Emissions	55,851
Leakage	0
Net Emission Reductions	1,016,167
Buffer Credits	119,549
Tradable VCUs	941,618

The vintage wise details of the VCUs are as provided below:

Project year – Vintage	Tradable VCUs
	Vintage wise
1 January 2016 to 31 December 2016	221,370
1 January 2017 to 31 December 2017	296,489
1 January 2018 to 31 December 2018	342,703
1 January 2019 to 31 March 2019	81,056

Approved by

Chandrakala R.



Director
4K Earth Science Private Limited

Date: 26-April-2020
Place: Bangalore, India

APPENDIX 1: DOCUMENTS REVIEWED DURING VERIFICATION

Ref. No	Title of Document	Version	Date
1	VCS Program Guide	4.0	19/09/2019
2	VCS Standard	4.0	19/09/2019 (updated 09/03/2020)
3	VCS Validation and Verification Manual	3.2	19/10/2016
4	VCS VM0015 Methodology for Avoided Unplanned Deforestation	1.1	03/12/2012
5	VCS VT0001 "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities"	3.0	01/02/2012
6	VCS+CCB Project Development Process	3.0	26/11/2012
7	AFOLU Non-Permanence Risk Tool	4.0	19/09/2019
8	CCB Program Rules	3.1	21/06/2017
9	CCB Standard	3.1	21/06/2017
10	CCB VCS Project Description Template	CCBv3.0_V CSv3.3	-
11	Project Description (PD)	1.0	06/09/2019
		2.0	20/12/2019
		3.0	16/03/2020
12	Emission Reductions Calculation Spread sheet	1.0	06/09/2019
		2.0	16/03/2020
13	VERRA webpage with global consultation https://www.vcsprojectdatabase.org/#/pipeline_details/P_L1953		29/10/2019 to 28/11/2019
14	Standard Operating Procedures (SOPs)-Monitoring - ARC REDD+ Project	-	-
15	Carbon Inventory Report – ARC REDD+ Project	-	-
16	Shape files – Project Area	-	-
17	Shape files – Reference Region	-	-
18	Shape files – LMZ	-	-
19	Shape files – Leakage area	-	-
20	Memorandum of Understanding (MoU) signed between ARC and TFA	-	-
21	KML file of geographical coordinates	-	-
22	Research papers - Rodrigues et al. (2013), EMBRAPA, 1988, Viera (1988), MMA, 2006, Mesner & Wooldridge (1964), Góes (1995), Del'Arco & Mamede (1985), Soares-Filho et al., 2006 and Laurance et al., 2001; Carvalho et al., 2002; Soares-Filho et al., 2006	-	-
23	Maps showing location of communities	-	-
24	Maps showing any high conservation value (HCV) areas	-	-

25	Offsite project impact area	-	-
26	State Law n. 3,225, dated 04-01-1965	-	-
27	State Law n. 5,087, of 09-14-1983	-	-
28	State Law n. No. 5,450, dated 05-05-1988	-	-
29	ARC marketing studies	-	-
30	Participatory Rural Appraisal (PRA) reports		05/01/2016
31	ibge.gov.br website	-	-
32	Vertices_Glebas_Para.shp	-	-
33	IBGE's 2010 Census data	-	-
34	VCS AFOLU Requirements	3.6	21/06/2017
35	Website - UN Sustainable Development Goals (www.undp.org)	-	-
36	Minutes of meeting (conducted on 25 th June 2016)	-	25/06/2016
37	Workshop records - Climate change adaptation workshop and presentation of climate change	-	03/08/2016
38	Biodiversity monitoring plan – implementation record	-	21/07/2017
39	Minutes of Meeting - Stakeholders consultation	-	28/06/2017
40	Resource Management Plan	-	10/05/2018
41	Socioeconomic survey report	-	17/11/2018
42	Monitoring Report	3.0	24/03/2020
43	Existing laws, regulations and governance arrangements of Brazil - http://domholder.edu.br/revista//index.php/veredas/articloe/viewFile/1316/24704	-	-
44	ARC company details	-	-
45	ARC Project Financial Excel sheet	-	-
46	Attendance sheets – stakeholder consultations/workshop conducted on 25/06/2016, 03/08/2016 and 28/06/2017	-	-
47	Photographs – stakeholder consultations/workshop conducted on 25/06/2016, 03/08/2016 and 28/06/2017	-	-
48	ARC - HR Policy	-	-
49	ARC - Grievance Policy	-	-
50	Training records under the ARC REDDD+ Project	-	-
51	ARC – Recruitment Policy	-	-
52	ARC – Code of Conduct	-	-
53	Employment records – ARC REDD+ Project	-	-
54	ARC – Safety and occupational health	-	-
55	ARC – Annual financial audit reports		From 2016 - 2019
56	Project area land records		
57	ARC Declaration letter – Management of double counting		02/03/2020
58	Landsat TM images	-	-
59	Google earth images of reference region and project area	-	-
60	FSC Principles and Criteria for Forest Stewardship”	-	-

