COMBINED VALIDATION & VERIFICATION REPORT

RARAKAU FOREST CARBON PROJECT: IFM-LTPF INCEPTION PROJECT FOR THE RARAKAU PROGRAMME

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Summary:

DNV Australia has performed the assessment of the programme specific methodology "Rarakau Programme IFM-LtPF Methodology" and the validation and verification of the project activity "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" in New Zealand. The objective is to confirm that the new methodology element and the project design and implementation, as documented, are sound and reasonable and meet the identified applicable criteria. The validation and verification scope covers an independent and objective review of the Rarakau Programme Methodology, Rarakau GHG project document (PDD) and the Rarakau project monitoring report (MR). The methodology assessment, project validation and project verification were performed on the basis of ISO 14064-2 requirements for the GHG project, as well as criteria from sources such as IPCC, VCS, CCBA and New Zealand carbon monitoring system given to provide good practice guidance for GHG accounting and for consistent project operations, monitoring and reporting.

The assessment, validation and verification were conducted by means of document review, follow-up interviews and site inspection, and the resolution of outstanding issues. The review of the new methodology and project design and implementation documentation and the subsequent follow-up interviews and site inspection have provided DNV with sufficient evidence to determine the fulfilment of stated criteria.

The project activity is forest protection by means of a legal covenant for duration of project period. The project has applied the project specific methodology "Rarakau Programme IFM-LtPF Methodology", version 01.

In summary, it is DNV's opinion that:

(a) The project specific methodology "Rarakau Programme IFM-LtPF Methodology", as described in the Methodology element documentation (MED), version 01, dated 15 May 2012 meets all relevant requirements of ISO 14064-2, VCS and IPCC and is technically sound for carbon accounting in the Rarakau Programme;

(b) The project activity "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" as described in the PDD, dated 15 May 2012, meets all relevant ISO 14064-2 requirements for the ISO 14064-2 GHG project and correctly applies the project specific Methodology "", version . Hence, DNV recommends the registration of the project as an ISO 14064-2 GHG project activity.

(c) The project activity has been implemented as reported in the "Rarakau Forest carbon Project Monitoring Report Number 1, dated 15 May 2012. DNV is able to certify that

the net emission reductions from the "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" during the period amount to 7 425 tonnes of CO_2 equivalent.

The verification of reported emission reductions is based on the information made available to DNV and the engagement conditions detailed in this report. DNV cannot be held liable by any party for decisions made or not made based on this report.

Sydney, 30 November 2012

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Abbreviations

AFOLU Guidelines	Agriculture, Forestry and Other Land Uses Section of Guidelines for National Greenhouse Gas Inventories 2006
CARs	Corrective Action Requests
CCBA	Climate Community and Biodiversity Alliance
CDM	Clean Development Mechanism
CLs	Clarification Requests
CO_2	Carbon Dioxide
DNV	Det Norske Veritas
DR	Document Review
GHG	Greenhouse Gas(es)
GPG LULUCF	Intergovernmental Panel on Climate Change's Good Practice Guidance for Land-Use Land Use Change and Forestry
ISO	International Standards Organisation
MAF	New Zealand Ministry of Agriculture and Forestry
MED	Methodology Element Documentation
MoV	Means of Verification
MR	Monitoring Report
PDD	Project Design Document
PP	Project Proponent (Carbon Partnership Ltd)
PPs	Project Proponents (Rarakau programme participants)
SILNA	South Island Landless Natives Act
SOPs	Standard Operating Procedures
tCO_2e	Tonnes CO_2 equivalent
VCS	Verified Carbon Standard
VERs	Verified Emission Reductions

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1 INTRODUCTION

Carbon Partnership Ltd has commissioned DNV Climate Change Services AS (DNV) to perform a combined assessment of the new Rarakau Programme IFM-LtPF Methodology (Methodology), validation and first periodic verification of "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" (project) in . This report summarizes the findings of the combined assessment of the applied Methodology and the validation and verification of the project performed on the basis of ISO 14064-2 criteria for the ISO 14064-2 GHG project, as well as criteria given to provide for new methodology development, consistent project operations, monitoring and reporting. Throughout this report, the ISO 14064-2 criteria refer to ISO 14064-2 Standard.

1.1 Objective

The purpose of validation and verification is to have an independent third party assess the new Methodology element, project design and project implementation. In particular, the new methodology, the project's baseline and monitoring plan, and compliance with relevant ISO 14064-2 criteria are validated and verified in order to confirm that the project design and implementation, as documented, is sound and reasonable and meets the identified criteria. Validation and verification is necessary to provide assurance to stakeholders of the quality of the project and its intended generation of the Verified Emission Reductions (VERs).

1.2 Scope and Criteria

The validation and verification scope is defined as an independent and objective review of the Rarakau Programme Methodology, Rarakau GHG project document (PDD) and the Rarakau project monitoring report (MR) against the ISO 14064-2 standard and the following criteria which provided the technical robustness of the methodology, the project design and the project implementation:

- IPCC 2003 Guidance on LULUCF;
- IPCC 2006 Guidelines on National GHG Inventories;
- The Clean Development Mechanism;
- The Verified Carbon Standard;

- The New Zealand (compliance) Carbon Monitoring System;
- Climate Community and Biodiversity Standard.

The assessment does not include project consulting. However, requests for clarifications and/or corrective actions may have provided input for improvement of the Methodology, project design and project implementation.

1.3 Level of assurance

DNV provides reasonable assurance that Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme meets the applicable criteria. To ensure complete transparency, a validation protocol check list is included in Appendix A. The validation protocol check list addresses all of the criteria that must be met for the ISO 14064-2 project. Any clarification or corrective actions raised have been included in the validation protocol.

In addition, DNV applies materiality of five (5) per cent in accordance with the requirements in the agreement with the PP.

1.4 Summary Description of the Project

The Rarakau Forest Carbon Project protects previously logged indigenous forest on 738 ha of land owned by the Rowallan Alton Incorporation – a Maori incorporation. This forest protection is achieved by the creation and sale of carbon assets instead of timber assets on this land. The Rarakau Forest Carbon Project forests are protected by a legal covenant (Memorandum of Encumbrance) on the title of the land. The beneficiary of the Memorandum of Encumbrance is Ekos – a charitable trust functioning as the Programme Operator of the Rarakau Programme.

2 ASESSMENT, VALIDATION AND VERIFICATION PROCESS

2.1 Method and Criteria

The methodology assessment, project validation and project verification consisted of the following three phases:

- A desk review of the project documents;
- Follow-up interviews with project stakeholders and site inspection (for project design validation and project implementation verification);

- The resolution of outstanding issues and the issuance of the combined validation and verification report, including validation and verification opinions.

Project design validation and first periodic verification were performed at the same time.

Duration of validation and verification

Preparations:	From 04 June 2012 to 20 June 2012
On-site verification:	From 25 June 2012 to 28 June 2012
Reporting, calculation checks and QA/QC:	From 01 July 2012 to

The following sections outline each step in more detail.

2.2 Document Review

The list of the documentation that was reviewed during the assessment of the new Methodology, the PDD and the monitoring report is given in the References.

2.2 Interviews

On 25 June 2012, DNV visited the project area area in South Island, New Zealand and performed interviews with various stakeholders. The list of stakeholders interviewed during the site visit, including the topics covered is given in the References.

2.3 Site Inspections

For project validation and verification, DNV performed an on-site inspection from 25 – 28 June 2012. During the site-inspection, DNV inspected and observed activities of project design, project implementation and project monitoring and conducted interviews with project staff and other stakeholders. Objectives of the on-site inspections were to:

- Confirm the location of Rarakau project activity, assess its design, implementation and operation through visual inspection and through interviews with project and non-project staff at randomly selected land parcels;

- Assess the implementation of leakage mitigation activities and review assumptions made in determining the baseline scenario and selection, deforestation drivers, GHG data and cross-check land uses in the project reference areas;
- Verify that the operational and data collection procedures, and information flows for generating, aggregating and reporting the monitoring parameters are implemented in accordance with the monitoring plan of the PDD and applicable methodology;
- Check and verify that quality control and quality assurance procedures as part of the quality management system are as described in the PDD;
- Review and authenticate the documents provided by project proponents with relevant stakeholders (i.e., relevant national and local government departments) to confirm, for example, proof of title in respect of land use rights, enforceable and irrevocable agreements between project proponents and stakeholders, etc.;
- Assess and verify evidence of relevant stakeholder participation in project implementation;
- Assess and verify implementation of plans and methods for continuous community outreach and for handling conflicts.

