



**Verified Carbon
Standard**

SOIL CARBON IMPROVEMENT PROJECT THROUGH GRASSLAND MANAGEMENT, IN SOUTH AFRICA



Document Prepared by 4K Earth Science Private Limited

Project Title	Soil carbon improvement Project through Grassland Management, in South Africa
Version	04
Report ID	2710

Report Title	Validation Report for “Soil carbon improvement Project through Grassland Management, in South Africa”
Client	WeAct Pty Ltd.
Date of Issue	14/05/2024
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Summary:

A brief description of the validation and the project

The proposed grouped project aims to remove GHG from atmosphere by implementing sustainable grazing management and controlled fire over a multiple grasslands of Drakensberg area in South Africa. The first instance includes four land areas Kwazulu Natal (KZN, 67,85.4 ha), Eastern Cape (EC, 70,737.5 ha), Mpumalanga (MPL, 3,773.5 ha) and Free State Province (10,654.3 ha) and this first instance aims to recover around 91,950.6 ha of land degraded by unrestricted grazing and uncontrolled fire through the implementation of planned rotational grazing and controlled burning.

The overall purpose of this initiative is to develop soil carbon storage through improved grassland management and expected to result in significant removal of CO₂ from the atmosphere, as documented using the VCS methodology, "VM0026 – Sustainable Grassland Management". With expected annual removals of approximately 221,482 tCO₂e/year on average, eventually the project is estimated to remove about 4,429,632 tCO₂e over the crediting period of 20 years.

The purpose and scope of validation

4KES has been contracted by 'WeAct Pty Ltd to perform a validation of the VCS project 'Soil carbon improvement Project through Grassland Management', in South Africa (VCS Ref. No. 2710) in Republic of South Africa (RSA).

The validation's goal is to ensure that the " **Soil carbon improvement Project through Grassland Management Project**" and all associated project documentation complies with all guidelines and specifications of the VCS Standard v4.4, VCS Methodology Requirements, the applied GHG methodology " **VCS VM0026 methodology (Sustainable Grassland Management)** " **Version 1.1** " and its accompanying tools and modules, as well as

the VCS Non-Permanence Risk Tool, v4, and VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities (version 3.0).

The method and criteria used for validation

The scope of the validation is defined as an independent and objective review of the VCS project design document, the project's baseline study, monitoring plan and other relevant documents. The information in these documents is reviewed against the requirements of 'VCS Validation and Verification Manual v3.2', VCS Standard v4.4 and all other associated VCS requirements and rules.

The report is based on the assessment of the VCS project design document, application of standard auditing techniques including but not limited to desk review, site visits and follow up actions and the review of the applicable approved methodological and relevant tools. The validation procedure was free of any uncertainties.

The number of findings raised during validation

During the validation process 27 corrective actions, 2 clarification and 1 forward action request concerning validation were raised.

Summary of the validation conclusion

In conclusion, according to 4KES, the project **"Soil carbon improvement Project through Grassland Management", in South Africa** satisfies all pertinent requirements for VCS standards and guidelines and correctly implements the approved VCS methodology for calculating baseline, determining additionality, and monitoring emission reductions throughout its entire crediting period, which starts on 01/07/2018 and ends on 30/06/2038.

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1 INTRODUCTION

1.1 Objective

Validation Report: VCS Version 4.2

4KES has been contracted by 'WeAct Pty Ltd.' to perform a validation of the VCS project 'Soil carbon improvement Project through Grassland Management', in South Africa (VCS Ref. No. 2710)¹ in Republic of South Africa (RSA).

The objective of the validation is defined as an independent third-party assessment of the VCS project and its design document, the project's baseline study, additionality, monitoring plan and other relevant documents. The information in these documents is reviewed against the requirements of 'VCS Validation and Verification Manual v3.2' and all other associated VCS requirements and rules.

All VCS projects must undergo independent third-party validation in order to assure the VCS and other stakeholders of the project's quality and anticipated Verified Carbon Units (VCUs) from the project.

1.2 Scope and Criteria

The scope of the validation is defined as an independent and objective review of the Project description/7/ document, where methodological deviations and the project's compliance in relevant sections of PD is reviewed against the requirements of VCS Standard. 4KES has employed a risk-based approach in the validation, focusing on the identification of significant risks for project implementation and the generation of Emission Reductions.

The scope of work covered in the validation is described below:

- To validate whether the project activity meets the requirements of VCS Standard v4.4/2/, VCS Validation and Verification Manual v3.2/3/, and VCS program guide 4.3 /1/.
- To evaluate whether the baseline and monitoring plan are in conformance with the applied VCS methodology.
- To confirm that the information presented are completed, consistent, transparent and free of omission or material error.
- Background investigation and follow up interviews and site visit.
- Issuance of draft validation report with CARs, CRs & FARs, if any
- Final validation opinion

¹ <https://registry.terra.org/app/projectDetail/VCS/2710>

Furthermore, the assessment team used additional documentation by third parties like reports referring to the project design or to the basic conditions and technical data available on public domain to assess the following: -

- Compliance with relevant law and regulations
- LULC data /18/ and /20/, PRA reports /23/, Vegetation survey report /17/
- Land title documents (issued by the Government Registrar of Land Titles.) /25/ and MoUs between the land owners and PP /25/
- Project database

The assessment team has checked all the above-mentioned details and confirms that all the information provided is accurate.

The validation is not intended to give the client any consulting. However, clearly stated requests for clarifications and/or remedial action may provide opportunity for client for enhancing the project design and its applicability as per VCS requirements.

1.3 Reasonableness of Assumptions

In accordance with Section 4.1.2 of the VCS Standard v44, the level of assurance/ assumptions of this validation report is reasonable.

1.4 Summary Description of the Project

The proposed project aims to remove GHG from atmosphere by implementing sustainable grazing management and controlled fire over a multiple grasslands of Drakensberg area in South Africa. In the baseline scenario, the pastures are larger and the livestock movement less frequent, allowing for unrestricted and selective grazing of perennial grasses. Loss of perennial grasses in grassland ecosystems results in soil loss and erosion, soil carbon loss, reduced water filtration capacity, and reduced productivity of forage. Project Activity i.e. planned grazing and controlled burning will increase the rest and rotation on pastures above baseline practices. Smaller pastures implemented by fencing with more rotations allow the recovery of perennial grasses, which foster greater carbon inputs, higher retention of carbon as lignin and cellulose, and greater belowground production. This results in the sequestration of greenhouses gases from the atmosphere to the soil.

The project has been designated as a 'Grouped Project' and plans to increase the number of project instances over a period of time. The first instance includes four land areas Kwazulu Natal (KZN, 6,785.4 ha), Eastern Cape (EC, 70,737.5 ha), Mpumalanga (MPL, 3,773.5 ha) and Free State Province (10,654.3 ha) and this first instance aims to recover around 91,950.6 ha of land degraded by unrestricted grazing and uncontrolled fire through the implementation of planned rotational grazing and controlled burning.

The Project, over its crediting period of 20 years with expected annual removals of approximately 221,482 tCO₂e/year on average, eventually the project is estimated to remove about 4,429,632 tCO₂e over the crediting period. This project also contributes to UN SDG goals 1, 2, 6, 13 and 15. The project also aims

to develop livelihood options and improve socio-economic conditions of the people residing adjacent to the project area by providing jobs and training opportunities. Also, the project would empower women and build community capacity in gender equity.

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2 VALIDATION PROCESS

2.1 Method and Criteria

The project activity applies approved VCS methodology VM0026 “Sustainable Grassland Management”, Version 1.1 /27/, categorized under sectoral scope 14. This validation was undertaken as per VCS Standard v4.4, and its associated modules and tools as well as applying standard auditing techniques and Validation and Verification Manual v3.2.

- The validation process is undertaken by validation team that involves the following:
- The desk review of documents and evidence submitted by the PP in context of the reference VCS and CCB rules and guidelines,
- Undertaking site visit, interview, and interactions with the representative of the project proponent, project employees and local communities and other relevant stakeholders. The viewpoints collected in these interviews were considered by VVB along with onsite observation, objective evidence gathering, data production, and recorded analysis when reaching a validation opinion
- Reporting audit findings with respect to clarifications and non-conformities and the closure of the findings, as appropriate
- To ensure the risk of auditing error is minimized to a reasonable level and ensure effectiveness & efficiency, a project specific validation and sampling plan was developed to guide the validation process. The methodology of the validation and sampling plan is based on the VCS guidance documents and ISO 14064-3:2019. 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. The samples were observed and validated in selected sample plots through on-site assessment and satellite imageries analysis.
- Preparation of final validation opinion

2.2 Document Review

The VCS Project Design (PD) submitted by PP was examined in light of the VCS Standard v4.4, along with additional background materials pertaining to the project design and baseline (such as the VCS Project Description Template, approved VCS methodology, and validation requirements).

Appendix 1 of this validation report has validation findings followed by document details that were examined during validation in “Reference” section of this document.

2.3 Interviews

Interviews with the PP, communities, and other pertinent stakeholders were conducted during the visit to the project area from 01/07/2022 to 05/07/2022. During the site visit period, the audit team also went to the PPs office. A list of those questioned is provided below.

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SI No	Name of the person Interviewed	Affiliation	Date	Subject	Auditing Team Member
1	Ms. Jenine de Wet	Country Manager, South Africa, WeAct Pty Ltd	01/07/2022	Host Country rule and regulations related to project activity, Project description, Ownership, Project start date, Conditions prior to the Project initiation, Participation under other GHG programs, Non permanence risk analysis	Mr. Pfano Ramukhithi And Ma Paa Puratchikkanal
2	Mr. Pieter Botha	Resource Extension Officer, Endangered Wildlife Trust (EWT)	01/07/2022	VCS PD, Excel Sheets, VER calculations, financials, Project Roles and Responsibilities allocated, Ownership and project details. Sampling and ecological survey points for data correction.	Mr. Pfano Ramukhithi And Ma Paa Puratchikkanal
3	Mr. Deep Borah	Technical Project Manager, WeAct Pty Ltd	01/07/2022	Baseline emissions, computations, leakage and project emission assessments	Mr. Pfano Ramukhithi And Ma Paa Puratchikkanal
4	Ms. Tulika Biswas	Project Coordinator, WeAct Pty Ltd	01/07/2022		Mr. Pfano Ramukhithi And Ma Paa Puratchikkanal
5	Mr Andrew Green	Kleinfontein Trust, KwaZulu Natal (Beneficiary)	02/07/2022 to 05/07/2022	Project stakeholders, farmers issues, community benefits, participation, extent of implementation, continued progress scenario, farming production and expectation from the project. Training programs provided, Agroforestry, Beneficiary requirements implementation, extent	Mr. Pfano Ramukhithi
6	Mr Brett Walker	Longacres CC, Eastern Cape (Beneficiary)			Mr. Pfano Ramukhithi
7	Mr David	Fairfield Trust, Eastern Cape (Beneficiary)			Mr. Pfano Ramukhithi
8	Ms Karen McEwan	Fairfield Trust, Eastern Cape (Beneficiary)			Mr. Pfano Ramukhithi

9	Mr Graham Murray	Allandale Trust, Eastern Capel (Beneficiary)	Validation Report: VCS Version 4.2	and future steps. Grievances and its addressal.	Mr. Pfano Ramukhithi
10	Mr Greg Williams	Field and Stream Pty Ltd, Mpumalanga (Beneficiary)			Mr. Pfano Ramukhithi
11	Mr Jason Hobbs	Tandjiesberg Trust, Free State (Beneficiary)			Mr. Pfano Ramukhithi
12	Mr Jub Dorning	Ken Dorning Family Trust, KwaZulu Natal (Beneficiary)			Mr. Pfano Ramukhithi
13	Mr Rick Dillon	The Waterfall Trust, Free State (Beneficiary)			Mr. Pfano Ramukhithi

2.4 Site Visits

The site visit was conducted on 01/07/2022 to 05/07/2022. The following tasks were undertaken during the site visit.

- To understand and evaluate the project area/boundary, project emissions leakage and leakage management aspects.
- Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the Monitoring Plan.
- To validate all datasets provided are in line with the methodological requirements.
- To interact with the communities directly and indirectly dependent/impacting/impacted by the project and understand the socioeconomic dimension of the project.
- To understand the biodiversity dimension of the project
- To check the project management, meet the management team, check the monitoring plan and its on ground implementation practices.
- To check the grassland area as defined and mentioned in the PD.
- Legal ownership of the lands.
- Review the financials audits and fund flow.

2.5 Resolution of Findings

In order to focus on high-risk concerns in the validation results without missing any of the required steps, 4KES uses a risk-based approach. During the validation, a few inconsistencies were discovered, and the

validation report was sent to the project proponent with the titles corrective action requests (CARs) and clarification requests (CLs) attached.

CARs and CLs require the PP to take relevant actions. Criteria for judging items as CAR or CL are as follows:

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Corrective action request (CAR): - The PP have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions - the Voluntary Carbon Standard's requirements have not been met, or - there is a risk that emission reductions cannot be monitored or calculated.

Clarification request (CL): - Information is insufficient or not sufficiently clear to determine whether the applicable VCS requirements have been met.

FARs: To draw attention to project implementation issues that need to be reviewed during the initial project activity verification, FARs will be raised. FARs have no bearing on VCS registration requirements.

Until this data is made available to the team leader's satisfaction, the validation process may be put on hold. Information or clarifications provided as a result of a CL may also lead to a CAR.

There was a total of 27 CARs and 2 CLs raised during the validation process, all of which were successfully handled. The list of CARs/CLs raised, the response given, the method of validation, the justifications for their closure, and references to correction in the pertinent documents are all included in this report's Appendix 2.

2.5.1 Forward Action Requests

1 FAR has been raised during the validation. Refer Appendix 2 for the same.

3 VALIDATION FINDINGS

3.1 Project Details

Project type

The project corresponds to VCS sectoral scope 14 "Agriculture, Forestry and Other Land Use (AFOLU)". The AFOLU project category is Agricultural Land Management (ALM). In the ALM category, the proposed project falls under the "Improved Grassland Management (IGM)". The project is a grouped project.

Technologies and measures implemented.

The project activity is dedicated towards removal of GHG from atmosphere by implementing sustainable grazing management and controlled burning over multiple grasslands in the host country 'South Africa'. There are IGM activities in this project. One is controlled burning and other one is planned rotational grazing.

Validation checked both the activity descriptions and found these activities are inline with the methodological requirements. These activities will improve grasslands soil health. The validation team finds the information in sections 1.1 of the PD is consistent with the observation of audit team and outcome of the interviews with local communities and Project Proponent (PP) during the on-site visit.

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Eligibility of the project

The VVB has validated the eligibility criteria (as mentioned in section 1.3 of the PD) and confirms that the project activities are in line with the following:

1. Project meets the all the VCS standard eligibility requirements.
2. Per section 3.6.16 of the VCS Standard v4.4 the project meets the eligibility requirements for a grouped project.
3. The Project has used a current and valid, approved, and up-to-date methodology to calculate its greenhouse gas emissions (GHG) reductions and removals in a conservative manner including the full application of any tools or modules referred to by a methodology as required by Section 3.1.1 & 3.1.2 of the VCS Standard, v4.4.
4. Meets the additionality requirements.
5. Proposed project activities are in line with the methodological requirements which fall within the categories that demonstrably reduce net GHG emissions of grassland ecosystems by increasing soil carbon stocks, reducing N₂O emissions and/or reducing CH₄ emissions.
6. The project activity has not cleared any native ecosystem within the 10 year period prior to the project start date. This has been validated through the evidences provided by the PP such as Satellite Imageries, Land title document, etc.
7. The project activities do not occur on wetlands. This has been validated by the supporting documents /10//18//20//31/ and /40/ submitted by PP.

Project design, including eligibility criteria for grouped projects.

This is a group project and has demonstrated with proper justification for all the eligibility requirements. Also set out criteria for including new project instances.

Project proponent and other entities involved in the project.

There is only one project proponent WeAct Pty Ltd in this project and all details are provided in section 1.5 of the PD. Endangered Wildlife Trust is the entity other than PP in this project which acts as Co-ordinating Management Entities (Grazing land management).

Ownership

WeAct Pty Ltd. complies fully with Sections 3.7.1(1) of the VCS Standards v4.4 i.e., "Project ownership arising or granted under statute, regulation or degree by a competent authority" and Section 3.6.1(4) "Project ownership arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals".

The project ownership details are mentioned in section 1.7 of the PD and ownership proofs are provided by PP are validated. The validation team has confirmed this through interviews and legal ownership documents provided and is found to be in line with VCS requirements and National regulations and requirements.

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The validation team has examined and evaluated the records of the lands. All property rights are acknowledged, protected, and supported; it is concluded. All of the properties engaged in the project have property titles and the necessary paperwork to prove and guarantee ownership of the land.