	(FSC, 2012)		
61	General Guide for the Identification of High Conservation Values" (BROWN et al., 2013)	-	-
62	Common Guidance for the Management & Monitoring of High Conservation Values" (BROWN, SENIOR, 2014)	-	-
63	Ecological survey report	-	14/03/2016
64	ARC REDD+ - Plantation records	-	-

APPENDIX 2: CLARIFICATION REQUESTS, CORRECTIVE ACTION REQUESTS, FORWARD ACTION REQUESTS (CAR/CL/FAR)

Table 1. CL from this Verification

CL ID	01	Section no.	MR	Date: 11/03/2020
Description of CL				
Many sections are not in consistent with the PD, please check the whole document for consistency and provided the same. As sample below:				
1. This relevant information of FSC-certified forest management activities is in 3.1.3.7, it needs to be mentioned in the Project Description. 2. In section 4, cross check with the PDD and mention the correct section number. 3. Cross check with section 3.2.3 and 4.1.1 of the MR. make the statement consistent. 4. Address all the comments provided in the MR				
Project participant response				Date: 24/03/2020
<i>The MR has now been updated and following corrections are made:</i> • <i>The FSC-certified forest management activities has now been mentioned in section 2.1.1</i> • <i>The section numbers has now been corrected across section 4 of the MR</i> • <i>The description has now been updated in section 4.1.1 and has now been made consistent with section 3.2.3 of the MR.</i> • <i>All comments mentioned in the MR has now been addressed.</i>				
Documentation provided by project participant				
Updated MR				
DOE assessment				Date: 15/04/2020
The PP has updated the MR and required corrections has been made in the same. • The project will follow FSC certification principles and criteria has now been mentioned in section 2.1.1 of the MR • The section numbers has now been corrected across section 4 of the MR • The description has been corrected in section 3.2.3 of the MR and now made consistent with section 4.1.1 • All small comments has now been addressed in the MR				
CL 01 closed				

CL ID	02	Section no.	2.4.2	Date:	11/03/2020
Description of CL					
The justification provided is not clear and exactly as per the requirement of the Monitoring report template. Clarify and provide the clarity in section 2.4.2.					
Project participant response				Date:	24/03/2020
The management team experience has now been revised and clearly mentioned in the updated MR					
Documentation provided by project participant					
Updated MR					
DOE assessment				Date:	15/04/2020

The PP has updated the section 2.4.2 and clearly explained the management team experience.
CL 02 closed

CL ID	03	Section no.	2.4.5	Date: 11/03/2020
Description of CL				
The section 2.4.5 the justification is not clear. Please provide clearly, based on the requirement of this section. Revise accordingly.				
Project participant response				Date: 24/03/2020
<i>The section 2.4.5 has now been revised as per the requirement of the MR template</i>				
Documentation provided by project participant				
<i>Updated MR</i>				
DOE assessment				Date: 15/04/2020
Section 2.4.5 has been revised and now in line with the MR template requirement. The same is okay. CL 03 Closed				

CL ID	04	Section no.	3.1.3	Date: 11/03/2020
Description of CL				
It is not clear on how the crew leader has been considered as a forestry expert. Clarify how does your explanation define the competency of a crew leader as a forestry expert?				
Project participant response				Date: 24/03/2020
<i>The detailed CV of the crew leader has now been submitted to the VVB</i>				
Documentation provided by project participant				
<i>CV of the Crew Leader Dr. David, Professor of Geology</i>				
DOE assessment				Date: 15/04/2020
The CV submitted shows the robust experience and sound knowledge of the Crew Leader. This ensure that he has the required skills to carry out the project monitoring. CL 04 closed				