2.4 Resolution of Any Material Discrepancy

The objective of this phase of the validation and verification was to resolve any outstanding issues that needed to be clarified prior to DNV's positive conclusion on the new Methodology, project design and project implementation. In order to ensure transparency, validation and verification protocols were customized for Methodology and project assessment. The protocols show in a transparent manner the criteria (requirements), means of verification and the results from validating and verifying the identified criteria. The validation and verification protocols serve the following purposes:

- Organize, detail and clarify the requirements that the ISO 14064-2 GHG Methodology and project are expected to meet;
- Ensure a transparent validation and verification process where DNV documents how a particular requirement has been validated and verified and the ensuing outcomes.

The completed validation and verification protocol checklists for the Methodology "Rarakau Programme IFM-LtPF Methodology" and the project "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" are enclosed in Appendix A to this report.

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

- The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
- The ISO 14064-2 and other relevant requirements have not been met;
- There is a risk that emission reductions cannot be monitored or calculated.

A clarification request (CL) is raised if information is insufficient or not clear enough to determine whether the applicable ISO 14064-2 and other requirements have been met.

A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first or subsequent verification of the project activity.

Fig 1 below provides a sample table for presentation of the CARs and CLs and subsequent responses from Carbon Partnership Ltd.

Assessment Table: Resolution of Corrective Action and Clarification Requests		
Draft report clarifications and corrective action requests	***Responses from Project proponent***	***Assessment conclusion***
If the conclusions from the draft assessment are either a CAR or a CL, these should be listed in this section.	*The responses given by the methodology element developer during the communications with the assessment team should be summarized in this section.*	*This section should summarize the assessment team's responses and final Conclusions*

Figure . Assessment table.

Tables of corrective action requests and clarification requests are enclosed in Appendix B to this report.

2.5 Internal Quality Control

The draft validation report, final validation report, the PDD and the methodology element underwent a technical review before DNV submitted the draft assessment report to Carbon Partnership Ltd. The technical review was performed by a technical reviewer qualified in accordance with DNV's qualification scheme.

2.6 Assessment Team

The table below lists the details and involvement of the DNV team for the methodology and project assessment.

Role	Last Name	First Name	Country	Type of involvement					
				Desk review	Site visit	Reporting	Supervision of work	Technical review	TA 14.1 competence
GHG Auditor	Kapambwe	Misheck	Australia	✓	✓	✓	✓		✓
Lead Climate Change Verifier	Uddin	Noim	Australia	✓					
Technical Reviewer	Espejo	Andres B.	Italy					✓	✓

2.7 Report Structure

This report has three (3) components: Section 3 \ presents findings from the Methodology assessment; Sections 4 \ presents findings from the project validation and Section 5 \ presents

findings from the project verification. As there is no validation or verification report template for ISO 14064-2 Standard, this report adopts elements of the VCS validation and verification report templates to report the assessment findings.

PART 1 NEW METHODOLOGY ASSESSMENT

3 ASSESSMENT FINDINGS

The findings of the Methodology assessment have been documented in Appendices A and B and are summarised below.

3.1 General Requirements, Project Description and GHG Identification

3.1.1 General Requirements

The Methodology is applicable to the projects in the Rarakau Programme Grouped Project in which the activity type protects either:

- Logged or degraded natural forest from further wood harvesting (timber and/or fuelwood), or
- Unlogged forest that would be subjected to wood harvesting in the absence of carbon finance.

The Methodology also gives the following specific conditions under which it can be used. For all projects included in the Rarakau Grouped Project

- Project owner should exist as a suitable entity capable of entering into binding project commitments and capable of owning carbon credit assets;
- Project owner should own the carbon rights and management rights over the forest lands in the project area;
- Land must be legally eligible to be harvested for commercial timber or fuelwood production;
- To be eligible for crediting, eligible forest land will only include lands that have not received financing for the same project activities from another source;
- Boundaries of forest land must be clearly defined and documented;

- Forest use under the project scenario is limited to those activities that do not result in commercial timber harvest or forest degradation above a 5% *de minimis* range. Planned timber harvest must be estimated using forest inventory methods that determine allowable annual timber harvest volumes (m^3 ha^{-1});
- Baseline condition can include legally sanctioned timber harvesting that degrade forest carbon stocks; and
- There may be no leakage attributable to activity shifting to other lands owned or managed by project participants outside the project boundary .

Section 1.1 of the Methodology clearly defines the eligibility criteria in accordance with Section 5.1 of ISO 14064-2 Standard , including specific conditions under which it can be used and the evidence required to demonstrate eligibility. To be eligible, all projects in the Rarakau Programme must meet the following criteria :

- Eligible forests will be New Zealand indigenous forests that were already classified as 'forest lands' as of 31 December 1989;
- Baseline and project activities in eligible forests comprise management of carbon stocks in forest-remaining-forest activities;
- Baseline and project GHG emissions and removals in eligible forests must lie outside the GHG accounting boundary of the Kyoto Protocol. DNV checked and confirmed that the New Zealand government does not undertake activities under Article 3.4 of the Protocol covering carbon stock change in forest-remaining-as-forest activities (e.g., improved forest management) for lands that were classed as 'forest lands' as of 31 December 1989.

3.1.2 Project Description and Identification of GHG Sources, Sinks and Reservoirs

In Section 2 of the Methodology, project proponents (PPs) are required to describe the projects following the requirements of parts (a) to (m) in Section 5.2 of the ISO 14064-2 Standard . The Methodology also requires PPs to clearly define physical boundaries of the project, including maps of the project area, forest area and eligible forest area. The sources and types of GHG gases included are clearly and properly defined in Section 3; reasonable justification for including or excluding certain types of GHG gases is also provided.

The Methodology applies good practice guidance from various recognized origins, including VCS Standard , CCB Standard and IPCC Guidelines , and includes justification for using the selected recognized origins.

DNV finds that the Methodology fulfills the requirements of Sections 5.1, 5.2, 5.3, 5.5 and 5.6 of the ISO 14064-2 Standard and applicable validation criteria.

3.2 Determining the Baseline Scenario

Section 4 of the Methodology provides appropriate and adequate guidance, procedures and criteria for selecting and modelling realistic and credible baseline land use scenario. Each project in the Grouped Project must determine the baseline scenario as wood harvesting according to the wood harvesting component of a Sustainable Forest Management plan or Sustainable Forest Management Permit for each land parcel in the project area.

3.2.1 Procedure for determining the baseline

In determining the baseline scenario, the Methodology requires PPs to:

- Identify realistic and credible alternative land use scenarios that could have occurred on the land within the proposed project boundary in the absence of the proposed IFM project activity. The Methodology allows proponents to use land-use records from historical activities in the project and/or reference area to do this;
- Select the most realistic and feasible land uses in the absence of the project on the basis of land suitability, technical and economic barriers and institutional constraints, taking into account relevant national and/or sectoral policies and circumstances;
- Demonstrate a baseline of planned timber harvest as per applicability conditions of the Methodology . If such a baseline cannot be demonstrated then this Methodology cannot be applied.

3.2.2 Stratification

The Methodology requires all projects to stratify the baseline scenario into:

- Forest composition stratification which includes forest type, vegetation type and/or target timber species and which is based on the guidance from the Ministry of Agriculture and Forestry (MAF) for the development of sustainable forest management plans or permits;

- Forest management stratification which includes logged forest between 1 January 1900 and 31 December 2009 (logged forest) and areas of forest not subjected to harvesting (unlogged forest).

The Methodology also requires PPs to justify the selected baseline in terms of the most likely baseline activity and its scale.

DNV deems the procedure for determining the baseline scenario appropriate. DNV finds that the Methodology fulfills the requirements of Section 5.4 of the ISO 14064-2 Standard and applicable validation criteria.

3.3 Procedure for Demonstrating Additionality

When determining the additionality of the proposed project activities against the baseline selected, the Methodology requires project developers to use the most recent version of the VCS Tool for the Demonstration and Assessment of Additionality in VCS AFOLU /25/ project activities. However, the methodology allows project documentation undertaken prior to 2011 to use additionality tests in Section 5.8 of the VCS Standard 2007.1 . The requirement to use the VCS tool to demonstrate additionality of the project is deemed by DNV as appropriate and fulfills the requirements of Section 5.4 of the ISO 14064-2 Standard .