Project start date

Start date of the project activity is considered as: 01/07/2018. The project start date is based on the completion of fence construction and the first ranch participating in the project began grazing livestock using the improved grazing practices that comprises the project activity. So, fencing completion confirmation declaration has been submitted as start date evidence /22/. However, different ranchers have different start date of the project activities, and their crediting is based on their respective start dates. The calculations for ERR also take into account the specific start dates of each rancher.

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

Project crediting period

The project crediting period is 20 years which starts on 01/07/2018 and ends on 30/06/2038, which may be renewed per renewed in accordance with the VCS rules (VCS Standard section 3.9.3, v4.4) Project longevity is 30 years which is based on agreement between the Ranchers and the PP.

Project scale and estimated GHG emission reductions or removals

The project fall under the 'Project' category since the annual average GHG emission reductions are 221,482 tCO₂e (179,835 tCO₂e considering buffer credit of 18%) which is less than 300,000 tCO₂e.

Project location

The grouped project activity is expected to have expansion in the large grassland area (Latitude: 28.816641 S, Longitude: 29.529621 E) in the host country the Republic of South Africa (RSA). The project area meets the eligibility criteria described in section 1.4 "Eligibility Criteria for Grouped Projects".

The validation team crosschecked the references such as KML files for coordinates of the Project areas included in the first instance and found the details provided in the PD are correct. PP has included coordinates of each parcel included in the project.

Conditions prior to project initiation

The condition prior to the project initiation is similar as explained in section 3.4 And 3.5 of the PD. In the baseline scenario, the pastures are larger and the livestock movement less frequent, allowing for unrestricted and selective grazing of perennial grasses. Loss of perennial grasses in grassland ecosystems results in soil loss and erosion, soil carbon loss, reduced water filtration capacity, and reduced productivity of forage.

The validation team crosschecked baseline scenario and related within Project area and found the details provided in the PD are correct. PP has provided project areas (the four land areas which are part of the first instance) specific details and has provided references which were cross checked by the validation team. Based on the evidence provided and the discussion held with the project participants during the interview, it is clear that the continuation of the current and historical land use is the most likely scenario in the absence of the project activity.

Project compliance with applicable laws, statutes and other regulatory frameworks

As per VCS standard, projects must follow the following rule. “Projects and the implementation of project activities shall not lead to the violation of any applicable law, regardless of whether or not that law is enforced.” Validation checked all the relevant laws of the country and found that project complies with this rule.

The following laws are cross checked with evidence provided by the PP.

Grazing and grazing resource (water, soil) rights are conferred by land ownership of South Africa via Native Land Act of 1913. These rights are further conferred and superseded by the Communal Land Rights Act 11 of 2004. Rights to benefit from soil conservation are conferred by the right to register lands by the Nature Conservation Ordinance [No. 15 of 1974].

The relevant labour laws include the Employment Equity Act [No. 55 of 1998]; Labour Relations Act [No. 66 of 1995], Occupational Health and Safety Act [No. 85 of 1993], Pension Funds Act [No. 24 of 1956], Unemployment Insurance Act [No. 63 of 2001]. These have been and will continue to be implemented in the project through implementation of PP’s hiring policies.

National Environmental Management Act [No. 107 of 1998]. Additional laws protect the integrity of project participants and their ability to engage in contracts

Companies Act. EWT is a registered non-profit organization and WeAct Pty Ltd is registered as limited company and are in good standing to operate in South Africa.

The Trespass Act of 1959. Project participant could use this law to enforce the project area borders and reduce project livestock encroachment outside the project boundary.

Occupational Health and Safety Act [No. 85 of 1993], which ensures medical care for employees in the event of accidents or harm related to exposure, wildlife hazards, and violence associated with enforcing livestock protection laws and grazing rights.

South African Labour Law is informed by the Constitution of South Africa and governed by several key pieces of legislation. The Labour Relations Act, 1995 (Act No. 66 of 1995) regulates the relationship between employers, employees, and trade unions in South Africa. The act which deals with equal opportunity and fair treatment in the workplace, with a focus on addressing discrimination against historically disadvantaged groups, is the Employment Equity Act, 1998 (Act No. 55 of 1998). The minimum rights and conditions of employment is set out in the Basic Conditions of Employment Act, 1997 (Act No. 75 of 1997) and deals with issues such as working hours, leave, and termination of

employment. The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) aims to protect the health and safety of workers in the workplace, whereas the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003) promotes economic empowerment of ethnic groups oppressed under Apartheid in South Africa. The Unemployment Insurance Fund Act, 2001 (Act No. 63 of 2001) provides for the establishment and administration of a fund that provides benefits to employees who become unemployed. Labour in South Africa is governed by several key pieces of legislation that regulates the relationship between employers, employees, and trade unions to promote equal opportunity and fair treatment in the workplace.

Therefore, it can be said that the project is carried out and complies with the relevant rules and regulations of the project area. As a result, it was determined that the project complies with VCS Standard v4.4 standards.

Participation under other GHG programs and Projects registered (or seeking registration) under other GHG programs Other forms of credit and supply chain (Scope 3) emissions”:

The PP has submitted declarations /27/ to confirm that this project has neither been registered, or is seeking registration, under any other GHG programs nor rejected by any other GHG programs. The validation body has crosschecked the documents and declarations and found that the claim is in line with the VCS Standard v4.4.

Scope 3 emissions declaration: NA

Emissions trading programs and other binding limits and Other forms of environmental credit sought or received and eligible to be sought or received

PP has clearly mentioned that the project will not seek to generate or has received any form of environmental credits, and the GHG emission removals generated by the project will not be used for compliance under such programs or mechanisms.

PP has submitted undertaking for the same /28/.

Sustainable development contributions

The project contributes to sustainable development through sustainable grazing management practices and grassland management through controlled burning. Through these activities, jobs are created, and local people are empowered since they are involved in implementation and monitoring of the project. PP has described contribution of project to SDG goals 1, 2, 6, 13 and 15 in the section 1.17 of PD.

The validation team finds the information in sections 1.17 of the PD is consistent with the observation of audit team and outcome of the interviews with local communities and PP during the site visit.

Leakage management for AFOLU projects

PP has identified two leakage forms they are livestock displacement leakage and Market Leakage. PP has provided enough justification in Section 1.18 why the identified leakages are negligible.

Commercially sensitive information

Details of ranch ownership and financial audit plans are removed from the public version of this document to protect landowner privacy.

The description given by PP in Section 1 of the PD is true to form, comprehensive, and gives insight into the scope of the project. Additionally, the validation team certifies that all activities detailed in the PD are supported by data from the project design document.

CARs 1 and 13 were raised and resolved successfully. Refer Appendix 2 for the same.

3.2 Safeguards

3.2.1 No Net Harm

As discussed in section 2.1 of the PD, the project does not expect any negative environmental impacts. The project activity i.e. planned grazing and controlled burning will increase the rest and rotation on pastures above baseline practices. Smaller pastures implemented by fencing with more rotations allow the recovery of perennial grasses, which foster greater carbon inputs, higher retention of carbon as lignin and cellulose, and greater belowground production. This results in the sequestration of greenhouses gases from the atmosphere to the soil. Further, there will be positive impacts on biodiversity conservation through the preservation of critical habitats of the endemic and endangered flora and fauna. There is no negative impacts on community groups and for maintenance or enhancement of HCV attributes related to community well-being. According to the PRA Report, in the baseline scenario some of the project area was subject to use of nitrogen fertilization which has eventually decreased in the project scenario. Also, the fertilizer application is in small quantity² and will have no negative impact on the environment.

The Validation team came to the conclusion that project activities had no adverse effects on the environment or the community after visiting the project site and speaking with local stakeholders and PP. The validation body determines that it will have a good impact on society, the environment, and biodiversity; as a result, it complies with section 3.18.1 of the VCS Standard v4.4.

3.2.2 Local Stakeholder Consultation

This is explained in section 2.5 of the validated PD /7/. The PP carried out the consultations with the stakeholders in February 2020 to March 2021. The minutes of meetings, attendance sheets and photographs /29/ of the consultations with the comments from stakeholders were provided to the VVB. The comments raised during the consultations were addressed by the PP. Also, all the reports of PRA's conducted so far were assessed. All the stakeholders interviewed during the site visit gave positive responses about the project. While checking all the reports, minutes of meetings, questionnaire responses during the site visit, it is confirmed that all the stakeholders agreed to the implementation of the project.

² <https://www.hindawi.com/journals/aess/2022/4738416/>

PP has conducted meetings through PRA /23/ and personal interviews to discuss on the project activities. Section 2.2 PD has the complete information of the consultations held for this project. All the details about the project activities, expenses, potential costs of the implementation, risks and benefits associated with them are discussed. During site visit, validation team cross checked the documentation provided by the PP with local people and found satisfactory. PP has set up grievance mechanisms to address stakeholders' issues about this project. Annex B of the PD has the complete information of the consultations. During the site inspection, all of the stakeholders who were questioned expressed support for the project. While checking all documents and proofs provided and interviews conducted during site visit, it is confirmed that all the stakeholders agreed to the implementation of the project and are very optimistic for the initiative and the project adhere to the requirements of section 3.18.3 VCS Standard v4.4.

3.2.3 Environmental Impact

Validation team checked the country requirements on EIA rules and regulations act Environmental Impact Assessment Regulations 2010 (NEMA EIA 2010). According to the Environmental Impact Assessment Regulations 2010 (NEMA EIA 2010) neither an EIA nor Basic Assessment is required as the project activities do not trigger any of the Environmental Impact Regulation listed activities published in Government Notice No. R 385 of 2006 (No. R. 386 and 387, 21 April 2006 including amendments 3 July and 9 October 2009). The project activity is completely environmentally friendly and has positive impacts on environment.

Hence the Validation team finds the information in sections 2.3 of the PD is consistent with the observation of audit team and outcome of the interviews with local communities and PP during the site visit.

3.2.4 Public Comments

The project documentation has been published on VCS website and was open for public comment from 25/03/2022 to 24/04/2022.³ No comments received as evident from the VCS pipeline in the web interface.

3.2.5 AFOLU-Specific Safeguards

Section 2.5 of PD has information on stakeholder identification and its results. PP do not identify any risks associated with the project on stakeholder property rights or in any other form. Also, PP has appointed a staff member to record and collect conflicts and dissatisfaction between local communities and individual ranch owner and PP has set up a Grievance register to record any grievances. Copy of the register has been validated during the site visit. Also, PP has ensured and will ensure that the consent of landowners has been/ will be secured for the use of their land to implement the project and evidence were submitted to VVB. PP has and will ensure Free, Prior and Informed Consent from all the project

³ <https://registry.terra.org/app/projectDetail/VCS/2710>

participants and will not lead to any enforced or illegal removals/relocations of the stakeholders. Validation team has crosschecked all the information provided in PD along with evidences and finds no deviations associated with safeguards.

CARs 14 and 16 were raised and resolved successfully. Refer Appendix 2 for the same.

3.3 Application of Methodology

3.3.1 Title and Reference

The project has applied VCS approved VM0026 “Sustainable Grassland Management” , Version 1.1.⁴ methodology along with following tools.

Tools :

- 1. CDM A/R methodological tool Calculation of the number of sample plots for measurements within A/R CDM project activities, version 2.1.0*
- 2. Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities, VT0001 version v3.0*
- 3. CDM Tool for Estimation of Carbon Stocks and Change in Carbon Stocks of Trees and Shrubs in A/R CDM Project Activities, version 4.2*
- 4. CDM Tool for Identification of Degraded or Degrading Lands for Consideration in Implementing CDM A/R Project Activities, version 01*
- 5. VCS AFOLU Non-Permanence Risk Tool, version 4.0*

The validation team confirms that the methodology and tools, and the specific versions of them applied by the project, were valid at the time of validation.

CAR 17 was raised and resolved successfully. Refer Appendix 2 for the same.

3.3.2 Applicability

The project complies with each applicability condition of the methodology and associated modules and tools. The same has been justified in the below section.

The project activity complies with the applicability conditions of the VCS VM0026 methodology Version 1.1 as follows:

⁴ <https://verra.org/methodologies/vm0026-methodology-for-sustainable-grassland-management-sgm-v1-0/>

Applicability conditions	Justification by PP	Audit Assessment
The project area is grassland at the start of the project. The project area is land that is degraded at the start of the project and degradation will continue in the baseline scenario on the basis that degradation drivers or pressures are still present in the baseline scenario. The procedures outlined the latest version of the CDM Tool for Identification of Degraded or Degrading Lands for Consideration in Implementing CDM A/R Project Activities must be used to determine both that the land is degraded at the start of the project and that in the baseline scenario the land will continue to degrade	<i>The 1st Project instance is located within the Grasslands Biome. So, the project area is broadly classified as grassland. Mean tree canopy cover is less than 50% and the project zone is not classified as forest⁵.</i> <i>Figure depicts the project area not included within the forest area.</i> <i>Besides, as the described in “Project Design”, all the project was on degraded grassland and the project’s aim is to increase carbon sequestration and contribute to local sustainable development by rotational grazing and planned burning on the degraded grassland and carrying out sustainable grassland management.</i> <i>The procedures outlined in the CDM Tool for Identification of Degraded or Degrading Lands for Consideration in Implementing CDM A/R Project Activities (Version 1.0) is described below.</i> <i>The presence of one of the following is enough for demonstrating that land is “degraded” and/or “degrading”:</i> <i>(a) Provide documented evidence that the area has been classified as “degraded” under verifiable local, regional, national or international land classification system or peer-review study, participatory rural appraisal, satellite imagery and/or photographic evidence in the last 10 years. If the documented evidence of degradation is older than ten years then: (i) Provide evidence that the natural or anthropogenic degradation drivers and pressures that led to the land becoming “degraded” are still present and/or that there are no insufficient land management interventions to reverse degradation.</i> <i>(b) Demonstrate through a comparative study that the candidate lands in the proposed project area have similar or equivalent conditions (e.g.</i>	It has been assessed by the validation team that the project meets the applicability condition to prove the baseline scenario. All the lands included in the project are grasslands and no forest lands are included. Based on the review of the PRA study, interviews during the site visit and the analysis of LULC shapefiles and KMLs provided by the PP, it has been determined. The VVB independently corroborated these findings by utilizing open online earth observatory engines such as Google Earth, Global Forest Watch, and Earth Map.

⁵ <http://www.fao.org/forestry/country/en/zaf/>

Applicability conditions	Justification by PP	Audit Assessment
	vegetation, soil, climate, topography, altitude, soil class and land use) and socio-economic pressures and drivers of degradation to reference degraded lands elsewhere, verifiably classified and documented as degraded lands. The proof of similarity of lands should be made through verifiable documentation and/or visual field assessment and data sets: (c) Demonstrate through direct evidence based on selected indicators of land degradation that the area is “degraded” and/or “degrading” through conducting either a visual assessment of the state and condition of the indicators or a verifiable participatory rural appraisal (PRA). The indicators of degradation should be locally relevant and verifiable. Candidate lands shall be declared as “degraded” and/or “degrading” if they show at least one of the following: (i) The severity and extent of soil compaction and soil erosion, as determined by the presence of: reductions in topsoil depth (as shown by root exposure, presence of pedestals; exposed sub-soil horizons or armour layers); gully, sheet or rill erosion, landslides, or other forms of mass-movement erosion; (ii) Decline in organic matter content and/or recession of vegetation cover as shown by reduction in plant cover or productivity due to overgrazing or other land management practices, thinning of topsoil organic layer, scarcity of topsoil litter and debris (GPS and photo evidence should be provided); (iii) Presence of plant species locally known to be related to the condition of degradation of the land or field/lab tests showing nutrient depletion (e.g. reduced growth, leaf loss, dessication, leaf chlorosis), salinity or alkalinity, toxic compounds and heavy metals; (iv) A reduction in plant cover or productivity due to overgrazing or other land management practices.	