CL ID	05	Section no.	2.5.3 and 5.2.1	Date: 11/03/2020
Description of CL				
There is inconsistency in the statement made regarding leakage across the MR. Look into section 2.5.3 and 5.2.1 and make correction either of the section to ensure statements are consistent across the MR.				
Project participant response				Date: 24/03/2020
<i>Section 2.5.3 has now been corrected and made consistent with section 5.2.1</i>				
Documentation provided by project participant				
<i>Updated MR</i>				
DOE assessment				Date: 15/04/2020
Revised section 2.5.3 is now consistent with section 5.2.1. The same is okay. CL 05 closed				

CL ID	06	Section no.	3.2.2	Date: 11/03/2020
Description of CL				

In section 3.2.2, the PP has mentioned that no carbon stock decrease associated to Project activities has occurred in the Project area from 1st January 2016 to 31st March 2019. What is the basis on which this statement?

Project participant response **Date:** 24/03/2020

Maps to show that no carbon stock decrease associated to Project activities has occurred in the Project area from 1st January 2016 to 31st March 2019 has been submitted to the VVB

Documentation provided by project participant

LULC maps

DOE assessment **Date:** 15/04/2020

The maps provided by the PP shows that there is no carbon stock decrease associated to Project activities has occurred in the Project area from 1st January 2016 to 31st March 2019.

CL 06 closed

CL ID	07	Section no.	3.2.2	Date:	11/03/2020
Description of CL					
The PP has mentioned that during the first 5 years and 0 months of Project, no loss of areas has occurred. Neither fires, nor floods, nor other climatic events have compromised the development of the trees that make up the forest. The Project Area has been checked in April 2019 by a team led by a local topographer, Mr. David. What is the basis of the statement made?					
Project participant response				Date:	24/03/2020
The write-up has now been revised in the MR. It has now been mentioned that this was monitored by conducting surveys.					
Documentation provided by project participant					
Updated MR					
DOE assessment				Date:	15/04/2020
The revised statement made by the PP is appropriate. Hence, it is okay.					
CL 07 closed					

Table 1. CAR from this Verification

CAR ID	01	Section no.	MR	Date: 11/03/2020
Description of CAR				
Why the third municipality i.e. Nova Esperanca do piria is missing? Clarify and provide clarity on the same.				
Project participant response				Date: 24/03/2020
It was missed, the same has now been added in the revised MR.				
Documentation provided by project participant				
Updated MR				
DOE assessment				Date: 15/04/2020
The name of third municipality “Nova Esperanca do piria” has now been added in the updated MR. The same is okay now.				
CAR 01 closed				

CAR ID	02	Section no.	1.2	Date:	11/03/2020
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Description of CAR	
The ER sheet and the MR is not consistent. Revise the values and make it consistent.	
Project participant response	Date: 24/03/2020
<i>The MR has now been revised and is the values in MR and spreadsheet has now been made consistent.</i>	
Documentation provided by project participant	
Updated MR	
DOE assessment	Date: 15/04/2020
The values are now consistent. Hence, it is found okay CAR 02 closed	

CAR ID	03	Section no.	2.1.2	Date: 11/03/2020
Description of CAR				
The requirement is not met. Check the section as per the requirement of section 2.1.2 of the monitoring report template V.3 i.e. "Indicate the AFOLU project category (e.g., ALM, IFM, WRC) and activity type, if applicable (e.g. ICM, RIL, RWE). Also indicate whether the project is a grouped project".				
Project participant response				Date: 24/03/2020
<i>Section 2.1.2 has now been revised as per the requirement of the MR template. The AFOLU project category has now been mentioned. Also, the project is not a grouped project has been mentioned.</i>				
Documentation provided by project participant				
Updated MR				
DOE assessment				Date: 15/04/2020
The section has now been revised in accordance with the requirement of the CCBA VCS MR template. The same now found to be fine. CAR 03 closed				