3.4 Emissions

The assumptions, equations and parameters for calculating baseline emissions, project emissions and leakage were checked by DNV and were found to be acceptable.

3.4.1 Baseline Emissions and Removals

The criteria and procedures for identifying and selecting GHG sources, sinks and reservoirs for the baseline scenario are clearly outlined in Sections 5 and 6 of the Methodology, respectively. The Methodology restricts GHG sources and sinks to LULUCF carbon pools that are controlled by the project owners and lie within the eligible forest area of the project. GHG emission sources include:

- Emissions from above ground woody biomass removed from the forest;
- Emissions from above-ground woody biomass entering the deadwood pool in the form of discarded crown and branches of harvested (target) trees;

- Emissions from additions to the above-ground deadwood carbon pool resulting from collateral damage to non-target trees due to wood harvest activities;
- Emissions from the decomposition of below-ground biomass resulting from above ground wood harvesting and collateral damage.

GHG sinks include:

- CO2e sequestered in the natural background rate of natural forest regeneration;
- CO2e sequestered in harvest patches as a consequence of the opening the forest canopy.

As for GHG reservoirs, the Methodology measures and estimates the change in carbon stocks contained in carbon reservoirs (and associated emissions and/or removals), instead of the total content of carbon stored in the forest carbon reservoirs/pools. Hence, the Methodology does not measure the total volume of carbon stored in the above ground and below ground carbon pools.

Sub-Section 7.1 of the Methodology provides equations and guidelines required for project proponents to model the baseline greenhouse gas accounts. The baseline net greenhouse gas emissions/removals are determined using the following steps:

Step 1 – Calculation of the sustainable harvest rate (SHR);

Step 2 – Calculation of total wood harvested (TWH) for target trees harvested in the baseline annual harvest plan;

Step 3 – Calculation of collateral damage (CD) which is the damage to non-target above-ground live biomass caused by timber harvesting operations;

Step 4 – Calculation of above-ground biomass emitted (AGBE) which is a sum of the total wood harvested and the collateral damage;

Step 5 – Calculation of below-ground biomass emitted (BGBE) by means of the default factor applied to the AGBE;

Step 6 – Calculation of the total emitted wood volume in m^3 (TM3) which is the sum of AGBE and BGBE;

Step 7 – Calculation of total emissions (TCO2) in tCO_2e;

Step 8 – Calculation of the net baseline emissions (NBE) which is a function of emissions from baseline timber harvests minus removals from enhanced forest regrowth in harvest patches after harvest.

Hence, determination of the net baseline GHG emissions can be summarised in the following equation:

NBE = TCO2/2

Where:

NBE = Net baseline emissions within OFA ($tCO_2e\ yr^{-1}$)

TCO2 = Total CO_2e emissions within OFA ($tCO_2e\ yr^{-1}$)

DNV deems the approach for quantifying baseline GHG emissions and removals to be appropriate and adequate and fulfills the requirements of Section 5.7 of ISO 14064-2 and applicable validation criteria.

3.4.2 Project GHG removals and emissions

Sub-Section 7.2 of the Methodology provides a procedure and guidance to develop estimates of total net emission reductions resulting from changes in carbon stocks in the project scenario. The net project emission removals are calculated as enhanced removals minus project activity emissions. Project activity emissions would include emissions associated with project development activities (including emissions due to project design, planning, administration, travel, imaging, data processing, and monitoring). However, because all of these activities involve energy sector emissions, and because the energy sector is covered by compliance carbon accounting under the Kyoto protocol, all such emissions have been considered external to the carbon accounting of the Methodology. Therefore net project emissions are equal to enhanced removals.

Enhanced removals in the project scenario are calculated for annual forest growth in logged forest land parcels for the project period using the rate of annual forest growth set at the New Zealand national average sequestration rate for the three different indigenous forest types: beech-dominated; podocarp-dominated, and broadleaf-hardwood-dominated. Thus, enhanced removals are calculated by multiplying the total area (ha) of logged forest in the operational forest area by

the mean sequestration rate ($tCO_2e\ ha^{-1}\ yr^{-1}$) for the removals period for the three forest types as follows:

$NPE_{TOT} = \Sigma NPE_{BC} + \Sigma NPE_{PC} + \Sigma NPE_{BL}$

Where

NPE_{TOT} = Net Project Emissions Total within OFA ($tCO_2e\ yr^{-1}$)

ΣNPE_{BC} = Sum of the Net Project Emissions for beech-dominated land parcel within $OFA = OFA_{LF}$ x MSR_{BC} ($tCO_2e\ yr^{-1}$)

ΣNPE_{PC} = Sum of the Net Project Emissions for podocarp-dominated land parcel within $OFA = OFA_{LF}$ x MSR_{PC} ($tCO_2e\ yr^{-1}$)

ΣNPE_{BL} = Sum of the Net Project Emissions for broadleaf-dominated land parcel within $OFA = OFA_{LF}$ x MSR_{BL} ($tCO_2e\ yr^{-1}$)

MSR_{BC} = Mean sequestration rate for beech-dominated forest (3.7 $tCO_2e\ ha^{-1}\ yr^{-1}$)

MSR_{PC} = Mean sequestration rate for podocarp-dominated forest (3.6 $tCO_2e\ ha^{-1}\ yr^{-1}$)

MSR_{BL} = Mean sequestration rate for broadleaf-dominated forest (3.5 $tCO_2e\ ha^{-1}\ yr^{-1}$)

DNV deems the approach for quantifying project GHG removals and emissions to be appropriate and adequate and fulfills the requirements of Sections 5.7 and 5.8 of the ISO 14064-2 Standard .

3.4.3 Leakage

The Methodology requires PPs to address and calculate both activity shifting leakage, market leakage and the total leakage using the approach in the VCS Approved Methodology VM0010 . ISO 14064-2 Standard does not provide guidance on the treatment of leakage but leakage should be addressed and quantified as part of the quantification of GHG emission reduction and removal enhancements during project implementation. Thus DNV deems the approach for addressing and quantifying leakage to be appropriate and adequate as per the applicable criteria and fulfils Section 5.8 of the ISO 14064-2 Standard .

3.4.4 Quantification of Net GHG Emission Reduction

The Methodology provides a procedure for quantifying net project benefits from the project implementation, based initially on the use of conservative default values for carbon stock change

measurement, empirical measurement of the total standing volume as part of timber harvest plan for the baseline calculation, a series of conservative conversion factors and defaults derived from New Zealand national data sets. The references used in the Methodology for the various data parameters have been described clearly.

The net project benefits are calculated by subtracting the total leakage from the net project emissions:

$NPB = -NPE - TLK$

Where

NPB = Net Project Benefits ($tCO_2e\ yr^{-1}$)

NPE = Net Project Emissions ($tCO_2e\ yr^{-1}$)

TLK = Total Leakage ($tCO_2e\ yr^{-1}$)

To account for the project's non-permanence risk, the project's project buffer rating (or overall risk rating) is estimated by using the latest version of the VCS AFOLU Non-Permanence Risk Tool. The project buffer rating is then used to estimate the buffer for Year 1 and for Year 2 as follows:

$BUFY1 = (NBE \times PBR) + (NPB \times PBR)$

Where

BUFY1 = Buffer Credits for Year 1 ($tCO_2e\ yr^{-1}$)

NBE = Net Baseline Emissions ($tCO_2e\ yr^{-1}$)

PBR=Project Buffer Rating (dimensionless)

NPB = Net Project Benefits ($tCO_2e\ yr^{-1}$)

$BUFY2 = NPB \times PBR$

Where

BUFY2 = Buffer Credits for Year 2 ($tCO_2e\ yr^{-1}$)

NPB = Net Project Benefits ($tCO_2e\ yr^{-1}$)

PBR=Project Buffer Rating (dimensionless)

Net carbon credits are calculated separately for Year 1 (*NCCY1*) and Year 2 (*NCCY2*). *NCCY1* calculates credits awarded to the project from Net Baseline Emissions Avoided (*NBEA*) minus its buffer, and the net annual carbon credits awarded to the project in year one:

$NCCY1 = (NBE - (NBE \times PBR)) + (NPB - (NPB \times PBR))$

Where

NCCY1= Net Carbon Credits for Year 1 ($tCO_2e\ yr^{-1}$)

NBE= Net Baseline Emissions ($tCO_2e\ yr^{-1}$)

NPB= Net Project Benefits ($tCO_2e\ yr^{-1}$)

PBR=Project Buffer Rating (dimensionless)

The methodology awards the *NBEA* to projects once and in year one only to account for the effect of shifting the mean baseline carbon stocks as a result of the protection of the forest in the project scenario.