Applicability conditions	Justification by PP	Audit Assessment
	<i>According to the PRA Report, the grassland in the project area has been degraded for more than ten years due to climate change and overgrazing, under the baseline scenario, herders still graze on degraded grassland, while no restoration activities are carried out.</i> So, as defined in item (c), iv of CDM Tool for Identification of Degraded or Degrading Lands for Consideration in Implementing CDM A/R Project Activities (Version 1.0), the land in the project area is degraded at the start of the project and that in the baseline scenario the land will continue to degrade.	
The project area is subject to livestock grazing, burning, and/or nitrogen fertilization in the baseline scenario.	According to the PRA Report, in the baseline scenario the project area was subject to livestock grazing, burning and nitrogen fertilization.	Based on the review of the PRA study, interviews during the site visit and the analysis of LULC shapefiles and KMLs provided by the PP, it has been determined that the project is in line with the applicability condition of the applied methodology. The VVB also independently corroborated these findings by utilizing open online earth observatory engines such as Google Earth, Global Forest Watch, and Earth Map.
In the baseline scenario, more than 95 percent of animal dung from grazing animals deposited on grassland	Project participants allow animal dung to lie and do not move it from pastures. All animal dung from grazing livestock deposited on grassland lie as is, and is not managed in either scenario.	Validation team checked during site visits and interviewed people to assess this

Applicability conditions	Justification by PP	Audit Assessment
is allowed to lie as is, and is not managed, and in the project scenario no more than 5 percent of the animal dung from grazing animals within the project area is managed with alternative manure management systems.	Thus, under the project scenario, animal dung will not be managed with alternative manure management systems.	conditions and found accurate.
The project area must not have been cleared of native ecosystems within the 10 year period prior to the project start date.	The project area is natural grassland, which is continuously degraded due to overgrazing, and have not been cleared of native ecosystems within the 10 year period prior to the project start date which can be evidenced from PRA report.	Based on the review of the PRA study, interviews during the site visit and the analysis of LULC shapefiles and KMLs provided by the PP, it has been determined that the project is in line with the applicability condition of the applied methodology. The VVB also independently corroborated these findings by utilizing open online earth observatory engines such as Google Earth, Global Forest Watch, and Earth Map.
The project area is located in a region where precipitation is less than	<i>According to previous study the annual precipitation in the study area were varying from 315 mm to 688 mm⁶.</i>	Validation team checked links and evidences submitted by PP and found the

Applicability conditions	Justification by PP	Audit Assessment
evapotranspiration for most of the year and leaching is unlikely to occur.	<i>The annual evapotranspiration were between 1634 to 2690 mm,⁷</i> The precipitation was less than evapotranspiration, so leaching is unlikely to occur.	information provided is correct.
<i>If a biogeochemical model is selected for estimation of change in soil carbon stocks, the following conditions must be met:</i> <i>The model must comply with the requirements for models as set out in the VCS rules.</i> The model must be appropriate for the region within which the project is situated. There must be studies by appropriately qualified experts (eg, scientific journals, university theses, local research studies or work carried out by the project proponent) that demonstrate that the use of the selected biogeochemical model is appropriate for the IPCC climatic regions (see 2006 IPCC Guidelines for National Greenhouse Gas	No biogeochemical model is selected in the project. The change of soil carbon stock is calculated based on the content of soil organic carbon which is directly monitored from soil samples.	No biogeochemical model is selected for this project and SOC is directly measured and hence this condition is not applicable.

⁷ http://fred.csir.co.za/project/tmg/agrohydrology_atlas/atlas_172t.htm

Applicability conditions	Justification by PP	Audit Assessment
Inventories, Volume 4, Chapter 3), or the agroecological zone (AEZ) in which the project is situated (see Section 9.3.2).	Validation Report: VCS Version 4.2	
Project activities must not include land use change	The project adopts rotational grazing and rest grazing and controlled burning in the degraded grazing land which would not change the land use.	Proposed project activities do not change land use and hence this condition is met. Based on the review of the PRA study, interviews during the site visit and the analysis of LULC shapefiles and KMLs provided by the PP, it has been determined that the project is in line with the applicability condition of the applied methodology. The VVB also independently corroborated these findings by utilizing open online earth observatory engines such as Google Earth, Global Forest Watch, and Earth Map.
Project activities must not lead to an increase in the use of fossil fuels and fuel wood from non-renewable sources for cooking and heating.	The implementation of rotational grazing through fencing does not increase the use of vehicles or fossil fuels. Also the project activities will not change the source of fuel for cooking and heating.	Justification provided by the PP is satisfactory and hence conditions is met. This was also confirmed during the site visit.

Applicability conditions	Justification by PP	Audit Assessment
Project activities must not occur on wetlands or peatlands.	According to the Project Design and related satellite pictures of the project area, the project area is the grassland, not involving wetlands and peatlands.	There are no wet lands in this project as per the KMLS provided by the PP at the time of validation. Hence the conditions is met. This was confirmed during the site visit and the analysis of LULC shapefiles and KMLs provided by the PP, it has been determined that the project is in line with the applicability condition of the applied methodology. The VVB also independently corroborated these findings by utilizing open online earth observatory engines such as Google Earth, Global Forest Watch, and Earth Map.

Tool for the demonstration and assessment of additionality in VCS agriculture, forestry, and other land use (AFOLU) project activities (Version 3.0) is applicable under the following conditions:

Applicability conditions	Justification by PP	Audit Assessment
1) AFOLU activities the same or similar to the proposed project activity on the land within the proposed project boundary performed with or without being registered as the VCS AFOLU	The restoration of degraded grassland is encouraged in South Africa, and there is no legal prohibition for the project, therefore the proposed project activity on the land within the project boundary does not lead to violation of any applicable law.	Validation team checked the compliance of the project with local laws and found this project do not violate any law.

Applicability conditions	Justification by PP	Audit Assessment
project shall not lead to violation of any applicable law even if the law is not enforced.	Validation Report: VCS Version 4.2	
2) The use of this tool to determine additionality requires the baseline methodology to provide for a stepwise approach justifying the determination of the most plausible baseline scenario. Project proponent(s) proposing new baseline methodologies shall ensure consistency between the determination of a baseline scenario and the determination of additionality of a project activity.	The baseline scenario is identified using the methodology VM0026 “Sustainable Grassland Management” (Version 1.1), which provides for a stepwise approach justifying the determination of the most plausible baseline scenario. No new baseline methodologies involved. Therefore, tool for the demonstration and assessment of additionality in VCS agriculture, forestry and other land use (AFOLU) project activities (Version 3.0) is applicable for the proposed project.	PP has used proper tool as per methodology requirement to identify the baseline scenario and hence this condition is met.

PP also used one CDM tool for Identification of Degraded or Degrading Lands for Consideration in Implementing CDM AR Project Activities (version 1.0) provides a procedure for the identification of degraded or degrading lands for the purpose of application of A/R CDM methodologies which has no mandatory applicable requirement.

From the assessment it was concluded that the project is in line with the applied methodology and tools.

CAR 18 was raised and resolved successfully. Refer Appendix 2 for the same

3.3.3 Project Boundary

This is a grouped project located in Republic of South Africa (RSA). At the time of validation there is one instance. Details are as follows.

Instance 1:

Project Area: Mpumalanga : (Chrissiesmeer, Dullstroom)

The Drakensberg escarpment divides Mpumalanga into a westerly half consisting mainly of high-altitude grassland called the Highveld and an eastern half situated in low-altitude subtropical Lowveld/Bushveld, mostly savanna habitat. Temperatures in Mpumalanga vary with the elevation, ranging from a mean of 61 °F (16 °C) in the Highveld to a mean of 74 °F (23 °C)⁸ in the subtropical Lowveld.

Validation Report: VCS Version 4.2

The project area covers an area of approximately 3,773.5 hectares.

Veld Name	Area (ha)	Latitude	Longitude
Giel Beukes Aandele Trust	2,195.17	-26.201488 to -26.250672	30.217979 to 30.189974
		-26.36329 to -26.396028	30.155981 to 30.121895
		-26.329176 to -26.371242	30.246507 to 30.208441
		-26.368185 to -26.426543	30.317539 to 30.257818
R J Combrink & Seun Familie Trust	837.08	-25.51345 to -25.54784	30.180731 to 30.123595
		-25.565237 to -25.572458	30.133469 to 30.102696
Field and Stream Pty Ltd	741.3	-25.408883 to -25.4499	30.036536 to 29.978677

Project Area: Eastern Cape (Graaf Reniet, Middelburg)

Eastern Cape is the second largest province in South Africa. Eastern Cape is predominantly mountainous. It includes the southern spur of the Drakensberg, rising to more than 9,000 feet (2,700 m)⁹ in the northeast, and descends southward from the great interior plateau (Highveld) of southern Africa to form a relatively narrow coastal plain along the Indian Ocean. the topography is characterized by east-west-trending mountain ranges and valleys. East of the Great Fish River, including the lower valley of the Great Kei River, perennial streams have carved deep valleys on their way to the ocean.

The project area covers an area of approximately 70,737.5 hectares.

Veld Name	Area (ha)	Latitude	Longitude

⁸ <https://www.britannica.com/place/Mpumalanga>

⁹ <https://www.britannica.com/place/Eastern-Cape-province-South-Africa>

DavMar Agri	6,772.9	-31.9834 to -31.9084	24.3929 to 24.447
Petrus Jacobus Loots	4,319.8	-31.9354 to -31.8635	24.7916 to 24.9397
Bergplaats Irene Properties (Pty) Ltd	4,915.8	-31.8036 to -31.698	24.6808 to 24.7856
Allandale Trust	8,643.7	-32.1338 to -32.0107	24.5805 to 24.7836
Riverdene Farming Co	2,860.4	-31.965 to -31.8981	24.4739 to 24.5501
Longacres CC	9,034.3	-32.5299 to -32.7284	24.6009 to 24.6988
Thornclyff Trust	5,717.2	-31.9236 to -31.8018	25.1401 to 25.2866
The Fairfield Trust	3,768.0	-31.62 to -31.5425	25.1276 to 25.2572
Blaauwater Trust	6,640.8	-31.9071 to -31.7801	24.7687 to 24.8989
Die Triangle Trust	18,064.5	-32.8068 to -32.5653	24.3328 to 24.5414

Project Area: Kwazulu Natal (Kokstad, Umgeni, Impendle, NottinghamRd)

KwaZulu-Natal is generally hilly or mountainous, especially along its western border. The land rises from the coast to more than 11,000 feet (3,300 metres)¹⁰ along the Drakensberg Escarpment on that border.

The project area covers an area of approximately 6,785.4 hectares.

Veld Name	Area (ha)	Latitude	Longitude
Ken Dorning Family Trust	2,549.94	-29.991207 to -30.019095	29.229899 to 29.189508
		-30.043222 to -30.091697	29.239223 to 29.191039
		-30.105269 to -30.138253	29.334582 to 29.28106
Tillietudlum Nature Reserve	1,612.1	-29.59403 to -29.650789	29.969122 to 29.912047
KZN Crane Foundation	353.6	-29.318722 to -29.352838	30.027205 to 29.994672
Bennidale Trust	183.8	-29.502993 to -29.518424	30.533334 to 30.499104
Donovale Farming Company (Pty) Ltd	236.66	-29.518424 to -29.526738	30.525115 to 30.499104
		-29.558473 to -29.558473	30.499104 to 30.499104
Kleinfontein Trust	1,849.34	-28.493004 to -28.535639	29.723485 to 29.627229
		-28.535267 to -28.543149	29.679797 to 29.668397

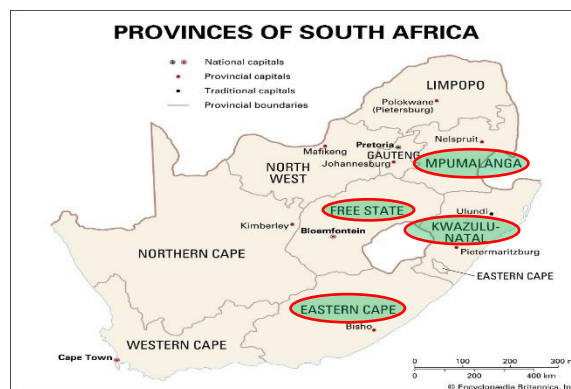
¹⁰ <https://www.britannica.com/place/KwaZulu-Natal>

Project Area : Free state Province (Harrismith)

The province is located on the Highveld, a plateau rising to elevations of 6,000 feet (1,800 m) in the east and sloping to about 4,000 feet (1,200 m)¹¹ in the west. Two streams drain the province: the upper Orange River, which forms the province's southern boundary, and the Vaal River, part of its northern boundary.

The project area covers an area of approximately 10,654.3 hectares.

Veld Name	Area (ha)	Latitude	Longitude
Tandjiesberg Trust	2,315.3	-28.259019 to -28.287255	29.442933 to 29.411458
		-28.081194 to -28.13577	29.522369 to 29.464966
		-28.1941 to -28.258617	29.358083 to 29.306049
The Waterfall Trust	454.3	-28.277209 to -28.299471	29.428432 to 29.381385
Kleinfontein Trust	7,884.7	28.360958 to -28.413637	29.280076 to 29.244803
		-28.084136 to -28.116167	29.145692 to 29.088771
		-28.053116 to -28.151029	29.233364 to 29.186858
		-27.996706 to -28.051083	29.287381 to 29.251955
		-28.090088 to -28.148456	29.280675 to 29.248736



¹¹ <https://www.britannica.com/place/Free-State>

The Carbon Pools and GHG sources included in the Project are mentioned in the table below:

Carbon Pools	Included?	Justification/Explanation
Aboveground woody biomass	Yes	SGM may change aboveground woody biomass.
Aboveground non-woody biomass	No	The increase of aboveground non-woody biomass resulting from SGM is transient in nature and can be conservatively excluded.
Belowground biomass	No	It is a conservative choice to exclude the below-ground biomass.
Dead wood	No	None of the applicable SGM practices decrease dead wood.
Litter	No	None of the applicable SGM practices decrease the amount of litter.
Soil organic carbon	Yes	A major carbon pool affected by grassland management practices that is expected to increase after adoption of SGM practices.
Wood products	No	None of the applicable SGM practices increases or decreases wood products.

GHG Sources Included In or Excluded From the Project Boundary				
Source		Gas	Included?	Justification/Explanation
Baseline	Use of fertilizer	CO ₂	No	Not Applicable
		CH ₄	No	Not Applicable
		N ₂ O	Yes	Required by VM0026
		Other	No	Not applicable
	Use of N-fixing Species	CO ₂	No	Not Applicable
		CH ₄	No	Not Applicable
		N ₂ O	No	Not Applicable

GHG Sources Included In or Excluded From the Project Boundary				
Source		Gas	Included?	Justification/Explanation
	Burning of biomass	Other	-	Not Applicable
		CO ₂	N	Not Applicable
		CH ₄	Yes	Prescribed fire is a component of grazing management plans in the initial project activity instances. Thus CH ₄ emissions from the burning of biomass will be monitored and the associated emissions will be accounted for within the stratum.
		N ₂ O	Yes	Prescribed fire is a component of grazing management plans in the initial project activity instances. Thus N ₂ O emissions from the burning of biomass will be monitored and the associated emissions will be accounted for within the stratum.
		Other	-	-
	Manure deposition on grassland	CO ₂	No	Not Applicable
		CH ₄	Yes	In the baseline scenario, there is no restrictions or regulations for the deposition of animal dung in the project area, all animal dung from grazing animals deposited on grassland lie as is and is not managed. And hence, as a significant emission source
		N ₂ O	Yes	In the baseline scenario, there is no restrictions or regulations for the deposition of animal dung in the project area, all animal dung from grazing animals deposited on grassland lie as is, and is not managed.

GHG Sources Included In or Excluded From the Project Boundary				
Source		Gas	Included?	Justification/Explanation
				And hence, as a significant emission source
		Other	-	Not Applicable
	Farming Machine	CO ₂	No	Not main gas for this source. Excluded for simplification.
		CH ₄	No	No farming machinery was used in the baseline scenario. Therefore, it is not main gas for this source. Excluded for simplification.
		N ₂ O	No	No farming machinery was used in the baseline scenario. Therefore, it is not main gas for this source.
		Other	-	Not Applicable
	Animal respiration / Enteric Fermentation	CO ₂	No	Not Applicable
		CH ₄	Yes	Main gas for this source. Required by VM0026 as intensive grazing was recorded in the baseline.
		N ₂ O	Yes	No N ₂ O emissions from enteric fermentation.
		Other	-	Not Applicable
Project	Use of fertilizers	CO ₂	N	Not Applicable
		CH ₄	No	Not Applicable
		N ₂ O	Yes	Main gas for this source. Required by VM0026. However, the use of fertilizers in the project scenario is less than the baseline.
		Other	-	Not Applicable

GHG Sources Included In or Excluded From the Project Boundary				
Source		Gas	Included?	Justification/Explanation
	Use of N-fixing species	CO ₂	No	Not Applicable
		CH ₄	No	Not Applicable
		N ₂ O	No	Not Applicable
		Other	-	Not Applicable
	Burning of biomass	CO ₂	N	Not Applicable
		CH ₄	Yes	Prescribed fire is a component of grazing management plans in the initial project activity instances. Thus CH ₄ emissions from the burning of biomass will be monitored and the associated emissions will be accounted for within the stratum.
		N ₂ O	Yes	Prescribed fire is a component of grazing management plans in the initial project activity instances. Thus N ₂ O emissions from the burning of biomass will be monitored and the associated emissions will be accounted for within the stratum.
		Other	-	-
	Manure deposition on grassland	CO ₂	No	Not applicable
		CH ₄	Yes	No animal dung will be managed with alternative manure management systems. There is manure deposition under the project scenario as well and hence considered as one of the emission sources.
		N ₂ O	Yes	No animal dung will be managed with alternative manure management systems. There is manure deposition under the project scenario as well and hence

GHG Sources Included In or Excluded From the Project Boundary				
Source		Gas	Included?	Justification/Explanation
				considered as one of the emission sources.
		Other	-	Not applicable
	Farming Machine	CO ₂	No	No farming machine will be use in the project activity
		CH ₄	No	Not main gas for this source. Excluded for simplification.
		N ₂ O	No	Not main gas for this source. Excluded for simplification.
		Other	-	
	Animal respiration / Enteric Fermentation	CO ₂	No	Not applicable.
		CH ₄	Yes	Main gas for this source. Required by VM0026.
		N ₂ O	No	No N ₂ O emissions from enteric fermentation.
		Other	-	Not applicable.