CAR ID	04	Section no.	2.1.7	Date: 11/03/2020
Description of CAR				
Data missing in section 2.1.7 of the Monitoring template, the PP has to include/mention the geodetic coordinates. Coordinates may be submitted separately as a KML file. If submitted as a separate file mention in the footnote.				
Project participant response				Date: 24/03/2020
<i>A separate KML file for geo-coordinates of the project location has been submitted to the VVB and the same has been mentioned in the footnote as well.</i>				
Documentation provided by project participant				
KML file and updated MR				
DOE assessment				Date: 15/04/2020
The KML file submitted by the PP for geo-coordinates is fine. The same has now been also mentioned in the footnote of the section. CAR 04 closed.				

CAR ID	05	Section no.	2.1.6	Date: 8/04/2020
Description of CAR				

The timeline for renewal of baseline and baseline renewal period is missing in section 2.1.6 of the MR. Mention the same in the section	
Project participant response	Date: 13/04/2020
<i>The baseline will be renewed every 10 years (as per the VCS requirement) and the baseline period renewal will be from 1st January 2026 is now been mentioned in the revised MR.</i>	
Documentation provided by project participant	
<i>Updated MR</i>	
DOE assessment	Date: 15/04/2020
The timeline for renewal of baseline and baseline renewal period has now been added section 2.1.6 of the updated MR. It is okay. CAR 05 closed.	

CAR ID	06	Section no.	3.2.1	Date: 08/04/2020
Description of CAR				
In the MR, only AGB is shown to be calculated for baseline emissions? Why carbon pools BGB and litter are not mentioned in the same. Though it was considered by the PP in the validated PD as well as used in the calculation of baseline emissions in ER spreadsheet number 21.b.1 and 36 of the MR?				
Project participant response				Date: 13/04/2020
<i>The BGB and litter were missed to be mentioned in the MR. The same has now been mentioned in the revised MR</i>				
Documentation provided by project participant				
<i>Updated MR</i>				
DOE assessment				Date: 15/04/2020
BGB and litter calculation has now been mentioned in baseline emission calculation section 3.2.1 of the MR. It is found to be correct. CAR 06 closed				

CAR ID	07	Section no.	2.2.6	Date: 11/03/2020
Description of CAR				
As per section G1.10 of CCB Standard version 3.1, the PP shall Identify likely natural and human-induced risks to the expected climate, community and biodiversity benefits during the project lifetime and outline measures needed and taken to mitigate these risks. Hence, apart from natural, the PP has also to identify he human induced risk like community willingness to participate, ability to adapt to climate change, etc. Revise the section write-up accordingly				
Project participant response				Date: 24/03/2020
<i>Section 2.2.6 has now been revised and human induced risk like community willingness to participate, ability to adapt to climate change, etc. has now been added</i>				
Documentation provided by project participant				
<i>Updated MR</i>				
DOE assessment				Date: 15/04/2020

The additions made in the section are appropriate and as per the requirement of the CCB VCS MR template requirement. This is okay.
CAR 07 closed

CAR ID	08	Section no.	3.1.3.3 and 3.1.3.8 of section 3.1.3	Date:	08/04/2020
Description of CAR					
PP has to mention and provide the following for the monitoring plan:					
- The carbon report submitted is not clear on the sampling and laying permanent sample plots (PSPs). Please mention the following in the MR: - What is the sampling technique used? - What was the basis of stratification done for the project? - How many PSPs laid? - The carbon report says that deadwood and soil are also monitored. However, it is incorrect and excluded in the PD as well as in the MR. Update the Carbon report accordingly					
Project participant response					Date: 13/04/2020
<i>The updated Carbon Inventory Report of the ARC REDD+ Project has now been submitted. The following points has now been clearly mentioned in the same:</i> <i>Sampling techniques used</i> <i>Basis of stratification</i> <i>Strategies of laying PSPs and number of PSPs laid</i> <i>Deadwood and SOC has now been removed in the updated carbon inventory report.</i>					
Documentation provided by project participant					
<i>Updated MR and carbon inventory report</i>					
DOE assessment					Date: 15/04/2020
- The updated inventory report submitted by the PP is clear on sampling and stratification strategies. Number of PSPs laid has now been clearly mentioned. And the same is found ok. - Deadwood and SOC has now been removed from the updated carbon inventory report. The same is ok.					
CAR 08 is closed					