For Year 2 and onwards to the end of the project period, net carbon credits (*NCCY2*) is calculated by subtracting the buffer from the *NPB* and allocated annually to the project as follows:

$NCCY2 = NPB - BUFY2$

Where

NCCY2= Net Carbon Credits for Year 2 ($tCO_2e\ yr^{-1}$)

NPB= Net Project Benefits ($tCO_2e\ yr^{-1}$)

BUFY2= Buffer Credits for Year 2 onwards for the OFA ($tCO_2e\ yr^{-1}$)

The criteria and procedure for quantifying GHG emissions and removals have been clearly described and fulfill Sections 5.7 and 5.8 of ISO 14064-2 and other applicable criteria and are deemed acceptable by DNV.

3.5 Managing Data Quality

The Methodology requires PPs to establish data management procedures for project description information, GHG information, ancillary impacts information, project administration and project monitoring information. Furthermore, PPs are required to archive electronically and in paper forms all data collected as part of project development and monitoring and to keep these data for at least two (2) years after the end of the project period. In addition, the Methodology also requires PPs to copy all electronic data to durable media and to store copies in multiple locations.

ISO 14064-2 Standard does not provide guidance on the assessment of uncertainty. To assess the uncertainty related to the quantification of GHG emission reductions or removal enhancements relevant to baseline and project scenario, the Methodology requires PPs to provide conservative estimates as accepted by the Approved VCS Tool for the Estimation of Uncertainty for IFM Project Activities VT0003 V1.0 . DNV deems this approach to managing data quality acceptable, thus fulfils Section 5.9 of ISO 14064-2 Standard .

3.6 Monitoring

The Methodology requires PPs to prepare a Project Implementation Plan which should comprise both a Project Management Plan to ensure projects are implemented as specified in the PDD and a Project Monitoring Plan to guide the development of each Project Monitoring Report. The Methodology clearly defines monitoring procedures (including monitoring times and periods, roles and responsibilities, GHG information management systems), specific activities and data that must be recorded for each aspect of the Project Implementation Plan.

The activity parameters to be monitored for purposes of emission reduction calculations are clearly and appropriately listed in the Methodology. This will ensure that the emission reductions from the project activity are properly estimated.

The Methodology also clearly prescribes quality assurance measures for all project management and project monitoring activities, including the requirement for internal periodic audits and standard operating procedures, to further assure the accuracy and reliability of the emission reduction estimates.

DNV deems the requirements for project monitoring outlined in the Methodology are acceptable and in fulfillment of Sections 5.9 and 5.10 of ISO 14064-2 .

3.6 Data and Parameters

Both monitored and not monitored data and parameters used in emissions calculations are defined in the Methodology clearly and appropriately to make it possible for the emission reductions to be estimated and verified in the verification periods. The data unit, description, and sources of data for each parameter are described clearly and are summarised as follows:

- Eligible forest area (*EFA*) in (ha);
- Logged/unlogged (*LF/ULF*) area (ha);
- Total standing volume (*TSV*) (m^3);
- Sustainable harvest rate (*SHR*) (m^3/yr);
- Total wood harvested (*TWH*) (m^3/yr);
- Collateral damage (*CD*) (m^3/yr);
- Above-ground biomass emitted (*AGBE*) (m^3/yr);
- Below-ground biomass emitted (*BGBE*) (m^3/yr);
- Total emissions (*TM3*) (m^3/yr);
- Total emissions in tCO_2e (*TCO2*) (tCO_2e/yr);
- Net baseline emissions (*NBE*) (tCO_2e/yr);
- Enhanced removals (*ER*) (tCO_2e/yr);
- Net project emissions (*NPE*) (tCO_2e/yr);
- Total activity shifting leakage (*TAL*) (tCO_2e/yr);
- Total market leakage (*TML*) (tCO_2e/yr);
- Market leakage factor (dimensionless);
- Total leakage (*TLK*) (tCO_2e/yr);
- Net project benefits (*NPB*) (tCO_2e/yr);
- Overall risk rating (*ORR*) (dimensionless);
- Non-permanence risk buffer Year 1(*BUFY1*) (tCO_2e/yr);
- Non-permanence risk buffer Year 2 -50 (*BUFY2*) (tCO_2e/yr);
- Net carbon credits Year 1 (*NCCY1*) (tCO_2e/yr);

- Net carbon credits Year 2 – 50 (*NCCY2*) (tCO_2e/yr).

Data and Parameters to be monitored subsequent to validation are summarised below:

Parameter	**Description**	**Monitoring Frequency**	**Source of Data**
EFA (OFA)	Forest area included in the baseline and project scenario, and area upon which crediting is based.	Aerial imagery: 5 yearly Eligible forest boundary inspections: Annually	Aerial imagery and project boundary inspection
SHR	Sustainable harvest rate	Every 10 years	Sustainable Forest Management Plan
TAL	Leakage caused by activity shifting	Annually	Project area inspection (outside eligible forest area).
MLF	Leakage caused by market effects attributable to the project	5-yearly	NZ domestic timber supply data
ORR	Overall risk rating. Risk factor used in buffer determination	5-yearly	Various sources

The Methodology requires PPs to retain a conservative approach when choosing key parameters or making important assumptions based on information that is not specific to the project circumstances, such as in use of existing published data: that is, if different values for a parameter are equally plausible, a value that does not lead to over-estimation of net anthropogenic GHG removals by sinks must be selected. However, the Methodology also requires PPs to increase the use of locally specific data generated from the establishment of

permanent sample plots (PSP) to further increase the accuracy and reliability of the emission reduction estimates.

Requirements for data and calculation reviews are clearly defined in the Methodology /2/ and are deemed by DNV to be appropriate to reasonably reduce uncertainties related to the emission reductions estimation.

3.7 Adding Subsequent Projects to the Grouped Project

Since the Methodology is project-specific to Rarakau Programme which is a grouped project, it includes criteria to allow the expansion of a project activity subsequent to project validation. The Methodology applies the VCS Standard v3, 2011 for good practice guidance on adding new project activities to the Rarakau Programme, as ISO 14064-2 Standard does not provide for this. This is deemed appropriate by DNV.

3.8 Adherence to the principles of ISO 14064-2 Standard

The Methodology is developed in line with the requirements of ISO 14064-2 Standard as demonstrated in Sections 3.1 through to 3.6 of this report. It is DNV's view that the principles of relevance, completeness, consistency, accuracy, transparency and conservativeness required in Section 3 of ISO 14064-2 Standard are properly addressed by the Methodology.

3.9 Assessment Statement

DNV has performed the assessment of the proposed Methodology, "Rarakau Programme IFM-LtPF Methodology" for Carbon Partnership Limited. The objective of the assessment is to provide stakeholders with a professional, objective and independent validation of the Rarakau Programme Methodology. The criteria for assessment were ISO 14064-2 Standard and the following other applicable criteria:

- IPCC 2003 Guidance on LULUCF
- IPCC 2006 Guidelines on National GHG Inventories
- The Clean Development Mechanism (CDM)
- The Verified Carbon Standard (VCS)
- The New Zealand (compliance) Carbon Monitoring System
- Climate Community and Biodiversity Standard (CCB)
- Other supporting documentation including referenced, published scientific literature,

reports and exiting methodologies listed in Section 2.2 of this document

The review of the methodology element documentation and the subsequent follow-up interviews with the methodology developer has provided DNV with sufficient evidence to determine the fulfillment of the stated criteria.

In summary, it is DNV's opinion that the proposed methodology element "Rarakau Programme IFM-LtPF Methodology" as described in MED of 15 May, 2012, meets the requirements of ISO 14064-2 Standard as well as other relevant applicable criteria. DNV thus recommends the Methodology for use by the projects under the Rarakau Programme.

PART 2 PROJECT VALIDATION

4 VALIDATION FINDINGS

4.1 Project Design

4.1.1 Project Proponent

The project proponents are described in Section 2.9 of the PDD as Rowallan Alton Incorporation (representing project owner community) , Ekos (program operator) and Carbon Partnership Limited (project developer).