By checking the information and evidence available during on-site observation and by the supporting documents submitted by the PP, the audit team concluded that the appropriate carbon pools and GHG emissions sources have been considered and the description in the PD is accurate and complete, and also the selected carbon pools are justified for the proposed project activity.

CAR 19 was raised and resolved successfully. Refer Appendix 2 for the same

3.3.4 Baseline Scenario

According to “Sustainable Grassland Management” (Version 1.1), the project proponent has used the tool: “*Tool for the demonstration and assessment of additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) project activities*” (Version 3.0) for the demonstration of the baseline scenario. This tool includes a 4 step process. Step 1 of the tool refers to the identification of the Baseline Scenario.

In this step PP has identified alternative land use scenarios to the proposed VCS AFOLU project activity using the tool. The following paragraph explains the step.

Step 1. Identification of alternative land use scenarios to the proposed VCS AFOLU project activity

Sub-step 1a) Identify and list all credible alternative land use scenarios to the proposed VCS AFOLU project activity:

As stated in section 3.5, the identified land use scenarios shall at least include:

- i. Continuation of pre-project land use Issue Report: VCS Version 4.2
- ii. Project activity on the land within the project boundary performed without being registered as the VCS AFOLU project.
- iii. If applicable, activities similar to the proposed project activity on at least part of the land within the project boundary of the proposed VCS AFOLU project at a rate resulting from:
 - Legal requirements; or
 - Extrapolation of observed similar activities in the geographical area with similar socioeconomic and ecological conditions to the proposed VCS AFOLU project activity occurring in the period beginning ten years prior to the project start date.

For (iii), the lands within the project boundary of the proposed VCS AFOLU project are all with the same legal requirements, there are no legal requirements to carry out similar project activities. And according to the PRA Report, the project area existed as degraded land more than ten years prior to the project start date. So (iii) is not applicable.

Pre-project land use scenario is degraded grassland ecosystem which is the common situation in the project area. None of the laws and regulations mandate the restoration of degraded grassland the same as the project activities in South Africa. Therefore, the degradation of the grassland of the project area would continue in the absence of the project, the restoration measures implemented by the project activities such as rest grazing /rotational grazing, controlled burning are not mandated by any law, statute or other regulatory framework. Thus Scenario (i) remains possible baseline scenario.

Scenario (ii) faces the technical and investment barrier which will be discussed in the next section. However, it does not violate any existing enforced mandatory applicable laws and regulations.

Outcome of Sub-step 1a: List of credible alternative land use scenarios that could have occurred on the land within the project boundary of the VCS AFOLU project.

As described before, the list of credible alternative land use scenarios is Scenario (i) and (ii).

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

All specific legislations that could be applicable for the present project activity and their relevance with the present project are mentioned in section 1.14 of this PD.

All the above policies are taken into consideration while evaluating the alternatives to the project activity and the following alternatives listed are in compliance with the applicable laws and regulations.

Outcome of Sub-step 1b: List of plausible alternative land use scenarios to the VCS AFOLU project activity that are in compliance with mandatory legislation and regulations taking into account their enforcement in the region or country and EB decisions on national and/or sectoral policies and regulations.

Thus Scenario (i) Continuation of pre-project land use and

(ii) Project activity on the land within the project boundary performed without being registered as the VCS AFOLU project remains possible baseline scenarios.

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

The proposed project is occurring on privately owned land which is significantly degraded due to continuous grazing and unplanned burning. The project is targeting 91,950.6 ha of degraded lands to be restored through rotational grazing and planned burning.

Although planned grazing has been of interest in the area for a significant period, but there exist a multitude of barriers to its implementation, which are described in detail in the additionality section (Section 3.5) below. Such barriers to are limiting alternative scenario (ii) from the outcome of sub-step 1b above i.e., they would prevent the current project activity without being registered as an AFOLU project.

From the above discussion the validation team concludes that the Scenario (i) Continuation of pre project land use (present land use; characterized by unplanned/ selective grazing activity but with very low yield, and unplanned burning) is the most realistic baseline scenario available to project participants.

The documentary/data evidence used in determining the baseline scenario is relevant, and correctly quoted and interpreted in the project description and all relevant national and/or sectoral policies and circumstances have been considered and are listed in the project description.

CAR 20 was raised and resolved successfully. Refer Appendix 2 for the same

3.3.5 Additionality

PP has used the following tool to assess the additionality of the project. *Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities (version 3.0)* is applied to demonstrate the additionality. As per the tool, step 1 is similar exercise as mentioned in section 3.3.4 of this document. Details of the steps followed are explained below.

Step 1. Identification of alternative land use scenarios to the proposed VCS AFOLU project activity

As mentioned in section 3.3.4 of this report.

Scenario 1: Continuation of pre-project land use (Continuous, unplanned/selective grazing and uncontrolled burning.)

Scenario 2: Project activity (rotational grazing & planned burning) on the land within the project boundary performed without being registered as the VCS AFOLU project

Scenario 3: If applicable, activities similar to the proposed project activity on at least part of the land within the project boundary of the proposed VCS AFOLU project at a rate resulting from:

- Legal requirements; or
- Extrapolation of observed similar activities in the geographical area with similar socioeconomic and ecological conditions to the proposed VCS AFOLU project activity occurring in the period beginning ten years prior to the project start date.

For this scenario, the lands within the project boundary of the proposed VCS AFOLU project are all with the same legal requirements, there are no legal requirements to carry out similar project activities. And according to the PRA Report, the project area existed as degraded land more than ten years prior to the project start date. So (iii) is not applicable

Outcome of Sub-step 1a: As described above, the list of credible alternative land use scenarios is Scenario 1 and 2.

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

All specific legislations that could be applicable for the present project activity and their relevance with the present project are mentioned in section 1.14 of this PD.

All the above policies are taken into consideration while evaluating the alternatives to the project activity and the following alternatives listed are in compliance with the applicable laws and regulations.

Sl. No.	Identified Alternatives	Permitted / Not Permitted
1.	Continuation of the pre-project land use: Continuous, unplanned/selective grazing and uncontrolled burning	Permitted
2.	Increased rotation and rest on smaller pastures (Project activity) and planned burning on the land within the project boundary performed without being registered as a VCS AFOLU project	Permitted

Outcome of Sub-step 1b

The following list are the credible land use scenarios :

- Continuation of the pre-project land use: Continuous, unplanned/selective grazing and uncontrolled burning

- Increased rotation and rest on smaller pastures (Project activity) on the land within the project boundary performed without being registered as a VCS AFOLU project

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

Scenario 1 is the chosen baseline scenario. Validation Report: VCS Version 4.2

The project has not applied the Step 2: Investment Analysis. Step 2 is optional if Step 3 is used. The project has applied Step 3, below.

Step 3. Barrier analysis

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

The proposed project activity faces several barriers in implementing the project activity.:

PP conducted a barrier analysis study with the assistance of a third-party organization, GSC Pty. Ltd.¹² The third-party conducted primary and secondary research to identify barriers.¹³ The main barriers identified by GSC Pty. Ltd. are as follows:

1. Social and technological barriers: The study highlighted barriers stemming from cultural beliefs, lack of awareness, technological know-how and incentives, and governance issues.
 - a. It is found from the household survey that the level of education of landowners in the project area are very poor. They are far poorly educated to have access to information and knowledge about the benefit of planned rotational grazing. For successful implementation of the project activity, grazing consultants need to be appointed and workshops need to arrange to educate and share the knowledge regarding planned grazing with the locals.
 - b. Lack of organisation: The local communities lack the organisational structure to put together a volunteer effort for planned grazing.
2. Ecological barriers: These include degraded soil, barren land, and limited water availability, which pose significant challenges to sustainable land use practices. Due to overgrazing for decades, the land remained barren with no/very little vegetation cover causing undesired compactness of soil. Due to direct exposure to wind and water erosion, topsoil is almost eroded. Unfavourable metrological conditions like frequent drought in the region are not allowing agriculture to flourish in the area of project activity. The topography of land is undulated, soil is rocky, deficient in necessary nutrients making the land unfit for agriculture uses.¹⁴
3. Financial/economic barriers: Challenges such as insufficient financial returns for sustainable land use practices, absence of incentives or rewards, and a lack of capital

¹² The report was submitted for review to the VVB.

¹³ Secondary Research: Historical data analysis based on published literature review.
Primary Research: based on sample survey of the project area.

¹⁴ Is clearly visible in the LULC maps and kml submitted and also verified during the site visit.

to invest in sustainable grassland practices were identified as key obstacles. The proposed project activity needs more labour, infrastructural cost for fencing, to open new pastures, employment of experienced staff & workers to monitor the grazing activity regularly. Investment barrier is faced because of huge initial investment required for changing the pattern of grazing activity. The landowners do not have capital to invest. High initial investment without no return is beyond the means of the landowners.

The report underwent comprehensive evaluation by the VVB during the validation desk review and site visit. Claims presented by PP were cross-checked via secondary research conducted by VVB. All references cited in the report were reviewed and deemed appropriate. Ranchers and experts were consulted during the site visit, and their input largely confirms the barriers identified by PP.

Based on the secondary research by the VVB, the savannas and grasslands represent the largest area in Southern Africa occupying 54% of its territory.¹⁵ Currently, only 2% of grasslands in South Africa are conserved, which is the lowest protection rate in the world.¹⁶

Africa is extremely vulnerable to the impacts of climate change.¹⁷ Changes in temperature and precipitation patterns, coupled with increased frequency and intensity of extreme weather events, can stress grassland ecosystems, and exacerbate degradation.¹⁸ Unsustainable grassland management practices, including overgrazing, uncontrolled burning¹⁹, increasing pressure due to population and agriculture, settlements²⁰ and deforestation, introduction of invasive alien species (e.g., *Lantana camara* and *Chromolaena odorata*)²¹ have led to soil erosion²² and loss of fertility, contributing to grassland degradation. The region is also facing issues of lack of awareness, infrastructure to manage livestock's, sustainable land use practices, demographic knowledge, and attitude.²³

¹⁵ Vegetation of Southern Africa by R. M. Cowling, D. M. Richardson, S. M. Pierce

<https://www.sciencedirect.com/science/article/abs/pii/S2352938519300953>

¹⁶ https://www.iucn.org/sites/default/files/import/downloads/parks_20_1_carbutt_martindale.pdf

¹⁷ The regional assessment report on Biodiversity And Ecosystem Services For Africa Summary For Policymakers

https://zenodo.org/records/3236189/files/ipbes_assessment_spm_africa_EN.pdf?download=1

¹⁸ <https://sci-hub.se/10.1111/1475-4762.00100>

<https://www.mdpi.com/2073-4433/13/1/111>

<https://www.fao.org/3/y8344e/y8344e0j.htm>

https://www.researchgate.net/publication/341437187_Water_governance_challenges_in_rural_South_Africa_exploring_institutional_coordination_in_drought_management/fulltext/5ec0ab5f458515626cacadac/Water-governance-challenges-in-rural-South-Africa-exploring-institutional-coordination-in-drought-management.pdf?origin=publication_detail&tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxxpY2F0aW9uRG93bmxxvYWQilCJwYWdlIjoicHVibGljYXRpb25Eb3dubG9hZCIsInByZXZpb3VzUGFnZSI6InB1YmxxpY2F0aW9uIn19

https://wwf.panda.org/discover/our_focus/food_practice/drakensberg_grasslands_south_africa/

Potential for Sustainable Mountain Farming: Challenges and Prospects for Sustainable Smallholder Farming in the Maloti–

Drakensberg Mountains <https://bioone.org/journals/mountain-research-and-development/volume-40/issue-1/MRD-JOURNAL-D-19-00058.1/Potential-for-Sustainable-Mountain-Farming--Challenges-and-Prospects-for/10.1659/MRD-JOURNAL-D-19-00058.1.pdf>

¹⁹ http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-23532016000600019

²⁰ <https://www.mdpi.com/2073-445X/11/4/575>

²¹ <https://www.sciencedirect.com/science/article/abs/pii/S221204161730284X>

²² <https://researchspace.ukzn.ac.za/server/api/core/bitstreams/66da3b56-3364-4ab6-94c7-193d3cb96663/content>

²³ https://zenodo.org/records/3236189/files/ipbes_assessment_spm_africa_EN.pdf?download=1

Efforts to address grassland degradation in South Africa include sustainable land management practices, restoration initiatives, invasive species control, and conservation programs aimed at protecting remaining grassland habitats. However, the continued pressure from human activities and climate change underscores the need for ongoing monitoring and proactive management to safeguard these valuable ecosystems. Different published papers also report the governance challenges in South Africa, specifically lack of coordination, accountability, capacity, skills and resources to define effective natural resource management. There is limited engagement with governance-related frameworks, and huge gaps due to overlapping jurisdictions and lack of socioecological stewardship.²⁴

During the site visits, it was observed that ranchers lack awareness of the carrying capacity of their land and the significance of rotational grazing practices. Consequently, they allow their livestock to overgraze, resulting in the degradation of grasslands. Additionally, they exhibit limited knowledge regarding sustainable land management practices, invasive species control, and climate change awareness. Furthermore, landowners expressed unawareness of government support and extension services aimed at improving their grasslands. They indicated that they have not received any financial or technical assistance to mitigate grassland degradation. Furthermore, the VVB cross checked the statements of local people with the secondary independent data which also confirms the lack of financial support to protect the land included in the project area.²⁵ Private ranchers often face financial challenges in implementing conservation practices due to limited access to funding and resources. The comprehensive financial analysis regarding the costs required to implement the proposed project conducted by the PP, concludes that such investment is not feasible within the business-as-usual (BAU) scenario. The VVB also concluded that without adequate financial support, these landowners may struggle to invest in conservation measures such as fencing, controlled grazing and burning, habitat restoration, and invasive species management, which are essential for maintaining the ecological integrity of grassland ecosystems.

With the proposed project, farmers believe that implementing the necessary management plan not only enhances their grazing practices but also fosters greater sustainability within their operation, while simultaneously promoting conservation efforts.

²⁴ Thematic Section: Conservation Implications of Social-ecological Change in Africa South of the Equator A scoping review of environmental governance challenges in southern Africa from 2010 to 2020 <https://www.cambridge.org/core/services/aop-cambridge-core/content/view/11390A4A5ABAC6F722B65365F0A74733/S0376892921000333a.pdf/a-scoping-review-of-environmental-governance-challenges-in-southern-africa-from-2010-to-2020.pdf>

²⁵ <https://www.sciencedirect.com/science/article/abs/pii/S0013935119308126>
Sustainable Land Management in Practice Guidelines and Best Practices for Sub-Saharan Africa
<https://www.fao.org/3/i1861e/i1861e.pdf>

The conservation status of temperate grasslands in southern Africa https://www.researchgate.net/profile/Clinton-Carbutt/publication/288265725_The_conservation_status_of_temperate_grasslands_in_southern_Africa/links/56af1fd608ae19a385172026/The-conservation-status-of-temperate-grasslands-in-southern-Africa.pdf?origin=publication_detail&tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uRG93bmxyYWQlClJwcmV2aW91c1BhZ2UiOiJwdWJsaWNhdGlvbiJ9fQ

Sub-step 3b: Show that the identified barriers would not prevent the implementation of at least one of the alternative land use scenarios (except the proposed project activity):.

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S. No.	Alternatives	How identified barriers prevent implementation of credible alternatives identified at step 1a.	Prevented /Not prevented by barrier
1.	Continuation of the pre-project land use: Continuous, unplanned/selective grazing and uncontrolled burning	Investment barrier : Letting livestock grazing openly across the landscape requires no additional costs for fencing, water, or labour to move the livestock to new areas to graze. Technological/social condition/local ecological condition: There are no educational or workshop resources needed to manage is this way, as it is the most conventional method.	Not prevented by any barrier
2.	Increased rotation and rest on smaller pastures (Project activity) on the land within the project boundary performed without being registered as a VCS AFOLU project:	Investment Barrier Investment is needed in the fencing and water to divide pastures. Labour is continually needed to move the livestock more frequently. As the land takes 5 to 7 years to begin to respond to improved grazing practices, any financial benefit from improved soil health is remote. Necessary payments to professional herders to move large herds of livestock over large distances	Prevented by this barrier
		Technological barrier Livestock operators must first have access to the knowledge and educational resources to understand how to best manage their livestock to ensure maximum productivity of perennial grasses.	Prevented by this barrier
		Barrier due to social condition Lack of skill and proper training and Lack of organisation	Prevented by this barrier

		Lack of confidence in the safety of animals kept far from permanent field, due to risks of wildlife predation and cattle theft.	Prevented by this barrier
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Validation Report: VCS Version 4.2

The above barriers would prevent the scenario of the project activity occurring without being registered as an AFOLU project, however they do not affect or prevent the implementation of the Scenario 1: Continuation of pre-project land use (continuous livestock grazing and uncontrolled burning) which does not require any investment and is the most common land use in the project area.