CAR ID	09	Section no.	2.1.1	Date:	08/04/2020
Description of CAR					
The value of VCUs generated for the monitoring period is not consistent in the ER sheet and the MR. Revise the values and make it consistent.					
Project participant response					Date: 13/04/2020
<i>Section 2.1.1 has now been revised and the value has now been corrected in the MR</i>					
Documentation provided by project participant					
<i>Updated MR</i>					
DOE assessment					Date: 15/04/2020

The value has now been corrected and is consistent in the MR and the ER spreadsheet.
CAR 09 closed

CAR ID	10	Section no.	2.1.8	Date: 11/03/2020
Description of CAR				
Tool for AFOLU non-permanence risk analysis and buffer determination," Version 04 has been applied in the PD, MR and ER spreadsheet. However, the same has been missing in section 2.1.8 of the MR.				
Project participant response				Date: 24/03/2020
<i>Section 2.1.8 has now been revised and the Tool for AFOLU non-permanence risk analysis and buffer determination," Version 04 is added.</i>				
Documentation provided by project participant				
<i>Updated MR</i>				
DOE assessment				Date: 15/04/2020
Tool for AFOLU non-permanence risk analysis and buffer determination," Version 04 has now included in the MR. CAR 10 closed				

CAR ID	11	Section no.	2.1.10	Date: 11/03/2020
Description of CAR				
Section 2.1.10 is missing in the MR report. Check the CCB VCS MR template and add the section accordingly.				
Project participant response				Date: 24/03/2020
<i>The section was deleted by mistake. The same has now been added in the revised MR.</i>				
Documentation provided by project participant				
<i>Updated MR</i>				
DOE assessment				Date: 15/04/2020
Section 2.1.10 as per the CCB VCS MR template has now been added in the revised MR and found okay. CAR 11 closed				

CAR ID	12	Section no.	2.3.4	Date: 11/03/2020
Description of CAR				
The PP shall mention that how relevant and adequate information about potential costs, risks and benefits to communities – identified using a participatory and transparent process – has been provided to communities in an understandable form and in a timely manner prior to any decision they may have been asked to make with respect to participation in the project.				
Project participant response				Date: 24/03/2020
<i>The section 2.3.4 has now been elaborated and explanation on how potential costs, risks and benefits to communities – identified using a participatory and transparent process – has been provided to communities in an understandable form and in a timely manner prior to any decision they may have been asked to make with respect to participation in the project.</i>				
Documentation provided by project participant				
<i>Updated MR</i>				
DOE assessment				Date: 15/04/2020

The additions made in the section is satisfactory and as per the requirement of the CCB VCS MR template.

CAR 12 closed

APPENDIX 3: COMPETENCE OF TEAM MEMBERS

<u>Certificate of Competence</u>						
Name	☒ Mr. ☐ Ms.	Ma Paa Puratchikkanal				
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	Yes	Yes	Yes	Yes	Yes	No
Appointed Date	29-07-2019					
Authorized to work as Technical Expert for:						
Authorized Technical Area	Sectoral Scope		TA Code	Technical Area within the scope		
	Energy industries (renewable - / non-renewable sources)		1.1	Thermal energy generation		
	Energy industries (renewable - / non-renewable sources)		1.2	Renewables		
	Energy demand		3.1	Energy demand		
	Construction		6.1	Construction		
	Waste handling and disposal		13.1	Solid waste and wastewater		
	Agriculture		15.1	Agriculture		
Authorized to work as Local Expert for:						
Country/Countries	India					
Compliance check by: Anand S. R.						

<u>Certificate of Competence</u>			
Name	☒ Mr. ☐ Ms.	Ewerton Alves Nazareno	
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.		
Appointed to work as:			
	CDM Validator/Verifier	Team Leader	Team Member
Appointed	No	No	Yes
Appointed Date	01-08-2019		
Authorized to work as Technical Expert for:			
Authorized Technical Area	Waste handling and disposal		13.1
	Afforestation and reforestation		14.1

Authorized to work as Local Expert for:			
Country/Countries	Brazil, Columbia		
Compliance check by: Anand S.R.			