4.1.2 Project Activity and Eligibility of the Project

Project activities

The project is the inception project in a grouped project of the Rarakau Programme. The project activity involves the legal protection of the eligible forests within the project area, whereby this protection is afforded by means of a legal covenant on the title of the land preventing baseline activities (that involve timber and fuelwood harvesting, that result in a reduction in mean carbon stocks and an increase in associated GHG emissions) for the duration of the Project.

Project scope, type, technologies and measures implemented, and eligibility of the project

The project comprise an aggregation of 11 land parcels totaling 1 367 ha within which the eligible forest areas (738 ha) are classed as non-Kyoto forest, having been classified as 'forest land' at 31 December 1989 and where the baseline and project activities are forest-remaining-as-forest activities.

The inception project (and other eligible projects in the Rarakau Programme) is applicable only to lands conforming to Article 3.4 of the Kyoto Protocol. New Zealand elected to not undertake Article 3.4 of the Kyoto Protocol and as such, the baseline and project activities of the Rarakau Programme encompass forests-remaining-as-forest activity and are located outside the GHG accounting boundary of the Kyoto Protocol (non-Kyoto forest) . Project activities in the Rarakau Programme therefore, are ineligible for carbon crediting under any international or domestic compliance carbon-financing instrument or GHG accounting regime but eligible for crediting under the voluntary schemes.

During the site inspection, DNV checked with the New Zealand Ministry of Agriculture and Forestry and the Southland District Council about the scope and eligibility of the project and the authenticity of related documentation. DNV also checked other published documentation and can confirm that the inspected eligible forest area conforms to Article 3.4 of the Kyoto Protocol and that the baseline and project activities are forest-remaining-as-forests are currently located outside the New Zealand emissions trading scheme.

Section 2.5 of the PDD describes project GHG strategies for achieving GHG emission reductions and/or removal enhancements. One of the activities to be terminated in the project scenario to achieve GHG removal enhancement is fuel wood harvesting above the *de minimis* (i.e. ≤5% of the allowable annual commercial timber harvest volume) in regenerating forests. To satisfy the need for energy, fuel wood harvesting above the *de minimis* could occur and could be shifted to areas outside the project and this could result in GHG leakage. To clarify this concern, PP indicated that there is only one household in the project area for the farm manager for the dairy grazing areas adjacent to the project forests. During the site-inspection, DNV checked and can confirm that there is only one household for the farm manager in the eligible forest area. It is DNV's view that the fuelwood needs for this single household are minimal and would fall well within the *de minimis* range of ≤ 5% of the allowable annual commercial timber harvest volume. DNV observed no commercial fuelwood operations in the project area and no landowners from outside the project area use the forests within the project area for fuelwood supply. The gathering of commercial fuelwood or fuelwood gathering by third parties is prohibited as part of the project implementation plan. Project monitoring will require the project manager to report on this through the course of the monitoring cycle. DNV deems this clarification satisfactory.

Project location

Clear project area maps are included in Section 2.3 of the PDD that allow for identification of project location and delineation. The project area is described as a subset of the Rowallan-Alton Maori lands (13 217 ha), which collectively lie directly east of the Hump Ridge and west of the Waiau River in western Southland, New Zealand . The project area is divided into approximately 150 sections, most of which remain in Maori ownership. Eleven of these sections (A7 11-13 & R8 8-15) totalling 1 367 ha, are managed by the Rowallan Alton Incorporation. The Rowallan Alton Incorporation is the Project Owner of the Rarakau Forest Carbon Project.

DNV inspected the project site including the 11 land parcels and can confirm that the project location is as described in Section 2.3 of the PDD .

Project start date

The project start date is 1 January 2009.

4.1.3 Project Scale and Crediting Period

Project scale and estimated GHG emission reductions or removals

The project area comprises 1 367 ha within which the eligible forest area comprises 738 ha made up of 11 land parcels. The estimated emission reductions and removals equate to 2,730 tCO_2e per annum starting 1 January 2009 and the net emission reduction credits equate to 2 565 tCO_2e for Year 1 and 2 430 tCO_2e *ex-post* VERs annually starting Year 2 to Year 50.

Project crediting period

The project crediting period is 5 yearly periods from 1 January 2009 till 31 December 2058. However, the first crediting period is 3 years from 1 January 2009 to 31 December 2011. Verification for the 3 year crediting period was done at the same time as validation.

4.1.4 Project Compliance with applicable laws, statutes and other regulatory frameworks

DNV checked with the Ministry of Agriculture and Forestry and the Southland District Council regarding the compliance or non-compliance of Rarakau Programme with the applicable national and local laws, statues and other regulatory frameworks such as Forest Act 1949 and the Forests Amendment Act 1993 . DNV can confirm that Rarakau programme complies with laws, status and other regulatory frameworks of New Zealand.

4.1.5 Ownership and other programs

Right of use

All land owners in the inception project of the Rarakau programme are indigenous peoples of Maori descent from a variety of tribal backgrounds, who were granted land under the South Island Landless Natives Act 1906. These owners comprise shareholders of the "Rowallan Alton Incorporation established under the Maori Affairs Act . During the site inspection, DNV checked with both national government and local government authorities to confirm ownership

of the project. Furthermore, DNV interviewed some shareholders of the Rowallan Alton Incorporation during the site inspection to confirm the right of use of the land included in the project, and also to confirm authenticity of some documents . On the basis of evidence provided and gathered, DNV can confirm that the project owners have the right of use of land included in the inception project of the Rarakau Programme.

Emissions trading programs and other binding limits

DNV checked and can confirm that the Rarakau forest carbon inception project is not included in any other emissions trading programs and other binding limits.

Participation under other GHG programs

DNV checked and can confirm that the Rarakau forest carbon inception project is not participating under other programs.

Other forms of environmental credit sought or received

DNV checked and can confirm that the Rarakau forest carbon inception project has not sought or received other forms of environmental credit.

Rejection by other GHG programs

DNV checked and can confirm that the Rarakau forest carbon inception project has not been rejected by other GHG programs.

4.1.6 Additional information relevant to the project

Eligibility criteria for grouped projects

The PP applies the Methodology which specifies the eligibility criteria for adding subsequent projects to the Rarakau Programme. This project is the first for the grouped project called the Rarakau Programme and does not need to satisfy any eligibility criterion required for subsequent projects.

Leakage management for AFOLU projects

Leakage management plan and implementation of leakage and risk mitigation measures has been properly described in Section 11 of the PDD. Leakage and mitigation measures include annual inspection of eligible forest boundary to monitor and manage any reversals (avoidable and unavoidable) at the boundary, and inspection of forest area to monitor any reversals occurring within eligible forest area and to ensure that any timber harvesting occurs within the *de minimis* limit as per applied Methodology /2/.

Commercially sensitive information

No commercially sensitive information has been excluded from the PDD.

4.2 Application of Methodology

4.2.1 Title and Reference

The project applies a Rarakau Programme specific Methodology "Rarakau Programme IFM-LtPF Methodology v1.0 .

4.2.2 Applicability

The Methodology /2/ is specifically applicable to projects occurring as part of the Rarakau Programme. This Inception project is the first in the Rarakau Programme; hence the Methodology /2/ is applicable to the project. DNV also confirmed that the project meets the following eligibility criteria required by the Methodology /2/ through document review and interviews:

- Eligible forests of the project area New Zealand indigenous forests that were already classed as 'forest lands' as of 31 December 1989;
- Baseline and project activities in eligible forests comprise management of carbon stocks in forest-remaining-as-forest activities;
- Baseline and project LULUCF GHG emissions, removals, emission reductions, and enhanced removals in eligible forests lie outside the GHG accounting boundary of the Kyoto Protocol.

In relation to specific conditions required by the Methodology, DNV checked and confirmed that:

- The project is owned by Rowallan Alton Incorporation ;
- Rowallan Alton Incorporation owns the carbon and management rights over the project area;
- Land in the project area is legally eligible to be harvested for commercial timber or fuelwood production ;
- The project includes only lands that have not received financing for the same project activities form another source ;
- Forest use under the project scenario is limited to non-commercial timber harvesting activities;
- The boundaries of the forest land are clearly defined and documented/mapped. Planned timber harvest has been determined using forest inventory methods that determine allowable timber volume harvests .