Then proceed to Step 4 (Common practice analysis) based on the tool.

STEP 4: Common Practice Analysis

According to the tool, similar activities are defined as that which are of similar scale, take place in a comparable environment, inter alia, with respect to the regulatory framework and are undertaken in the relevant geographical area, subject to further guidance by the underlying methodology.

Based on the public and accessible information, and check with local authority, there was no other degraded grassland restoration project on a scale similar with the proposed project have been implemented previously in the Project region.

From the above analysis it is concluded that the project is not viable in BAU scenario, and additional financial support is required to develop, implement and sustain the project. The overall analysis and secondary literature review confirms that the project is additional and not viable under BAU scenario. All the steps are explained in detail in section 3.5 of the validated PD and adhere to all the steps and requirements of the tool VT0001 v3.0.

From the above analysis it is concluded that the project is not viable in BAU scenario, and additional financial support is required to develop, implement and sustain the project.

CAR 21 was raised and resolved successfully. Refer Appendix 2 for the same

3.3.6 Quantification of GHG Emission Reductions and Removals

Baseline emissions

The Projects baseline emissions and carbon stock assumptions were assessed based on an analysis of the likeliest baseline scenario. Accounted emissions resulted from the following:

- Baseline N₂O emissions due to fertilizer use
- Baseline emissions due to the use of N-fixing species
- Baseline emissions due to burning of biomass.
- Baseline emissions due to enteric fermentation

- Baseline N₂O and CH₄ emissions due to manure management
- Baseline CO₂ emissions due to the use of fossil fuels for grassland management
- Baseline emission removals from existing woody perennials
- Baseline emission removals due to changes in soil organic carbon

The audit team looked into the PP's assumptions and discovered that they are supported by published scientific literature as well as verifiable local scientific experience. These were all made with conservative estimates and assumptions.

The Project will undertake the following activities.

Controlled burning: Management plan has been set up for grassland burning on a rotational basis, at intervals of between four/ five years, to maintain the vigor and health of the grassland, reduce the hazard of combustible fuel build-up and prevent the succession of alien vegetation. Please refer to the PRA report for detailed burning plan

Planned rotational grazing.:

- Livestock operators will decrease the size of their pastures by using fencing to divide up existing pastures.
- Animals will not graze the same location more than once within a wet season or once within a dry season. Project participants increased herder to continually move the livestock to ensure equal grazing across all forage species. This step will be monitored by CME as well as WeAct Pty Ltd.
- Animals will be actively herded and moved to new forage
- Animal herds will be moved across the landscape so as to avoid over-use of areas near settlements or water points.
- Resting serves the purpose of allowing grass seed reserves to recover. A seed rest is important especially where low forage production is expected.
- Resting especially over the wet season is important to allow germination and establishment of decrease species. Resting from October (the beginning of the wet season) until September (end of dry season) is recommended.
- Herders follow agreed-upon plans for livestock movement from grazing committees. Grazing “assistants” employed by the project proponent will monitor and advise herders in the field.

The controlled burning can improve grass quality, palatability and availability, because the fire removes dead plant material, causes weed suppression and improves access to new growth, The rotational grazing of animals will allow plants time to re-grow and to produce seed. Animals in herds are generally less selective for forage than those moving in looser smaller groups. Larger herds also can produce desirable hoof impacts on soils, i.e. breaking up crusts that promote sheet erosion of soil and decrease rainfall

infiltration. Previous research has shown that perennial grasses can increase under a shift from continuous to rotational grazing.

The validation team reviewed the claims made by PP in the PD with appropriate information and evidence provided by PP and also with online platform and found they are accurate.²

The total baseline, project and leakage emissions estimated during the project lifetime are mentioned in the table below:

Total baseline emissions tCO ₂ e	Total project emissions tCO ₂ e	Total leakage emissions tCO ₂ e
656,862	3,772,770	0

Net emission reductions and removals (NERs)

The NER is calculated as per the applied methodology. The audit team confirmed that NER have been estimated in accordance with steps and equations mentioned in the latest version of the applied methodology. The calculation were carefully analysed for accuracy according to the methodology.

The Risk Factor parameter of the Project was estimated through the document VCS AFOLU Non-Permanence Risk Tool, resulting in 18%.

VCUs - The estimated GHG credits eligible for issuance as VCUs has been calculated in line the latest version of the applied methodology. The project has used proper parameters and resulted in an accurate estimate of ex-ante total emissions reductions.

The excel sheet submitted by the PP was evaluated and found to be appropriate and in line with the applied methodology.

	Ex ante net anthropogenic GHG emission reductions tCO ₂ e	Ex ante VCUs tradable tCO ₂ e	Ex ante buffer credits tCO ₂ e
Total	4,429,632	3,596,704	832,927
Average	221,482	179,835	41,646

Overall, the PP has followed the exact steps mentioned in the latest version of the applied methodology and modules. The steps have been applied correctly to calculate baseline emissions, project emissions, leakage and net GHG emission reductions and removals for the baseline period. The quantification of related emissions are described in detail in the validated PD.

The audit team can confirm that the PD and the ER excel sheets contains a very high level of detail regarding the calculation of GHG emission reductions, such that the following are true:

- All relevant assumptions and data are listed in the project description, including their references and sources. Validation Report: VCS Version 4.2
- All data and parameter values used in the project description are considered reasonable in the context of the project.
- All estimates of the baseline emissions can be replicated using the data and parameter values provided in the project description.

CARs 22 and 24 were raised and resolved successfully. Refer Appendix 2 for the same

3.3.7 Methodology Deviations

There is no deviation from the methodology found in the PD.

3.3.8 Monitoring Plan

All parameters supplied in the monitoring plan were examined by the audit team in relation to the methodology's standards and requirements, and everything was deemed to be in order. It is fully described in VCS PD, where the proponent describes data and parameters at validation, data and parameters monitored and the specific monitoring period. It is supported by three documents provided by the proponent: procedures for calculating carbon stocks and variations, The project management and monitoring staff (local communities) are responsible for the monitoring of project. The quality assurance and quality control (QA/QC) systems are already in place and was checked by the audit team. Section 5.3 of the PD details the monitoring duties and skills of each technical staff member. The monitoring strategy integrates the most recent scientific findings and new technology as they become available in order to maximise the effectiveness and efficiency of the monitoring practises. Section 5.3 of the validated PD, which is also consistent with the most recent version of the applicable methodology (VM0026/Version 1.1), includes information about the monitoring plan's specifics and the frequency of project activities.

Sampling procedures were designed such that the statistical significance of soil carbon stock changes between the baseline carbon stock and the carbon stock in time t can be determined with a 95 percent confidence interval. The minimum necessary sample size for each stratum was evaluated using the 'CDM Tool for the Calculation of the number of sample plots for measurements within A/R CDM project activities' as prescribed by VM0026.

The Project therefore aims to achieve a target precision level for its monitoring at a 95% confidence interval, +/- 15%. In the case where monitoring does not achieve the target precision requirements, then PP will conduct additional monitoring until the targets are met.

Below is a list of the parameters that need to be watched, along with a description of the actions taken to confirm that the monitoring techniques were done correctly.

Data and parameters available at validation (section 5.1 of VCS PD)

Parameter	Unit	Description	Value	Source
GWP _{N2O}	t CO ₂ e/t N ₂ O	Global-warming potential for N ₂ O	265	IPCC AR5, default value
EF _{Nfert}	kg N ₂ O-N/kg N applied	N ₂ O emission factor for synthetic N fertilizer use	0.01	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
M _{SNi,b}	t fertilizer	Mass of synthetic N fertilizer type i applied in baseline year b	Many values, available in ER sheet "PDB_Fertilizers". ²⁶	Documented management records and sample surveys
NC _{SNi,b}	g N/g fertilizer	Nitrogen content of synthetic N fertilizer type i applied in baseline year b	LAN : 0.28 Urea : 0.468	Manufacturer product label
Frac _{GAS,F}	kg N volatilized/kg N applied	Fraction of synthetic N fertilizer that volatilizes as NH ₃ and NO _x	0.11	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories
A _{B,b}	Ha	Area burned in baseline year b	Please refer ER sheet ("Burning_baseline") E8 to E29, F8 to F29, G8 to G29, H8 to H29, I8 to I29	Documented management record
M _{B,b}	t biomass dm/ha	Aboveground biomass in terms of dry matter burned in baseline year b	Refer ER sheet ("Burning_baseline") J8 to J29, K8 to K29, L8 to L29, M8 to M29, N8 to N29	Documented management records
C _f	t dry matter burnt/t biomass	Combustion factor	0.35	IPCC 2006 volume 4: chapter 2, Agriculture, Forestry and Other Land Use, Table 2.6
EF _{CH4}	g CH ₄ /kg dry matter burnt	CH ₄ emission factor for biomass burning	2.3	IPCC Guidelines for National Greenhouse Gas Inventories (Table 2.6, Chapter 2, Volume 4)
GWP _{CH4}	t CO ₂ e/t CH ₄	Global-warming potential for CH ₄	28	VCS Standard v4.4
P _{l,b}	Head	Population of grazing livestock type l, in baseline year b	Refer ER Sheet "BE_PE_CH4 Emission_Livestock" F3 to F68 e	Documented management records

²⁶ At the time of initial validation PP has used 3rd party data, which was reasonable. however, since the project level data is available it is conservative and hence the value is used by PP is satisfactory

Parameter	Unit	Description	Value	Source
EF _i	kg CH ₄ /(head * year)	Enteric CH ₄ emission factor per head of livestock type I per year	Cattle : 46 Sheep :5 Other cattle :31	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories s (Table 10.10 & 10.11, Chapter 10, Volume 4)
Days _{l,b}	Days	Grazing days for livestock type I in baseline year b	365	Sample surveys/ PRA study
A _{B,j,s}	Ha	Area of trees and shrubs under baseline, for species j in stratum s	Please refer ER sheet ("BR_woody perennials") 2013 : G5 to G104 2014 :N5 to N104 2015 : U5 to U104 2016 :AB5 to AB104 2017 : AI5 to AI104 Database	Documented management records
CF _j	t C/t dm	Carbon fraction for species j	0.5	Default values in the CDM A/R Methodological Tool for Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities
G _{AB,B,j,s}	t dm/ha	Average annual increase in existing aboveground woody biomass of species j in stratum s, under baseline	Refer ER sheet ("BR_woody perennials") 2014 : N9 to N108 2015 : U9 to U108 2016 :AB9 to AB108 2017: AI9 to AI108	Measured
SOC _{s,baseline}	tonnes / ha	Baseline soil organic carbon stock in the top 30 cm soil layer in stratum s	8.5 (for conservative approach highest values has been considered, Please refer ER sheet "Soil analysis data_baseline" for more detail)	PP has collected SOC stocks for determining sample size were gathered on project strata as part of a preliminary study in 2017-18. 22 samples were considered in total (5 – 6 samples per region, 1 from each stratum) to 30 cm depth, and SOC stocks were calculated following equation 45 of VM0026. The study has also been submitted to the PP for validation. The sampling methodology is in line with section 8.2.8 of the applied methodology. For

Parameter	Unit	Description	Value	Source
		Validation Report: VCS Version 4.2		determining sampling procedures, PP has followed the General Guidelines for Sampling and Surveys for Small-Scale CDM Project Activities. The approach adopted for the assessments has taken cognizance of the “Procedures for the Assessment and Minimum Criteria for Reporting on Identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation”. ²⁷
EF _{N2O}	g N ₂ O/kg dry matter burnt	N ₂ O emission factor for biomass burning	0.21	IPCC Guidelines for National Greenhouse Gas Inventories (Table 2.5, Chapter 2, Volume 4)

²⁷ Desktop assessment: As part of the desktop assessment, baseline soil information was obtained using published South African Land Type Data. Land type data for the site was obtained from the Institute for Soil Climate and Water (ISCW) of the Agricultural Research Council (ARC) (Land Type Survey Staff, 1972 - 2006). The land type data is presented at a scale of 1:250 000 and comprises of the division of land into land types. In addition, a Digital Elevation Model (DEM) as well as the slope percentage of the area was calculated by means of the NASA Shuttle Radar Topography Mission Global 1 arc second digital elevation data by means of QGIS and SAGA software. Field sample points were plotted based on the respective land types and morphological terrain characters on each site. Soil sample size for the identified project field assessment points was determined using a prior sample size calculator. The approach determines the minimum required sample size, the desired probability level and the number of predictors within the required statistical power level.

Field assessment: An assessment of the soils present within the project area was conducted during field surveys. The site was traversed on foot. A soil auger was used to determine the soil form and depth. The soil was hand augured to the first restricting layer and samples to determine SOC collected at a 30 cm depth. Soil survey positions were recorded as waypoints using a handheld GPS. Soils were identified to the soil family level as per the “Soil Classification: A Taxonomic System for South Africa” (Soil Classification Working Group, 2018) as well as the World Reference Base (WRB). The Landscape features such as existing open trenches were also helpful in determining soil types and depth. Soil samples were collected in the respectively diagnostic horizons to the depth of the bedrock where possible. In each diagnostic horizon, soil samples were composited with a minimum of 8 cores. Three representative replicates were analysed for total soil organic carbon and the soil particle textural classes (Bouyoucos hydrometer method³) following approved standard international soil analysis methods. Three replicates of undisturbed core samples were also collected from each identified representative diagnostic horizon in the profiles for the determination of the soil bulk density. The undisturbed cores have a diameter of 11 cm and height of 7.7 cm.

The SOC was measured using the chromic acid wet-oxidation method (Walkley and Black, 1934).

Parameter	Unit	Description	Value	Source
f	Year	SOC monitoring frequency	5 years	Project records
$W_{l,b}$	kg	Average weight of livestock l, in baseline year b	Cattle: 300 Sheep: 45 Other cattle: 275	Average weights have been considered from default data of South Africa from IPCC 2006 (Table 10 A2)
$H_{l,b}$	Hours	Average grazing hours for livestock type l per day during the grazing season in baseline year b	8 hours	PRA report (refer to page 3, 37, and 38). The data considered is based on a conservative approach.
$EF_{3, PRP, CPP}$	kg N ₂ O-N/kg N input	N ₂ O emission factor for cattle (dairy, non-dairy and buffalo), poultry and pigs manure and urine deposited on of applied to grassland	0.002	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. (Chapter 10, Table 10.21)
$EF_{3, PRP, SO}$	kg N ₂ O-N/kg N input	N ₂ O emission factor for sheep and other animals' manure and urine deposited on of applied to grassland	0.003	The default value recommended by the 2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 11.1, Chapter 11, Volume 4) have been followed.
N_{exl}	kg N deposited/(t livestock mass * day)	kg N deposited/(t livestock mass * day)	Cattle: 0.44 Sheep: 0.32 Other cattle : 0.45	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 10.19, Chapter 10, Volume 4)
$Frac_{GAS, MD}$	kg N volatilized/kg of N deposited	kg N volatilized/kg of N deposited	0.212	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories. (Table 8A.1, Chapter 11, Volume 4)
$EF_{l, M}$	kg CH ₄ / (head * year)	kg CH ₄ / (head * year)	0.6	2019 IPCC Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 10.14, Chapter 10, Volume 4)

Data and parameters monitored (section 5.2 of VCS PD)

Parameter	Unit	Description	Frequency and monitoring equipment	Source
$M_{S_{N_i,t}}$	t fertilizer	Mass of synthetic N fertilizer type i applied in year t	Each application of fertilizer during year t. The mass must be recorded just after the application of synthetic N fertilizer for each fertilizer type applied for each year. No monitoring equipment for this parameter.	Project records
$NC_{S_{N_i,p}}$	g N/g fertilizer	Nitrogen content of synthetic N fertilizer type i applied under project.	The nitrogen content must be recorded for each synthetic N fertilizer type i that has been applied in the baseline scenario or project. The value must be obtained from the product description stated by the manufacturer on the product label. Each application during project crediting period in year t. No monitoring equipment for this parameter.	Manufacturer product label or other manufacturer data.
$A_{B,t}$	Ha	Area burnt in year t during the project crediting period	Measure and record the area burnt after the fire occurrence. Each burning activity in year t during project crediting period. No monitoring equipment for this parameter.	Project records
$M_{B,t}$	t biomass/ha	Aboveground biomass burnt, excluding litter and dead wood under project in year t.	Measure the aboveground biomass of grassland before and after the fire management for at least three plots (1m*1m). The difference of the aboveground biomass is the aboveground biomass burnt. Each burning activity in year t during the project crediting period. No monitoring equipment for this parameter.	Project records.
$P_{l,t}$	Head	Population of livestock type l under project in year t	Record numbers of grazing livestock by type. The sample size of household number must ensure that a precision of 15 percent at the 95 percent	Project records