<u>Certificate of Competence</u>						
Name	☐ Mr. ☒ Ms.	Zainab Hassan				
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	No	No	Yes	Yes	No	No
Appointed Date	29-07-2019					
Authorized to work as Technical Expert for:						
Authorized Technical Area	Afforestation and reforestation		14.1	Afforestation and reforestation		
Authorized to work as Local Expert for:						
Country/Countries	India					
Compliance check by: Anand S.R.						

<u>Certificate of Competence</u>						
Name	☒ Mr. ☐ Ms.	Narendra Kumar .R				
Qualification Procedure	Fulfils the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	Yes	Yes	Yes	Yes	Yes	No

Appointed Date	29-07-2019		
Authorized to work as Technical Expert for:			
Authorized Technical Area	Sectoral Scope	TA Code	Technical Area within the scope
	Energy industries (renewable - / non-renewable sources)	1.1	Thermal energy generation
	Energy industries (renewable - / non-renewable sources)	1.2	Renewables
	Energy demand	3.1	Energy demand
	Waste handling and disposal	13.1	Solid waste and wastewater
Authorized to work as Local Expert for:			
Country/Countries	India		
Compliance check by: Anand S. R.			

<u>Certificate of Competence</u>						
Name	☐ Mr. ☒ Ms.	Sudha Padmanabha				
Qualification Procedure	Fulfills the requirement as per the appointment of personnel procedure of 4KES for Validation and Verification of CDM/VCS/GS/GHG Projects.					
Appointed to work as:						
	CDM Validator/Verifier	Team Leader	Team Member	Technical Expert	Technical Reviewer	Financial Expert
Appointed	No	No	No	Yes	No	No
Appointed Date	01-08-2019					
Authorized to work as Technical Expert for:						
Authorized Technical Area	Afforestation and reforestation	14.1	Afforestation and reforestation			
Authorized to work as Local Expert for:						
Country/Countries	India					
Compliance check by: Anand S.R.						

APPENDIX 4: ABBREVIATIONS

4KES	4K Earth Science Private Limited
AFOLU	Agriculture, Forestry and Other Land Use
APU	Annual Productive Unit
ARC	Amazon Reforestation Consortium
ARR	Afforestation, reforestation and revegetation
AUD	Avoided Unplanned Deforestation
CAR	Corrective Action Request
CCB	Climate, Community & Biodiversity
CCBA	Climate, Community & Biodiversity Alliance
CDM	Clean Development Mechanism
CL	Clarification Request
DCH	Diameter at the Chest Height
EB	Executive Board
ER	Emission Reductions
FAR	Forward Action Request
FAO	Food and Agricultural Organization of United States
FSC	Forest Stewardship Council
GHG	Greenhouse Gases
ICDP	Integrated conservation and development projects
HDI/IDH	Human Development Index
HCV	High Conservation Values
IFM	Improved forest management
INCRA	Instituto Nacional de Colonização e Reforma Agrária (from the Portuguese National Institute of Colonisation and Land Reform)
INPE	National Institute of Space Research (from the Portuguese Instituto Nacional de Pesquisas Espaciais)
IPCC	Intergovernmental Panel for Climate Change
LK	Leakage belt
LMA	Leakage Management Area
MoU	Memorandum of Understanding
MP	Monitoring Period
MRV	Monitoring, Reporting and Verification
NTFPs	Non-Timber Forest Products
PD	Project Description
PES	Payments for ecosystem services
PP	Project proponent
PRA	Participatory Rural Appraisal
PRODES	Forestry Satellite Monitoring Project
QA/QC	Quality Assurance/Quality Control

REDD	Reduced Emissions from Deforestation and Degradation
RRD	Reference region for rate of deforestation
RRL	Reference Region for Location (RRL)
SBIA	Social Impact and the Biodiversity
SFMP	Sustainable Forest Management Plan
tCO ₂	Tonnes of Carbon Dioxide
UNFCCC	United Nations Framework Convention on Climate Change
UPA	Annual Production Unit (from the Portuguese Unidade de Produção Annual)
VCS	Verified Carbon Standard
VCSA	Verified Carbon Standard Association
VCU	Verified Carbon Unit