4.2.3 Project Boundary

Section 2.3.5 of the PDD includes project location and project area maps that clearly depict the boundary of the project area. The project area is divided into approximately 150 sections, most of which remain in Maori ownership. The Inception project comprises eleven of these sections (A7 11-13 & R8 8-15) totalling 1 367 ha, managed by the Rowallan Alton Incorporation. The Rowallan Alton Incorporation is the Project Owner of the Rarakau Forest Carbon Project. DNV confirmed the project boundary by reviewing the documents provided by the PP related project ownership , memorandum of encumbrance on land titles and Rarakau Programme Agreements , the signing of which was witnessed by DNV and official from the Ministry of Agriculture and Forestry of New Zealand. Guided by the project maps, DNV inspected the project site including the 11 land parcels and can confirm that the project boundaries are as described in Section 2.3 of the PDD .

The project uses GHG sources, sinks and reservoirs specified in the Rarakau Programme Methodology . The system boundaries are summarised in the Table below.

Source/Sink	GHGs involved	Description
Baseline emissions	CO_2	CO_2e emissions from above ground woody biomass removed from the forest; CO_2e emissions from above ground woody biomass entering the deadwood pool in the form of discarded crown and branches of harvested (target) trees; CO_2e emissions from additions to the above ground deadwood carbon pool resulting from collateral damage to non-target trees due to wood harvest activities.
Project emissions/removals	CO_2	CO_2e sequestered in the natural background rate of natural forest regeneration; CO_2e sequestered in harvest patches as a consequence of the opening the forest canopy.
Leakage (Activity shifting and market leakage)	CO_2	Any increase in CO_2e emissions that occurs outside the project boundary (but within the same country), and is measurable and attributable to the project activities.

The PDD includes credible justification for the selection of the project boundaries and carbon pools and DNV assessed that selection conforms to the requirements of the Methodology .

4.2.4 Baseline Scenario

The selected baseline scenario is on-going wood harvesting according to the wood harvesting component of a SFM plan or Sustainable Forest Management Permit for each land parcel in the

project area. The PP uses the following bases to determine a realistic and credible baseline activity:

- Historical level of forest harvesting in the entire SILNA area;
- The assumption based on the common practice that forests in the project area would be economically harvested as allowed under the SFM plans;
- The project owner has in the past undertaken the baseline activities and has future plans to do so as evidenced by the existence of pre-project timber harvest plan/SFM plans for their land parcels.

Section 4 of the PDD also includes a list of alternative land uses in the SILNA lands as:

- Selective logging timber harvest;
- Clear felling and replanting with exotic species;
- Clear felling and conversion to pastoral farming;
- Clear felling and left for regeneration;
- Conservation.

During the site inspection, DNV observed the following activities in the ineligible parts of the project area and the alternative land uses in the reference areas near the project area with similar conditions and drivers of deforestation:

- Selective timber harvesting, clear felling and replanting with exotic pine and eucalyptus timber species and clear felling and left for natural regeneration were observed as the dominant alternative land uses in the reference areas;
- The project owner had begun clearing land for pastoral farming within properties adjacent to the eligible forest area but ineligible under the project scenario.

DNV concludes that PP applied the applicable Methodology /2/ correctly, and that the identified alternative land uses and the selected baseline scenario appropriately apply to the project area. Thus, it is DNV's opinion that the selection of the continuation of the pre-project practice of on-going wood harvesting as the baseline scenario is deemed to be appropriate.

4.2.5 Additionality

The PDD applies regulatory surplus test, implementation barriers test and common practice test to test for the additionality as required by the applicable Methodology . Through document review and interviews, DNV confirmed that:

- The Inception project and the Rarakau Programme is not mandated by any enforced law;
- The project faces both investment and institution barriers in that without carbon finance, Maori landowners would maximize their ongoing income and livelihood from their land through forest harvesting and agriculture, as this was the original purpose of the South Island Natives Act 1906 (Act). Hence, in the absence of voluntary carbon finance, the project would be a liability to landowners which would defeat the purpose of the Act;
- The common practice in the project area and SILNA lands is forest harvesting of species in demand and at a profit under sustainable forest management plans.

Section 4 of the PDD defines five (5) realistic and credible land‐use scenarios that would occur on the land within the proposed project boundary in the absence of the project activity. The scenarios include the continuation of forest harvesting through selective logging, clear felling and replanting with exotic species, clear felling and conversion to pastoral farming, clear felling and left for natural regeneration and conservation. The assessment presents information that demonstrates that landowners would continue to harvest the forest to generate income in the absence of the project. DNV's observation of the project reference areas, interviews with landowners and the Ministry of Agriculture and Forestry and the Southland District Council , and a review of the literature also support this baseline scenario. The PDD demonstrates that the forest in the project area is at risk of continued baseline activities and therefore implementation of the project is additional.

4.2.6 Quantification of GHG Emission Reductions and Removals

Section 7 of the PDD provides a step-by-step description of the calculation process that was undertaken to quantify the GHG emission reductions and removals consistent with the equations and other requirements of the applicable Methodology . DNV also considered the provisions of ISO 14064-2 Standard, IPCC guidance , VCS approved methodology VM0010 , conditions observed during site inspection, and knowledge of other ecosystems and forest projects when judging the appropriateness of GHG emission reduction calculations of this project. DNV

concludes that all significant emission sources are included in project emission calculations. Calculation equations are presented in the applicable Methodology and applied in the spreadsheet . DNV reviewed the calculations in detail and, with the corrections made in response to the CARs and CLs, calculations are correctly applied as specified by the Methodology . Factors used in calculations are stated in the PDD and the Methodology and are derived from New Zealand local measurements and widely-referenced public sources. As per applicable Methodology , the total leakage for projects under Rarakau Programme is zero.

DNV found no potential sources of error or misstatement in the GHG accounting. Based on the calculations and results presented in the PDD and the spreadsheet , implementation of the project activity will result in an average *ex post* estimation of Net Project Benefits (NPB) conservatively calculated to be 2,730 tCO_2e per annum starting 1 January 2009 and the net emission reduction credits equate to 2 565 tCO_2e for Year 1 and 2 430 tCO_2e *ex-post* VERs annually starting Year 2 to Year 50.

All assumptions and data used by the project participants are listed in the PDD and/or supporting documents, including their references and sources as per applicable Methodology . All documentation used by the project participants as the basis for assumptions and source of data is correctly quoted and interpreted in the PDD. All values used in the PDD are considered reasonable in the context of the proposed project activity. The Methodology has been applied correctly to calculate project emissions, baseline emissions, leakage, and emission reductions. All estimates of the baseline, project and leakage emissions can be replicated using the data and parameter values provided in the PDD.

4.2.7 Project risks

The project's non-permanence risk is calculated in Section 8.2 of the PDD. The PP has used the latest version of the VCS AFOLU Non-Permanence Risk Tool to identify and rate the internal, external and natural risks related to the project as required by the applicable Methodology . The following is a summary of key project risks that have been identified and clearly described in the PDD:

Internal risks

- Opportunity cost risk where the NPV from the most profitable alternative land use activity is 20 – 50% higher than project activity;

- Project longevity risk associated with the length of time the activities that maintain carbon stocks will continue.

Natural risks

- Fire risk from adjacent properties not controlled by project owner where fire is used as a land management practice;
- Extreme weather risk from cyclone events in the project area;
- Geological risk from earthquake and landslide events in the project area.

DNV has assessed and checked the credibility of all data, assumptions, rationales and documentation used by PPs to calculate and determine the project's overall non-permanence risk rating and the contribution to the buffer pool. Furthermore, DNV conducted in-depth interviews and discussions with the Rowallan Alton Incorporation management and shareholders to cross-check authenticity of assertions and assumptions used for internal and external non-permanence risk assessment. Assertions and assumptions were confirmed to be appropriate. Furthermore, assertions and assumptions used for determining natural risks for the current monitoring period were cross-checked and confirmed with other available literature (e.g. /40/), the New Zealand Ministry of Agriculture and Forestry and the Southland District Council . Additionally, following responses to CARs and CLs raised after the site inspection, the PP put in place SOP for managing fire risk from piles of log and tree stumps in areas adjacent to the eligible forest area boundary.

Based on of the above evidence, DNV found the approach for non-permanence risk assessment meets the requirements of the VCS AFOLU Non-Permanence Risk Tool and accepts the project's overall risk rating of 11 determined from PPs' self-assessment. Overall risk rating is converted to a percentage (i.e. 11%) and then multiplied by the net change in the project's carbon stocks to determine the number of buffer credits to offset the non-performance risk as required by the tool .