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			confidence level is attained. The value must be based on the grazing numbers, annual or seasonal average population of grazing livestock by type. Monitored annually. No monitoring equipment for this parameter.	
Days _{l,t}	Days	Grazing days of livestock in year t under project.	Record the grazing days in year t. All livestock are conservatively assumed to graze for 365 days per year under the project scenario. There is no monitoring.	Project records
G _{AB,j,s,t}	t dm/ha	Average increase in existing aboveground woody biomass of species j, in stratum s, under project for year t.	At the end of every monitoring period. A 100m X 2m belt transect was used for the woody transects (Van Rooyen et al., 2013; Smit, 2014). Plot size differed depending on woody density. Very densely populated plots had smaller plot sizes, which made sampling more manageable and more efficient. All woody plants rooted, within the transect, were identified and their diameter at breast height (DBH), area of each species were measured and recorded. Tree and stem densities were determined from the number of trees and stems in subplots and extrapolated to hectares. As per CDM tool I for Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities.	Project records
AP _{j,s,t}	Ha	Area of trees and shrubs of species j in stratum s under project in year t	Monitored annually. There is no monitoring equipment.	Project records

Parameter	Unit	Description	Frequency and monitoring equipment	Source
PAm G ,s ,t	Ha	Project areas of grassland with management practice Mg in stratum s in year t	Record the area of grassland with management practice Mg in stratum s. Record the area and management practice just after the management practice has taken place and report annually.	Project records
SOC _{mG,s,i,t}	g C/kg soil	SOC stock in the top 30 cm of soil (or greater depth if required) for management practice mG, stratum s (or greater depth if desired), sampling site i	Option 2 is applied to estimate project removals due to changes in SOC, following the procedures for the sampling and measurement of soil properties, including bulk density and organic carbon concentrations, that are outlined in Option 2 in Section 8.2.8 to determine the value of SOC s , The General Guidelines for Sampling and Surveys for SmallScale CDM Project Activities has been followed to determine the sampling procedures and the sample size. The sample Soil Organic Carbon (SOC) was measured using the chromic acid wet-oxidation method (Walkley and Black, 1934). A 30 cm soil depth approach of the identified diagnostic horizons was used on the estimation of SOC stock (SOCs, Mg C/ha) by adding up the SOC content of the soil layers following the respective equation by Qiu et al., (2015). At least once every five years. <i>Laboratory analysis</i> The sample Soil Organic Carbon (SOC) was measured using the	Project records (Sampling and testing has been done for 4 strata only)

Parameter	Unit	Description	Frequency and monitoring equipment	Source
			chromic acid wet-oxidation method (Walkley and Black, 1934). A 30 cm soil depth approach of the identified diagnostic horizons was used on the estimation of SOC stock (SOCs, Mg C/ha) by adding up the SOC content of the soil layers following the respective equation by Qiu et al., (2015).	
BD _{mG,s,i,t}	g soil/cm ³	Soil bulk density in the top 30 cm of soil (or greater depth if required) for management practice mG, stratum s (or greater depth if desired), sampling site i	Laboratory analysis Three replicates of undisturbed core samples were also collected from each identified representative diagnostic horizon in the profiles for the determination of the soil bulk density. At least once every five years.	Project record
FC _{mG,s,i,t}	%	Percentage of rocks with a diameter larger than 2mm, roots, and other dead residues in the top 30 cm of soil (or greater depth if desired), for management practice mG, stratum s, sampling site i	Laboratory analysis. At least once every five years.	Project record
Depth	cm	Total soil depth, for calculating grassland SOC stock in the top 30 cm of soil (or greater depth if required)	The value for soil depth must be consistent with the measurements taken. Soil properties must be measured to the full depth of affected soil layers. Where the full depth of affected soil layers is not known, a minimum depth of 30 cm must be applied. Recorded with each measurement taken	Project records
W _{i,p}	Kg	Average weight of livestock under project	Average weights based on IPCC 2006 (Table 10 A2)	Project records

Parameter	Unit	Description	Frequency and monitoring equipment	Source
H _{i,t}	Hours	Average grazing hours for livestock type i per day during the grazing season in year t	Ground team of the project proponent will visit all the project participant every year to investigate the project situation. This will be done on an annual basis	PRA report (refer to page 3, 37, and 38). The data considered is based on a conservative approach.

The VVB has validate section 5.1 and 5.2 of the PD and found that the monitoring plan comprises all parameters required by the methodology, including those defined at validation and those that need to be observed and verified at the time of ex-post monitoring.

The project proponent along with EWT and conservation Outcomes, hired local communities (monitoring staff and auditing staff) for daily supervision and data management during the project implementation while office manager oversees the whole working group. PP will be responsible for carrying out the monitoring, reporting and supporting validation and verification if the project.

The evaluation team has examined each parameter listed in the monitoring plan and contrasted it with the methodology's requirements. In that way, the PD contains all necessary parameters, with adequate descriptions as to source of data, measurements procedures, monitoring frequency, monitoring equipment and QA/QC procedures to be applied. The selected monitoring frequency of the parameters is consistent with the requirements of methodological requirements.

CARs 25 and 26 were raised and resolved successfully. Refer Appendix 2 for the same

3.4 Non-Permanence Risk Analysis

The proponent used the "AFOLU Non-permanence risk tool v4.0" in line with VCS specifications to analyze the risk in terms of internal risk, external risk, natural risk, and risk mitigation strategies. The Non-permanence risk report and the Excel risk tool are provided by the project proponent.

The VCS recommendations were used to calculate each risk category. Through document analysis, actual visits to the project area, and interviews, the material was verified and cross-checked. The evaluation's specifics are listed below.

Risk Rating	PP Justification	Quality of the data and assessment of quality	Audit Conclusion
Internal Risk and rating: 17			
Project Management (Rating: -2)	The audit team assessed the reasons for the risk rating and the steps taken to reduce the risk of the activities which has impact in the project area.	The project management team is robust and have extensive experience in implementing the carbon projects including the AFOLU	PP has provided enough information for this parameter. Mitigation plan detailed in the section is found satisfactory and hence audit team

Risk Rating	PP Justification	Quality of the data and assessment of quality	Audit Conclusion
		Sector. ²⁸ The documents and explanations are provided by the PP in the respective sections of the report and the team found the information is of good quality.	finds risk rating is appropriate.
Financial Viability (risk rating 6)	The audit team assessed the rationale for the risk rating on the project cash flow breakeven point.	The documentation provided is a financial analysis that allowed for assessment by the audit team and is therefore of good quality.	PP has provided enough information for this parameter. Information provided in the section is found satisfactory and hence audit team finds risk rating is appropriate.
Opportunity cost (risk rating -2)	The audit team evaluated the justification for rating the risk and the mitigation plan detailed in the section.	PP is a non-profit organization. ²⁹ The information presented in this section meets the requirements of Risk parameter and has calculated the risk score properly. The agreements between the landowners and PP have been thoroughly verified, confirming that the project is bound by legally enforceable commitments to sustain management practices that safeguard the credited carbon stocks beyond the duration of the project first crediting period. The agreements were reviewed and found to be satisfactory and robust enough to ensure the project's enforcement	Risk rate is appropriate.

²⁸ <https://weact.com.au/projects/>

²⁹ <https://weact.com.au>

Risk Rating	PP Justification	Quality of the data and assessment of quality	Audit Conclusion
		throughout the duration of 30 years.	
Project longevity (risk rating 18)	The audit team evaluated the justification for rating the risk and the mitigation on legal agreement or requirement to continue the management practice.	PP confirmed that the Project is protected by legally binding commitment of 30 years. Which fulfils the requirement of section 2.2.3 (3) of the AFOLU NPRA Tool v4 Hence the PP has scored 15 for this parameter. The agreements were reviewed and found to be satisfactory and robust enough to ensure the project's enforcement throughout the duration of 30 years.	Risk rate is appropriate.
External risk rating: 0			
Land Tenure and Resource Access/Impacts Risk rating 0	The audit team evaluated the justification for rating the risk and the mitigation.	The agreements between the landowners and PP (to continue the management practice for 30 years) have been thoroughly verified, confirming that the project is bound by legally enforceable commitments giving PP the ownership and resource access rights ³⁰ of the project areas. The documentation provided were duly reviewed by the PP which confirms the selected risk score.	Risk rate is appropriate.
Community engagement. Risk rating: -5	The audit team evaluated the justification for the risk rating on the consult to the stakeholders	From the documents review and site visit assessment, it was confirmed that 100% of the households living within the project	Risk rate is appropriate.

³⁰ In line with the requirements of the VCS Standard v4.4 Section 3.7.1 (4)

Risk Rating	PP Justification	Quality of the data and assessment of quality	Audit Conclusion
	associated with the project area.	area who are reliant on the project area have been consulted. Documents provided by the PP on the consultations were checked and found of good quality.	
Political Risk: Risk rating: -0	The audit team evaluated the justification for rating the governance risk and the mitigation on planned activities.	The governance score for this project is 0.1. the audit team checked the documentation and explanation provided on the mitigation plan and found of good quality. The audit team also replicated the estimation through the online available WGI data and found the risk score appropriate.	Risk rate is appropriate.
Natural Risk rating: 1			
Fire (Risk rating 0)	The audit team evaluated the justification for rating the all the natural risk and the actions of mitigation.	Apart from the analysis provided by the PP, the VVB assesses the risk score through independent sources ³¹ which confirm the appropriateness of the risk scores given for each of the Natural Risk Parameters. Explanation given by in this section found satisfactory.	Risk rate is appropriate.
Pest and Disease outbreaks (Risk rating 0)			
Extreme Weather (Risk rating 1)			
Geological Risk (Score 0)			

³¹ http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-23532016000600019
<https://earthmap.org/?aoi=za&boundary=level0&layers=%7B%22burnedArea%22%3A%7B%22opacity%22%3A1%7D%7D&map=%7B%22center%22%3A%7B%22lat%22%3A-25.455947143826222%2C%22lng%22%3A23.657584058527608%7D%2C%22zoom%22%3A5%2C%22mapType%22%3A%22terrain%22%7D&statisticsOpen=true>
<https://www.globalforestwatch.org/dashboards/country> Data of Region Eastern Cape, Free State, KZN and Mpumalanga
https://www.cifor.org/publications/pdf_files/Books/Nair.pdf
<https://www.preventionweb.net/news/helping-africas-farmers-control-climate-induced-pests>
<https://www.frontiersin.org/articles/10.3389/fevo.2019.00263/full>
<https://climateknowledgeportal.worldbank.org/country/south-africa/extremes>
<https://www.ier.co.za/what-you-need-to-know-about-earthquakes-in-south-africa/>
Kijko, Andrzej & Smit, Ansie & Papadopoulos, Gerassimos & Novikova, Tatyana. (2018). Tsunami Hazard Assessment of Coastal South Africa Based on Mega-Earthquakes of Remote Subduction Zones. Pure and Applied Geophysics. 175. 10.1007/s00024-017-1727-3.
<https://thinkhazard.org/en/report/227-south-africa/TS>

Risk Rating	PP Justification	Quality of the data and assessment of quality	Audit Conclusion
Overall Risk rating from the report is 18			

Validation Report: VCS Version 4.2

The calculation has been verified using the VCS tool, which was used to calculate the non-permanence risk. The calculated overall risk rating was 18%. For the current project activity all the parameters in different risk category are same though project areas are in different regions of South Africa. Therefore, the calculated risk rating will be same for the entire project area. As a result, the value taken into account is according to the suitable tool, and a conservative value has been taken into account for the project. However, FAR 01 has been raised for next verification. By multiplying the risk factor by the calculated net emission reductions in accordance with the excel calculation sheets, the total tradable VCUs are determined. The risk rating should only be utilized to reserve buffer credits and determine VCUs in accordance with the VCS permanence criteria. The risk will be reassessed at the time of the next verification as per VCS standard as the risk rating may change.

CAR 5 was raised and resolved successfully. Refer Appendix 2 for the same.

4 VALIDATION OPINION

The project satisfies the VCS project validation and verification standards. The project was designed in line with the project description that had been validated, and any discrepancies were explained.

The audit team concludes that the estimated quantification of the net GHG removals during the validation period is free of major misrepresentation and conforms with the validation requirements. This is done with a fair degree of assurance.

The data and information supporting the GHG statement assertion were historical in nature. The project's baseline, monitoring plan, and the project's compliance with relevant VCS requirements and host Country criteria are validated to confirm that the project design is sound and reasonable and meets the identified criteria and guidelines.

As summary the validation team able to conclude that:

- The project is in line with all relevant host country criteria (RSA) and all relevant current VCS version program guidelines requirements.
- The project additionality is sufficiently justified in the VCS PD v7.
- The monitoring plan is transparent and adequate and in line with applied baseline and monitoring methodology of VM0026, version 1.1 and all the related modules and tools.
- The calculation formulae and use of parameters for the project emission reductions estimation are transparent and in line with the requirement of the applied methodology.

The ex-ante projection of emission reductions given is found to be appropriate, conservative and in line with the requirement.

- The conclusions of this report show, that the project, as it was described in the project documentation, is in line with all criteria applicable for the validation as outlined under current VCS Standard.

4KES concluded that the PDD v7 and its calculations for expected emissions reduction met all requirements for validation against the VCS standard. The Project activity is found to be eligible under Sectoral Scope 14. As a result, 4KES can conclude that the project satisfies all pertinent requirements of the criteria and recommend that the project activity be registered.

Year	Estimated GHG emission reductions or removals (tCO ₂ e)
2018	111,651
2019	221,482
2020	221,482
2021	221,482
2022	221,482
2023	221,482
2024	221,482
2025	221,482
2026	221,482
2027	221,482
2028	221,482
2029	221,482
2030	221,482
2031	221,482
2032	221,482
2033	221,482
2034	221,482
2035	221,482
2036	221,482

2037	221,482
2038 ³²	109,831
Total estimated ERs	4,429,632 (3,596,704 considering 18% of buffer credit)
Total number of crediting years	20
Average annual ERs	221,482 (179,835 considering 18% of buffer credit)

APPENDIX 1: LIST OF DOCUMENTS REFERRED

Ref. No	Title of Document	Version	Date
1	VCS Program Guide	4.3	
2	VCS Standard	4.4	
3	VCS Validation and Verification Manual	3.2	
4	VCS Validation report template	4.2	
5	AFOLU Non-Permanence Risk Tool	4	
6	VCS Project Description Template	4.2	
7	Project Description (PD)	7	
8	Emission Reductions Calculation Spread sheet	6	
9	Soil sample analysis sheet		
9	VERRA webpage with global consultation (https://registry.verra.org/app/projectDetail/VCS/2710)		
10	SouthAfrica_Grassland_KMLs_310523_VCS2710		
11	Maps showing location of communities and villages		

³² 01 January 2018 to 30 June 2038

12	CDM A/R methodological tool Calculation of the number of sample plots for measurements within A/R CDM project activities	2.1.0	
13	SOP Validation Report: VCS Version 4.2		
14	Website - UN Sustainable Development Goals (www.undp.org)		
15	Non Permanence Risk Analysis Report.doc	4	
16	Grievance Policy		
17	Survey Reports		
18	LULC Report		
19	Vegetation Survey Report		
20	SouthAfrica_Grassland_Shapefile_310523_VCS2710		
21	VCS-Risk-Report-Calculation.xlsx		
22	Declaration Fencing completion		
23	PRA reports		
24	Land ownership legal documents		
25	MoU between the PP and Land owners		Updated version submitted on 2/12/2023
26	WeAct Pty Ltd. Website - https://www.weact.com.au/		
27	VCS methodology VM0026 "Sustainable Grassland Management"	1.1	
28	Undertaking for double counting		
29	Stakeholder Consultations minutes of meetings, attendance sheets and photographs		
30	South African Government land use law https://www.gov.za/issues/land-reform https://uk.practicallaw.thomsonreuters.com/6-622-8796?transitionType=Default&contextData=(sc.Default)&firstPage=true https://www.gov.za/documents/labour-relations-act https://www.gov.za/1913-natives-land-act-centenary		

	https://www.gov.za/sites/default/files/gcis_document/201409/a63-010.pdf		
31	Google earth - https://www.google.com/earth		
32	CVs of management team and technical experts		
33	HR policy		
34	Barrier Analysis Risk Report GSC Pty. Ltd		
34	Employment Contract		
35	Training records and photographs		
36	Vegetation survey report		
37	Baseline assessment https://www.weathersa.co.za/Documents/Corporate/Annual%20State%20of%20the%20Climate%202021_04042022114230.pdf Black, W. J. (2023) Historical Woody Change of Strata 18. Pretoria https://www.gov.za/about-sa/geography-and-climate http://fred.csir.co.za/project/tmg/agrohydrology_atlas/atlas_172t.html http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0038-23532022000400017 The physical environment and major vegetation types of Sekhukhuneland, South Africa, SJ Siebert 1,2 *, AE van Wyk1 and GJ Bredenkamp 1, November 2001. South African Journal of Botany, ISSN 0254-6299 https://cer.org.za/wp-content/uploads/2019/01/Phase2.pdf https://www.sciencedirect.com/science/article/pii/S2468227622003970 https://www.gcis.gov.za/content/resourcecentre/sa-info/yearbook2015-16 A short guide to the soils of South Africa, their distribution and correlation with World Reference Base soil groups by Martin V. Fey, School of Earth and Environment, The University of Western Australia, Crawley, WA 6009, Australia, Department of Soil Science, Stellenbosch University, Private Bag X1, Matieland, 7602, South Africa		

	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7428292/ https://agmip-ie.wenr.wur.nl/free-state-s.-africa https://www.sciencedirect.com/science/article/abs/pii/S0169204600000682 https://www.mdpi.com/2071-1050/14/23/16023 http://www.scielo.org.za/scielo.php?script=sci_arttext&pid=S0006-82412022000100006 World Weather Online		
38	CDM Tool for Estimation of Carbon Stocks and Change in Carbon Stocks of Trees and Shrubs in A/R CDM Project Activities	4.2	
39	Tool for the Demonstration and Assessment of Additionality in VCS AFOLU Project Activities, VT0001	3	
40	Global Forest Watch https://www.globalforestwatch.org/		
41	Project area confirmation letter - Landmark Agri Exports Private Limited		02/02/2024
42	Project area Confirmation letter – Terrasight		24/04/2024
43	Software used to validate the project area: 1) Google Earth Engine (EPSG:3857) 2) Google Earth Pro 3) QGIS (EPSG 4326)		

APPENDIX 2: LIST OF FINDINGS

Table 1. CL from this validation

Validation Report: VCS Version 4.2

CL ID	01	Section no.	3.1	Date: 28/12/2022
Description of CAR				
The methodology mentioned on the VERRA Landing page of the project is VM0032. While in the PD, the applied methodology is VM0026. It is requested that PP clarify the reason for the difference in methodology.				
Project participant response				Date: 8/02/2023
PP would like to clarify that the pipeline listing of the project was done “under development” category by using methodology VM0032 version 1.0. At that time of listing the baseline survey was under process being a detailed PRA. After completion of the baseline survey it was found that some of the project area is receiving organic/ inorganic fertilization. Therefore, PP has decided to change the methodology from VM0032 (version 1.0) to VM0026 (version 1.1), so that all possible/willing beneficiaries can be included in the project activity across the instances as VM0026 mentions this fertilization scenario as well. However, both the methodologies are applicable to this project (either of them can be used) considering the baseline scenario (i.e. continuous grazing & unplanned burning) of the project activity. Thus, there is no change in project design or baseline scenario while changing the methodology; whereas methodology was changed (i.e. VM0026) only to accommodate fertilization scenario into the project which better suits the project activity as confirmed by the baseline survey as well.				
Documentation provided by project participant				
NA				
DOE assessment				Date: 22/05/2023
The provide clarification is okay and the change does not impact the project design , level of assurance and materiality of the validation. Hence, the CL01 is now closed.				

CL ID	02	Section no.	1.8	Date: 28/12/2022
Description of CAR				
Start date of the project activity in the webhosted PD is 01/05/2017, while in the PD the start date is 01/07/2018. PP is requested to clarify the reason of the difference in the start date of the PD submitted to the VVB and the start date mentioned in the webhosted PD. Has there been any communication with VERRA regarding the change in the start date of the project?				
Project participant response				Date: 8/02/2023
The start date of the project has been revised in line with the valid document between the landowner and the fencing contractor which confirms the earliest date of start of GHG reductions by the project instance. This is now in line with the start date definition of AFOLU Project as per VCS Standard. The required supporting document was submitted to VVB and the section 1.8 of the VCS PD has been further updated suitably.				
Documentation provided by project participant				
NA				

DOE assessment	Date: 22/05/2023
The provided clarification is okay. The CAR is now closed.	

Validation Report: VCS Version 4.2

Table 2. CAR from this validation

CAR ID	01	Section no.	1.3	Date: 28/12/2022
Description of CAR				
1. Please apply the latest VCS Standard version. 2. Submit the shapefiles of historical LULC analysis for validation. 3. Submit the land ownership documents for validation				
Project participant response				Date: 8/02/2023
1. PD revised as per VCS standard Version 4.4. 2. Shapefile has been submitted. 3. <i>Copies of land deed (hard copy) will be submitted at the time of site visit</i>				
Documentation provided by project participant				
PD				
DOE assessment				Date: 22/05/2023
1. PP has now used the latest version. 2. No land use land cover change shapefiles of last 10 years have not been provided to validate the claim. PP must submit the LULC data of the time points (PP has considered) to check the land use of last 10 years from the start date of the project. 3. The copies of land deed (hard copy) were checked and found to be okay.				
Project participant response				Date: 3/06/2023
<i>Shape files along with Land use land cover change report has been submitted along with revised PD version 04.</i>				
Documentation provided by project participant				
<i>Shapefiles has been provided and were received and found to be in line with the analysis described in the PD.</i>				
DOE assessment				Date: 14/06/2023
The date is now okay, CAR 01 is closed				

CAR ID	02	Section no.	1.6	Date: 28/12/2022
Description of CAR				

In the section 1.6, other entities involved in the project information has not been provided. Please check and add the required details.	
Project participant response	Date: 8/02/2023
The details have now been filled in the updated PD.	
Documentation provided by project participant	
PD	
DOE assessment	Date: 22/05/2023
The updated PD is now fine. CAR 20 is now closed.	

CAR ID	03	Section no.	1.7	Date: 28/12/2022
Description of CAR				
1. Provide clear and legal evidence of land ownership for validation. 2. Provide MoU/agreement between the PP and land owners for validation. 3. The statement does not ensure that the beneficiary community has agreed not to assert any property rights during the complete project lifetime. Hence, PP must include that the beneficiary community has agreed not to assert any property rights during the complete project lifetime.				
Project participant response				Date: 8/02/2023
1. Copies of land deed (hard copy) will be submitted at the time of site visit. 2. One sample MoU / Agreement has been submitted, all other copies will be submitted at the time of site visit (hard copy) 3. The PD has been revised and the statement has been corrected in line with the requirements.				
Documentation provided by project participant				
Land ownership document, MoU between the land ownership and PP and updated PD				
DOE assessment				Date: 22/05/2023
The updated PD and supporting evidence submitted are fine. CAR 03 is now closed.				

CAR ID	04	Section no.	1.8	Date: 28/12/2022
Description of CAR				

Provide the start date evidences for validation.	
Project participant response	Date: 8/02/2023
PRA report has been submitted where start date of the project has been mentioned	
Documentation provided by project participant	
PRA report	
DOE assessment	Date: 22/05/2023
The response and supporting evidence provided by PP is not in line with the Section 3.8 of the VCS Standard v4.4. Per Section 3.8 of the VCS Standard v4.4 - The project start date of an AFOLU project is the date on which activities that led to the generation of GHG emission reductions or removals are implemented (e.g., preparing land for seeding, planting, changing agricultural or forestry practices, rewetting, restoring hydrological functions, or implementing management or protection plans). Projects must complete validation within specific timeframes from the project start date. PP must check and provide start date evidence in line with the VCS Rules.	
Project participant response	Date: 3/06/2023
<i>For soil carbon improvement through grazing & burning management, completion of fencing work can be the date that led to the generation of GHG emission reductions or removals are implemented. So, fencing completion confirmation declaration has been submitted as start date evidence..</i>	
Documentation provided by project participant	
NA	
DOE assessment	Date: 14/06/2023
The justification provided is acceptable, CAR 04 is closed	

CAR ID	05	Section no.	1.9	Date: 28/12/2022
Description of CAR				

1- In section 1.9, why the crediting period start date is different from the project start date by 4 days. also check the end of the crediting period. 2- Non-permanence risk assessment report for the project has not been provided by PP. Check section 3.2.10 of the VCS Standard v4.4, and then provide the necessary document with the correct evaluation of buffer credits.	
Project participant response	Date: 8/02/2023
1- The date has now been corrected in the revised PD. 2- Non-Permanence Risk Assessment Report has been submitted along with this PD version 04	
Documentation provided by project participant	
1. Revised PD 2. NPRR	
DOE assessment	Date: 22/05/2023
The revised PD is fine. The submitted NPRR has been validated. FAR 01 has been raised.	

CAR ID	06	Section no.	1.10	Date: 28/12/2022
Description of CAR				
1. In the above paragraph, PP has mentioned that the annual average GHG ERRs is 344,332 tCO ₂ e. however, in this table the annual average ERRs value is less than 3,00,000 tCO ₂ e. Please check and make the required corrections in the value as well as in the scale of the project. 2. In the ERR estimation sheet, PP has not included the buffer calculations. PP shall check section 3.2.10 of the VCS Standard and section 8.4 of the applied methodology. Please check the applied VCS rules and methodology and provide the required documents and estimation. Revise the section accordingly.				
Project participant response				Date: 8/02/2023
1. The total annual average ERR has now been revised and the project scale has also been corrected in the updated PD. 2. The buffer calculated per the NPRR has now been included in the revised PD and in the ERR sheet.				
Documentation provided by project participant				
PD and ERR sheet				
DOE assessment				Date: 22/05/2023
The updated PD and the ERR sheets are fine. CAR 06 is now closed.				

CAR ID	07	Section no.	1.11	Date: 28/12/2022
Description of CAR				
1. Per the requirement of section 1.11 of the VCS PD template v4.2, PP should include a description of how the various organizations, communities and other entities are involved. Here, only EWT role has been described. PP is requested to check the template requirement and add the required information. 2. Submit the PRA report for validation.				
Project participant response				Date: 8/02/2023
The PD has now been revised in line with the requirements of section 1.11 of the PD. The PRA report has now been submitted.				
Documentation provided by project participant				
<i>PD</i> <i>PRA report</i>				
DOE assessment				Date: 22/05/2023
The updated PD and the PRA report submitted are fine. CAR 07 is now closed.				

CAR ID	08	Section no.	1.11	Date: 28/12/2022
Description of CAR				
1. Per the requirement of section 1.11 of the VCS PD template v4.2, PP should include a description of how the various organizations, communities and other entities are involved. Here, only EWT role has been described. PP is requested to check the template requirement and add the required information. 2. Submit the PRA report for validation. 3. Please add a brief information that how PP will ensure and monitor that animals will not graze the same location more than once within a wet season or once within a dry season 4. Per the requirement of section 1.11 of the VCS PD template v4.2, PP should state if the project is located within a jurisdiction covered by a jurisdictional REDD+ program. The same is missing. Please check and add the required information.				
Project participant response				Date: 8/02/2023

1. The PD has now been revised in line with the requirements of section 1.11 of the PD. 2. The PRA report has now been submitted. 3. PD has been revised and the required information has now been added. 4. The PD has been updated and it has been mentioned that the project is not located within a jurisdiction covered by a jurisdictional REDD+ program	
Documentation provided by project participant	
<i>PD</i> <i>PRA report</i>	
DOE assessment	Date: 22/05/2023
The updated PD and the PRA report submitted are fine. CAR 08 is now closed.	

CAR ID	09	Section no.	1.12	Date: 28/12/2022
Description of CAR				
1. Mention respective geographical coordinates of all the project areas included in the first instance of the project. Also, submit the kml file to check the project locations 2. Mention the references/sources of the values for the parameters mentioned in this section.				
Project participant response				Date: 8/02/2023
1. Geographical coordinates of all project land has been included in the revised PD. KML file has been submitted 2. References/sources included in the revised PD 3. The project area does not include any wetlands or peatlands. PD revised.				
Documentation provided by project participant				
<i>PD</i> <i>PRA report</i>				
DOE assessment				Date: 22/05/2023
1. The documents submitted are fine 2. The information sourced from the website referred provides a very superficial with not much depth in the research. Please provide a more robust reference for the same. 3. The revised PD is fine.				
Project participant response				Date: 3/06/2023
South African weather service data has been included in the revised PD				

Documentation provided by project participant	
PD	
DOE assessment	Date: 14/06/2023
The updated PD is fine. CAR 09 is now closed.	

CAR ID	10	Section no.	1.13	Date: 28/12/2022
Description of CAR				
As per the applied methodology's section4- applicability condition "Project activities must not occur on wetlands or peatlands". However, the statement mentioned here by PP is contradictory. Please check and clarify that how the methodology applied is applicable for this project?				
Project participant response				Date: 8/02/2023
The project area does not include any wetlands or peatlands. PD revised.				
Documentation provided by project participant				
PD				
DOE assessment				Date: 22/05/2023
The revised PD submitted is fine. CAR 10 is now closed.				

CAR ID	11	Section no.	1.15 and 1.16	Date: 28/12/2022
Description of CAR				
1. For sections 1.15 and 1.16, provide an undertaking that ensures the project is not seeking registration or credits benefits from other registries and there will be no double counting of credits generated from this project. 2. The description provided is not in line with the requirements of section 1.16.1 of the VCS PD template V4.2. PP is requested to check the section's requirements and update it.				
Project participant response				Date: 8/02/2023
1. Undertaking has been submitted. 2. The description has now been revised.				
Documentation provided by project participant				

Undertaking for no double counting.

PD

DOE assessment

Date: 22/05/2023

The undertaking and the revised PD submitted are fine. CAR 11 is now closed.

CAR ID	12	Section no.	1.17	Date:	28/12/2022
Description of CAR					
1. The section description is not in line with the VCS PD template version 4.2. PP is requested to check requirements of section 1.17 of the VCS PD template v4.2 and add all the required details. 2. Per the requirement of section 1.17, PP a summary description of project activities that result in sustainable development (SD) contributions (i.e., technologies/measures implemented, activity location). The measure/action which will lead to achieve this SDG has not been explained clearly for SDG 1. Please check and add the required information in line with the requirements if section 2.17 of the applied PD template. 3. Provide reference (a published paper/report/book) to justify that by restoring grasslands, the topsoil's health improves which allows infiltration and recharges groundwater, preventing runoffs, an increase in evapotranspiration and reduce regional desertification.					
Project participant response					Date: 8/02/2023
1. The PD has been revised. 2. References has now been added in the revised PD					
Documentation provided by project participant					
<i>Revised PD</i>					
DOE assessment					Date: 22/05/2023
The revised PD submitted is fine. CAR 12 is now closed.					

CAR ID	13	Section no.	1.18	Date:	28/12/2022
Description of CAR					
Financial audit plans of the project are to be submitted for validation. The same cannot be made publicly available. Hence, please check and revise the statement.					
Project participant response					Date: 8/02/2023
The PD has been revised.					

Documentation provided by project participant	
<i>Revised PD</i>	
DOE assessment	Date: 22/05/2023
The revised PD submitted is fine. CAR 13 is now closed.	

CAR ID	14	Section no.	2.1	Date: 28/12/2022
Description of CAR				
PP is requested to elaborate it further and mention why the Project will not lead to any negative impact?				
Project participant response				Date: 8/02/2023
The PD has been revised.				
Documentation provided by project participant				
<i>Revised PD</i>				
DOE assessment				Date: 22/05/2023
The revised PD submitted is fine. CAR 14 is now closed.				

CAR ID	15	Section no.	2.2	Date: 28/12/2022
Description of CAR				
The description provided by the PP is not in line with the requirements of section 2.2 of the VCS PD template V4.2. PP is requested to revise the section's write up completely in line with the requirements of section 2.2 of the VCS PD template V4.2.				
Project participant response				Date: 8/02/2023
The PD has been revised.				
Documentation provided by project participant				
<i>Revised PD</i>				
DOE assessment				Date: 22/05/2023
The revised PD submitted is fine. CAR 15 is now closed.				

CAR ID	16	Section no.	2.5	Date: 28/12/2022
Description of CAR				
1. In section 2.5 ps per VCS PD template V4.2, PP has not provided the following information: - Risks to local stakeholders due to project implementation and how the project will mitigate such risks. - Risks to local stakeholder resources due to project implementation and how the project will mitigate such risks, including the plans to ensure the project will not impact local stakeholder's property rights without the free, prior and informed consent. - For AFOLU projects with no impacts on local stakeholders, provide evidence of such PP is requested to check the requirements of section 2.5 of the VCS PD template v4.2 and revise the section. 2. Submit the grievance redressal mechanism/policy of the project for validation.				
Project participant response				Date: 8/02/2023
1. The PD has been revised. 2. PD revised. A copy of grievance register has submitted.				
Documentation provided by project participant				
<i>Revised PD</i> <i>grievance register</i>				
DOE assessment				Date: 22/05/2023
The revised PD and the supporting document submitted are fine. CAR 16 is now closed.				

CAR ID	17	Section no.	3.1	Date: 28/12/2022
Description of CAR				
1. As per the VCS PD Template v4.2, section 3.1 requirements, PP has to mention the reference of the methodology applied. The same is missing. PP is requested to check the VCS PD Template V4.2 requirement and add the required information. 2. The version number of the applied tools are missing. Please add the version number of the applied tool.				
Project participant response				Date: 8/02/2023
1. Reference has been included as footnote in the revised PD 2. Version no. of the tools included in the revised PD				
Documentation provided by project participant				
<i>Revised PD</i>				

DOE assessment	Date: 22/05/2023
The revised PD and the supporting document submitted are fine. CAR 17 is now closed.	

Validation Report: VCS Version 4.2

CAR ID	18	Section no.	3.2	Date: 28/12/2022
Description of CAR				
1. PP must submit the historical analysis remote sensing data (shapefiles) for validation. 2. PP must provide project area specific precipitation details or provide the rationale for application of country level data to the project level. 3. The justification provided for the applicability condition "Project activities must not lead to an increase in the use of fossil fuels and fuel wood from non-renewable" by the PP is not in line with the applicability condition. Please check the applicability condition and provide an appropriate justification. 4. As per the requirement of section 3.2 of the VCS PD template v4.2, PP has to demonstrate and justify how the project activity(s) meets each of the applicability conditions of the methodology(s), and tools (where applicable) applied by the project. Address each applicability condition separately. PP has listed and provided justification of the applicability conditions of the applied methodology. However, PP has not listed the applicability conditions of the applied tool and modules and how the project activities meet each of the applicability conditions. PP is requested to check the requirements of section 3.2 of the VCS PD template v4.2 and add the required details.				
Project participant response				Date: 8/02/2023
1. Shapefiles has been submitted. 2. PD revised. 3. PD revised. 4. PD revised.				
Documentation provided by project participant				
<i>Revised PD and shapefiles</i>				
DOE assessment				Date: 22/05/2023
The revised PD and the supporting document submitted are fine. CAR 18 is now closed.				

CAR ID	19	Section no.	3.3	Date: 28/12/2022
Description of CAR				

1- The shapefiles submitted has the following issues:	
1. The project area encompasses 93 505 ha. However, as per the project area shapefile provided the total area is 95696.4 ha. Please check and provide the correct shapefiles. 2. In some of the mapped grassland, some settlements areas can be seen, not sure if the correct shapefiles are shared.	
2 - The justification provided for Baseline Manure deposition on grassland related to CH₄ and N₂O emissions, doesn't seem to be in line with the baseline as specified by the PP in the above sections. Please check the justification and make the required changes in line with the applied methodology and baseline condition of the project activity.	
Project participant response	Date: 8/02/2023
1- Correct shape file has been submitted along with PD version 04 2- Revised PD	
Documentation provided by project participant	
<i>Revised PD and shapefiles</i>	
DOE assessment	Date: 22/05/2023
The revised PD and the supporting document submitted are fine. CAR 19 is now closed.	

CAR ID	20	Section no.	3.4	Date: 28/12/2022
Description of CAR				
1. Section 3.5.1 of the VCS Std. v4.4 clearly mentions that "The project proponent shall use the VCS Project Description Template, an approved combined project description template available on the Verra website or an approved GHG program project description template where the project is registered under an approved GHG program, as appropriate. The project proponent shall adhere to all instructional text within the template". PP is requested to check and apply the step wise approach given in the additionality tool. 2. As mentioned in step 1c, Submit the simple cost analysis done for the project for validation. 3. As per the applied additionality tool Step 1c, PP to determine baseline scenario has either to conduct investment analysis or Barrier analysis. PP shall clarify why it has conducted both investment and barrier analysis.				
Project participant response				Date: 8/02/2023
1- PD has been revised and steps has been mentioned as per the applied methodology. 2- A barrier analysis was conducted. So, the project not applied step 2: Investment analysis. PD revised to version 04 accordingly 3- Only barrier analysis has been considered. PD revised.				
Documentation provided by project participant				
<i>Revised PD and shapefiles</i>				
DOE assessment				Date: 22/05/2023

The revised PD submitted is fine. CAR 20 is now closed.

Validation Report: VCS Version 4.2

CAR ID	21	Section no.	3.5	Date:	28/12/2022
Description of CAR					
1- Please clarify that why PP has not included Scenario 3 of Sub-step 1a per the applied tool. 2- As per the applied additionality tool Step 1c, PP to determine baseline scenario has either to conduct investment analysis or Barrier analysis. PP shall clarify why it has conducted both investment and barrier analysis. 3- The section 3.5 written are very confusing and not as per the steps mentioned in the additionality tool. Section 3.5 should be written in detail, mentioning each and every steps and sub-steps as given in the applied tool of additionality. Section 3.5 of the PD does not allow the reader to understand the exact steps and assessment carried out for additionality.					
Project participant response					Date: 8/02/2023
1- PD has been revised. 2- Only barrier analysis has been considered for the project. PD revised to version 04 accordingly. 3- PD has been revised.					
Documentation provided by project participant					
<i>Revised PD</i>					
DOE assessment					Date: 22/05/2023
The revised PD submitted is fine. CAR 21 is now closed.					

CAR ID	22	Section no.	4.1	Date:	28/12/2022
Description of CAR					

1- The applied methodology has specific steps for the baseline emissions estimation. Section 4.1 of the PD though follow the guidance of the methodology and follow each step. However, the step numbers are different. PP is requested to use the exact step number as per the applied methodology, to make the PD more user friendly for a reader. This will also allow the reader to reproduce the calculation. 2- PP is requested to mention the equation number for each equation used and mentioned in the PD. The equation number should be the same as mentioned in the applied methodology. PP shall not use project specific equation number. 3- In the ERR sheet "Emission Removal sub-sheet" PP has mentioned 1686.32 tCO ₂ e each year i.e., from 2018 to 2022 PP has mentioned same value each year. It is confusing what is the total value and which value shall be considered in the total amount. Please clarify. Please check the baseline estimation which has been done in "Emission Removal" sheet. It is not clear to the VVB why only 5 years estimation has been provided.	
Project participant response	Date: 8/02/2023
1- The definition of baseline period as per VM0026 v1.1 is "Baseline period : A historical reference period over which the project's baseline emissions are calculated, which is representative of the most plausible baseline scenario and consists of five consecutive years occurring before the project start date". Start date of the project is 01/07/2018, so, we have taken "2013-2017" as the baseline period and average value of the same has been taken into consideration. been revised. 2- PD has ER sheet has been revised. 3- PD has ER sheet has been revised.	
Documentation provided by project participant	
<i>Revised PD and ERR sheet</i>	
DOE assessment	Date: 22/05/2023
The revised PD and the ERR sheet submitted are fine. CAR 22 is now closed.	

CAR ID	23	Section no.	4.2	Date: 28/12/2022
Description of CAR				

1- The applied methodology has specific steps for the baseline emissions estimation. Section 4.2 of the PD though follow the guidance of the methodology and follow each step. However, the step numbers are different. PP is requested to use the exact step number as per the applied methodology, to make the PD more user friendly for a reader. This will also allow the reader to reproduce the calculation. 2- PP is requested to mention the equation number for each equation used and mentioned in the PD. The equation number should be the same as mentioned in the applied methodology. PP shall not use project specific equation number. 3- PP has just mentioned the exact equations as per the applied methodology. However, it has not provided process followed for the estimations of biomass inventory for AGB estimation, calculation of tco2e of woody biomass, soil depth & bulk density, % of rocks with a diameter larger than 2mm. PP shall clearly explain the method followed for estimation of each parameters calculated in the baseline 4- Sampling based on the stratification is mentioned but No related land use or stratification information has been shared for review. Please check and provide the required data 5- Has this analysis been included in the ERR sheet? Please provide the sub-sheet number.	
Project participant response	Date: 8/02/2023
1- PD has ER sheet has been revised. 2- PD has ER sheet has been revised. 3- Methodology for biomass inventory and calculation process described in Section 5.2 of the revised PD. 4- PD revised. 5- ER sheet revised, sample plot calculation included in the revised ER	
Documentation provided by project participant	
<i>Revised PD and ERR sheet</i>	
DOE assessment	Date: 22/05/2023
The revised PD and the ERR sheet submitted are fine. CAR 23 is now closed.	

CAR ID	24	Section no.	4.4	Date: 28/12/2022
Description of CAR				
1- Please check the baseline estimation which has been done in "Emission Removal" sheet. It is not clear to the VVB why only 5 years estimation has been provided. 2- The values for the "Estimated net GHG emission reductions or removals (tCO2e)" in the PD is different from the ERR excel sheet, sub-sheet PD. Please check and make required corrections in either of the document. 3- The project has not included the buffer credit calculation and has also not submitted the AFOLU Non-Permanence Risk assessment report. PP is requested to check section 8.4 of the applied methodology and provide the required assessment and calculations.				
Project participant response				Date: 8/02/2023

1- ER sheet has been revised. The definition of baseline period as per VM0026 v1.1 is “Baseline period : A historical reference period over which the project’s baseline emissions are calculated, which is representative of the most plausible baseline scenario and consists of five consecutive years occurring before the project start date”. Start date of the project is 01/07/2018, so, we have taken “2013-2017” as the baseline period and average value of the same has been taken into consideration. 2- PD has been revised 3- This version of the PD is for validation purpose. As per section 8.4 of the methodology, the buffer credit will be calculated and AFOLU non permanence risk assessment report will be submitted during the 1st verification	
Documentation provided by project participant	
<i>Revised PD and ERR sheet</i>	
DOE assessment	Date: 22/05/2023
The revised PD and the ERR sheet submitted are fine. CAR 24 is now closed.	

CAR ID	25	Section no.	5.1 and 5.2	Date: 28/12/2022
Description of CAR				
1- The value considered in the excel sheet is different for most of the parameters mentioned. Please check and make required changes in either of the document 2- Submit the sample survey sheet for validation 3- Mention the exact cell numbers for each year to be checked 4- Mention the exact IPCC report and the table or section number to be referred to check the value. Check this for all the other parameters mentioned in sections				
Project participant response				Date: 8/02/2023
1- Sample survey sheet has been submitted 2- PD revised 3- PD revised				
Documentation provided by project participant				
<i>Revised PD and ERR sheet</i>				
DOE assessment				Date: 22/05/2023
The revised PD and the ERR sheet submitted are fine. CAR 25 is now closed.				

CAR ID	26	Section no.	5.3	Date: 28/12/2022
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Description of CAR	
1- The information provided in section 5.3 is not in line with the requirements of section 5.3 of the VCS PD template v4.2. PP has not provided any information related to following requirements of VCS PD template v4.2: • The policies for oversight and accountability of monitoring activities • QA/QC procedure for monitoring other parameters apart from the SOC • The procedures for handling non-conformances with the validated monitoring plan • Any sampling approaches used, including target precision levels, sample sizes, sample site locations, stratification, frequency of measurement and QA/QC procedures. • Where appropriate, include line diagrams to display the GHG data collection and management system. 2- This is just for one of the project activity that is grazing management. However, no information has been provided regarding the controlled burning activity proposed in the project. PPP is requested to provide all the required information in this section. 3- Submit the soil sample analysis (if available) carried out so far. 4- This information is just for one parameter to be measured under the project scenario i.e., SOC. PP is requested to provide information regarding Methods for measuring, recording, storing, aggregating, collating, and reporting data of all the parameters to be monitored. 5- If the project does not reach the confidence/precision level, how will it be addressed? PP must mention the same.	
Project participant response	Date: 8/02/2023
1- PD has been revised 2- PD has been revised 3- Soil sample analysis report for only single samples from 4 strata has been submitted 4- PD has been revised	
Documentation provided by project participant	
Revised PD and ERR sheet	
DOE assessment	Date: 22/05/2023
The revised PD and the soil sample analysis report has been analysed and are okay. CAR 26 is now closed.	

CAR ID	27	Section no.	ERR sheet	Date: 28/12/2022
Description of CAR				

1- PP must add an assumption sheet in the ERR sheet submitted. In the sheet, please include all the default values considered with their sources. This will allow the reader/assessor to check the values conveniently and will make the sheet user-friendly/easy to understand. 2- The values in this sheet has been added manually. The calculation must be traceable. Please show how the value is calculated and link it to the source sheet. Also, the default values must be mentioned in the assumption sheet. PP is requested to check each and every cell and ensure that the values are not manually added. Please calculate and link it to the cell from where the value has been sourced for traceability. 3- Please check the conversion of N2O-N to N2O and make the required correction in the calculation. Check the issue across cell Q to cell V. 4- Many of the the values are showing error in the soil analysis data. Please check and include the values in each of the calculation cells.	
Project participant response	Date: 8/02/2023
ERR has been revised	
Documentation provided by project participant	
Revised PD and ERR sheet	
DOE assessment	Date: 22/05/2023
The revised ERR has been analyzed and is fine. CAR 27 is now closed.	

Table 3. CL from this validation

FAR ID	01	Section no.	Appendix A	Date: 22/05/2023
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The NPRR submitted by the project does not comply with section 3.6.19 of VCS standard v4.4. This section requires that 'AFOLU non-permanence risk analyses, where required, shall be assessed for each geographic area specified in the project description (for requirements related to geographic areas of grouped projects see the VCS Standard). Where risks are relevant to only a portion of each geographic area, the geographic area shall be further divided such that a single total risk rating can be determined for each geographic area. Where a project is divided into more than one geographic area for the purpose of risk analysis, the project's monitoring and verification reports shall list the total risk rating for each area and the corresponding net change in the project's carbon stocks in the same area.

Though PP has provided justification that the Project Area is distributed in 4 different regions of South Africa. Climatic condition is the only variable factor for these regions whereas Micro climatic condition does not have any effect on the NPRR. The Governance indicator has been sourced from World Bank Institute's WGI for South Africa averaged over the most recent five years from the start date of the project. Overall, the project activity is homogeneous in nature and the source of data is credible. Hence, one Non-permanence Risk Report has been prepared for the entire project activity and it is envisaged this NPRR could be applicable across the project boundary. However, has not demonstrated clearly on how each of the risk listed in the NPRR tool is same for all the project geographical areas.

PP should assess the risk of the project in line with the requirements of section 3.6.19 of VCS Standard v4.4 for the next verification and assess. Considering that there are four clearly distinct geographic areas in the project, PP shall submit the NPRR for each of the project geographic area. If not, is there any supporting evidence to demonstrate that the risk ratings are the same for each of the geographic area?

Project participant response

Date:

Documentation provided by project participant

DOE assessment

Date:

5 APPENDIX 3: COMPETENCE OF TEAM MEMBERS

<u>Certificate of Competence</u>						
Name	☒ Mr. ☐ Ms.	Ma Paa Puratchikkanal				
Qualification Procedure	Fulfil 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
<i>Appointed</i>	Yes	Yes	Yes	Yes	Yes	No
<i>Appointed Date</i>	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			

Validation Report: VCS Version 4.2			
Authorized to work as Local Expert for:			
Country/Countries	India		
Compliance check by: Anand S. R.			

<u>Certificate of Competence</u>						
Name	☒ Mr. ☐ Ms.	Pfano Ramukhithi				
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	18-05-2022					
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	South Africa					

<u>Compliance check by:</u> Anand S.R.	
Validation Report: VCS Version 4.2	

<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					
<u>Compliance check by:</u> Anand S.R.						

Certificate of Competence

Name	☒ Mr. ☐ Ms.	Narendra Kumar .R	Validation Report: VCS Version 4.2			
Qualification Procedure	Fulfil 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
<i>Appointed</i>	Yes	Yes	Yes	Yes	Yes	No
<i>Appointed Date</i>	29-07-2019					
Authorized to work as Technical Expert for:						
<i>Authorized Technical Area</i>	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:						
<i>Country/Countries</i>	India					
Compliance check by: Anand S. R.						

6 APPENDIX 4: ABBREVIATIONS

4KES	4K Earth Science Private Limited Validation Report: VCS Version 4.2
AFOLU	Agriculture, Forestry and Other Land Use
APU	Annual Productive Unit
ARR	Afforestation, reforestation and revegetation
AUD	Avoided Unplanned Deforestation
CAR	Corrective Action Request
CCB	Climate, Community & Biodiversity
CCBA	Climate, Community & Biodiversity Alliance
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