4.2.8 Methodology Deviations

No methodology deviation has been applied to the project.

4.2.9 Monitoring Plan

The PDD outlines how the project will be monitored. As part of the implementation plan, detailed project management and project monitoring plans are included in Section 11 of the PDD and in line with the Methodology . DNV confirmed that the data and parameters available at validation and those to be monitored, including the monitoring methods, in the PDD are appropriate and as required by the applicable Methodology .

Roles and responsibilities of the project participants are detailed in Section 11.4 of the PDD. This section adequately describes roles and responsibilities for the project owner and project developer in relation to project management and project monitoring as required by applicable Methodology and as imbedded in the project agreements between the project owner and the project developer .

4.3 Environmental Impact

Section 2.11 of the PDD states that an environmental impact assessment (EIA) is not required for forest carbon projects undertaken in the voluntary carbon market in New Zealand because voluntary forest protection is a permitted activity under New Zealand and local government legislation. During site inspection, DNV checked with the New Zealand Ministry of Agriculture and Forestry and the Southland District Council and confirmed that protection of native forest would not be considered to have a significant environmental impact and therefore conducting an EIA is not required.

4.4 Comments by Stakeholders

Section 9.1.3 of the PDD outlines stakeholder consultations held in respect of the project. The PDD states that consultations took place in the form of face-to-face meetings, telephone conversations and emails between the project developer and the project steering committee representing landowner community and other stakeholders. The consultations were for purposes of project scoping, project inception and project implementation. Outcomes from these consultations included mandating the project developer to:

- Apply for project's funding from the Ministry of Maori Development or Te Puni Kokiri (TPK);
- Proceed to project implementation;

- Proceed to project validation and verification.

DNV reviewed documents relevant to stakeholder consultation. Furthermore, during the site inspection, DNV interviewed stakeholders representing the landowner community and confirmed the authenticity of the documents provided by the PP. DNV also checked and confirmed that free, prior and informed consent was sought from the stakeholders and that their views were taken into account in project development and implementation.

Hence, DNV deems that the stakeholder consultation was carried-out adequately.

4.5 Validation Conclusion

DNV has performed a validation of the project activity "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" in New Zealand. The objective is to confirm that the project design, as documented, is sound and reasonable and meet the identified applicable criteria. The validation scope covers an independent and objective review of the project document (PDD). The validation was performed on the basis of the Rarakau Programme IFM-LtPF Methodology, ISO 14064-2 requirements for the GHG project, as well as criteria from sources such as IPCC, VCS, CCBA and New Zealand carbon monitoring system given to provide good practice guidance for GHG accounting and for consistent project operations, monitoring and reporting.

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

The project correctly applies the Methodology "", version .

The project activity involves the legal protection of the eligible forests within the project area, whereby this protection is afforded by means of a legal covenant on the title of the land preventing baseline activities (that involve timber and fuelwood harvesting, that result in a reduction in mean carbon stocks and an increase in associated GHG emissions) for the duration of the Project.

As a result, the project results in reductions of CO_2 emissions which are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is

not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total Net Project Benefits (NPB) from the project are estimated to be on the average 2,730 tCO_2e per year over the selected 50 year renewable crediting period, and the net emission reduction credits equate to 2 565 tCO_2e for Year 1 and 2 430 tCO_2e *ex-post* VERs annually starting Year 2 to Year 50. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

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

In summary, it is DNV's opinion that the project activity "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" in , as described in the PDD, version 1.0 dated 15 May 2012, meets all relevant ISO 14064-2 requirements for the ISO 14064-2 GHG project and correctly applies the project specific Methodology "", version . Hence, DNV recommends the registration of the project as an ISO 14064-2 GHG project activity.

PART 3 PROJECT VERIFICATION

5 VERIFICATION FINDINGS

The basis for the verification has been the project monitoring report (version 1.0 dated 15 May 2012) for the period 1 January 2009 to 31 December 2011 /3/, the project document (PDD) /1/, and the Rarakau Programme methodology (version 1.0) /2/ applied by the project. The project proponent has provided the verification team with spreadsheet and information /4//7//8//11//12//15//22/ necessary for verification of the emission reductions.

The site inspection took place from 25 June, 2012 – 28 June, 2012. The personnel and stakeholders who were interviewed or who assisted the verification team are listed in the References of this report.

5.1 Project Implementation Status

During the site visit, the following field tasks were completed:

- the data and information presented in the monitoring report was assessed by reviewing the additional documentation and checking with the New Zealand Ministry of Agriculture and Forestry in Christchurch and the Southland District Council in Invercargill
- interviews were held with personnel on-site and in Christchurch;
- observation of established monitoring and reporting practices was conducted by assessing the implementation of leakage and risk mitigation activities as well as the stratification of the project area through inspection of eligible forest area boundaries with guidance from the forest area map imagery;
- Observation of on-going land use activities in the non-eligible parts of the project area and the reference areas.

This enabled DNV to assess the accuracy and completeness of the reported monitoring results and to verify the correct application of the monitoring plan and the Methodology /2/ and the determination of the reductions in emissions. DNV was able to verify that the project has been implemented in accordance with the project description contained in the PDD /1/ dated 15 May 2012, and that the monitoring has been carried out in accordance with the monitoring plan in the PDD /1/ for the project. All of the necessary parameters have been properly monitored to ensure the emission reduction calculations.

Remaining issues from previous validation or verification

This is the first periodic verification. There are no remaining issues from the validation.

Deviation from Simplified Project Monitoring Report Methodology

The Monitoring Report comprises a Simplified Project Monitoring Report following the Simplified Project Monitoring Plan as required in the PDD /1/ and the Methodology /2/ for this inception project of the Rarakau Programme. The only deviation from the Simplified Project Monitoring Report Methodology is that a simplified Eligible Forest Boundary Inspection and simplified Eligible Forest Area inspection have been conducted. These inspections involved ground inspections of the eligible forest boundary and ground inspections of the eligible forest area to ensure that there was no deviation from the aerial images derived from aerial imagery from 2012 data provided by Aerial Surveys Ltd.

Assessment of All the Monitored Parameters

	Assessment/ Observation
Data / Parameter: Eligible Forest Area (ha)	DNV reviewed information on the parameter reported in the PDD and the MR. By using the satellite imagery supplied by the PP, DNV inspected the eligible and ineligible forest areas and checked and compared forest composition classifications/stratification and mapped cover types for general correspondence and found this to be reasonable. The reasonableness of reported value of 738 ha was checked with, and confirmed by, the Southland District Council.
Enhanced Removals	DNV inspected, assessed and confirmed forest succession occurring within the vegetation cover types in the logged forest area components of the eligible forest area.
Net Project Emissions	DNV inspected and assessed the eligible forest area for indications of recent reversals through logging or firewood harvesting above the *de minimis* threshold stated in the PDD. DNV observed no recent forest harvesting in the eligible forest area.

<table>
<tr><td>Total Activity Shifting Leakage</td><td>As per PDD, the assessment for this parameter for current monitoring period is zero</td></tr>
<tr><td>Total Market Leakage</td><td>As per PDD, the assessment for this parameter for current monitoring period is zero</td></tr>
<tr><td>Overall Risk rating</td><td>During the site inspection, DNV interviewed Rowallan Alton Incorporation management and shareholders to cross-check authenticity of assertions and assumptions used for the following risk ratings from internal, external and natural non-permanence risk assessment.
<table>
<tr><th>Risk Category</th><th>Rating</th></tr>
<tr><td>a) Internal Risk</td><td>7</td></tr>
<tr><td>b) External Risk</td><td>0</td></tr>
<tr><td>c) Natural Risk</td><td>4</td></tr>
<tr><td>Overall Risk Rating (a + b + c)</td><td>11 %</td></tr>
</table>
Assertions and assumptions were confirmed to be appropriate. Furthermore, assertions and assumptions used for determining natural risks for the current monitoring period were cross-checked and confirmed with other available literature (e.g. /40/), the New Zealand Ministry of Primary Industries (formerly Ministry of Agriculture and Forestry) and Southland District Council.
DNV deems the overall non-permanence risk rating of 11% to be reasonable.</td></tr>
</table>

5.2 Accuracy of GHG Emission Reduction or Removal Calculations

Calculations of baseline emissions, proposed IFM project activity emissions and leakage provided in the spreadsheet /8/ and the monitoring report for the monitoring period were checked by DNV and found to be correct and in accordance with the formulae and methods described in the monitoring plan and the applied Methodology /2/, as detailed below:

- The project area, forest boundary and vegetation cover types were mapped and quantified using aerial imagery from a Landsat image from 1990 with a resolution of 30m
- By walking in the eligible forest area and along the eligible forest boundaries, DNV was able to check and confirm the baseline stratification of the project area into forest composition and forest management strata as required by the applied Methodology /2/ and the PDD /1/
- DNV visited the reference areas of the project and can confirm that the reference area encompasses lands that are as similar as possible to project lands
- DNV checked and confirmed information and assumptions used in estimating non-permanence risk rating and deemed the risk buffer proportion used by the project to be appropriate. As one of the measures to protect the eligible forest area and to mitigate project non-permanence risk, the Memorandum of Encumbrance /17/ and the Programme Agreement /18/ between the project owner and the programme operator were signed in the presence of DNV and witnessed by official /48/ from the New Zealand Ministry of Agriculture and Forestry
- The default mean sequestration rates used to estimate carbon sequestered in harvest patches in indigenous forest types of the project area were cross-checked and confirmed by the New Zealand Ministry of Agriculture and Forestry
- The sustainable harvest rates from SFM plans in the Rowallan Alton Maori lands were cross-checked and confirmed by the New Zealand Ministry of Agriculture and Forestry
- Calculations of net emission reductions were reviewed in detail and were found to correctly apply appropriate emission factors, IPCC default values and other reference values
- DNV found no significant project emissions to be included in the calculations and all assumptions, emission factors and default values that were applied in the calculations were appropriately justified

5.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

The Rarakau Forest Carbon Project baseline scenario data is based on the annual allowable timber harvest rate for each land parcel as documented in the Sustainable Forest Management

Plan and timber harvesting assessment /7//11//12/ provided in Appendix 3 and 21 to the PDD. The project uses other national factors, e.g., average wood density, ratio of below-ground to above-ground biomass that is also used under the New Zealand Land Use Carbon Accounting System (LUCAS), and other external information underlying the GHG data from IPCC and published sources. Multiple strategies were also used to obtain data quality and accuracy of numbers. Contractors **/7/** with specialized expertise were engaged when the project participants did not have necessary expertise on staff. DNV checked all references and confirmed with the New Zealand Ministry of Agriculture and Forestry the existence of documented SFM plans for the project area and the applicability and reliability of default mean sequestration rates used to estimate carbon sequestered in harvest patches of the project area.

5.4 Management and Operational System

During the site inspection, DNV checked and confirmed existence of a management system for monitoring and reporting. The project has suitable organisational structure with associated responsibilities and required competencies. As a response to CARs and CLs, the project's operational system now includes documented standard operating procedures for, inter alia, internal audits and management review, non-conformance handling and dispute resolution procedures. The quality assurance and quality control system in terms of data and information management and reporting are appropriate.

6 VERIFICATION CONCLUSION

DNV has performed the verification of the emission reductions that have been reported for "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" in New Zealand for the period The objective is to develop evidence to confirm that the project implementation has been carried according to the Rarakau Forest Carbon project PDD and to certify that the reported greenhouse gas assertion were calculated correctly on the basis of the applicable methodology.

The project participants are responsible for the collection of data in accordance with the monitoring plan and the reporting of GHG emissions reductions from the project.

It is DNV's responsibility to express an independent verification statement on the reported GHG emission reductions from the project.

DNV conducted the verification on the basis of the Rarakau Programme IFM ‐ LtPF Methodology , the monitoring plan and non-permanence risk assessment contained in the PDD /1/ dated 15 May 2012 and the monitoring report (version 1.0) dated 15 May 2012. The verification included i) checking whether the project has been implemented in accordance with the project description; ii) checking whether the provisions of the monitoring plan were consistently and appropriately applied; iii) the collection of evidence supporting the reported data and iv) the assessment of the non-permanence risk analysis.

DNV's verification approach draws on an understanding of the risks associated with reporting of GHG emission data and the controls in place to mitigate these. DNV planned and performed the verification by obtaining evidence and other information and explanations that DNV considers necessary to give reasonable assurance that reported GHG emission reductions are fairly stated.

In our opinion the GHG emissions reductions of the "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" for the period are fairly stated in the monitoring report () dated 15 May 2012 /3/. The GHG emission reductions were calculated correctly on the basis of the Rarakau Programme IFM ‐ LtPF Methodology and the monitoring plan contained in the PDD /1/ dated 15 May 2012.

DNV is able to verified that the net emission reductions from the "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" during the period amount to 7 425 tonnes of CO_2 equivalent, detailed as below.

Reporting period:

Verified GHG emission reductions or removals in the above reporting period:

GHG Emission Reductions or Removals	**tCO_2e**
Baseline Emissions Avoided	152
Project Emissions/Removals	8 190
Leakage	0
Buffer	917
Net GHG emission reductions or removals	**7 425**

DNV does not assume any responsibility towards the issuance and utilization of the VERs hereby verified. Request for issuance of VERs shall be made by the project proponent to Markit Environmental Registry.

The verification of reported emission reductions is based on the information made available to DNV and the engagement conditions detailed in this report. DNV cannot be held liable by any party for decisions made or not made based on this report.

7 REFERENCES

Documents provided by the Project Participants that relate directly to the GHG components of the project. These have been used as direct sources of evidence for the validation and verification conclusions, and were further checked through interviews with key personnel.

/1/ Carbon Partnership Ltd: *PDD for project activity "Rarakau Forest Carbon Project: IFM-LtPF Inception Project for the Rarakau Programme" in* , Version 1.0, 15 May 2012.

/2/ Carbon Partnership Ltd: , version , 15 May 2012.

/3/ Carbon Partnership Ltd: *Rarakau Carbon Project Monitoring Report Number 1*, version , 15 May 2012.

/4/ Wallwork Forest Management Ltd: *Draft Sustainable Forest Management Plan For the Land: Section 15 Block IV Rowallan Survey District*, July 2006.

/5/ Carbon Partnership Ltd: *Email Confirmation of TPK meetings*, 12 August 2011.

/6/ Southland District Council: *Appendix 2: Southland District Plan, Section 3, General Objectives, Policies, Methods and Rules – 3.4, Heritage*, 27 June, 2001.

/7/ Clayton Wallwork: *Appendix 3 - Revised Desk Top Assessment of SILNA Rowallan/Alton Sections For Carbon Partnership Ltd*, August 2011.

/8/ Carbon Partnership Ltd: *Appendix 6 - Project GHG Accounting Excel Spreadsheet*.

/9/ The Maori Land Court of New Zealand: *Appendix 7 - Rowallan Alton Incorporation Section Owners,* 4 September, 1969.

/10/ Rowallan Alton Incorporation: *Appendix 8: The Constitution of the Rowallan Alton Incorporation*, 1 November, 2003.

/11/ Burrows, L.E., Evans, G.R, Pruden, C.C., Kuru, G.A & Janett, D: *Appendix 9 - The standing wood volumes of the Landless Native Grant Lands of Southland and Stewart Island*, June 1992.

/12/ Ministry of Agriculture and Forestry: *Appendix 10 - Assessment of SILNA Timber Resources, 1999: Land Designated under the South Island Landless Natives Act, 1906,* December 2000.

/13/ 1 District Council: Appendix 11 - *Report to Resource Planning Committee*, 8 December 1999.

/14/ Ministry of Agriculture and Forestry: *Appendix 12 - Email correspondence regarding project additionality*, 12 October, 2011.

/15/ Carbon Partnership Ltd: *Appendix 13 – Carbon Sequestration Rates Excel Spreadsheet*.

/16/ Carbon Partnership Ltd: *Appendix 15 - EIA Confirmation*

/17/ Carbon Partnership Ltd: *Appendix 16 – Memorandum of Encumbrance*

/18/ Carbon Partnership Ltd: *Appendix 17 – Programme of Agreement*

/19/ Carbon Partnership Ltd: *Appendix 19 – Evidence of Consultation*

/20/ Carbon Partnership Ltd: *Appendix 20 – Eligible Forest Boundary Inspection Template*

/21/ Carbon Partnership Ltd: *Appendix 21 - Eligible Forest Area Inspection Template*

/22/ Carbon Partnership Ltd: *Appendix 22 – SILNA Timber Resources 1999*

Background documents related to the design and/or methodologies employed in the design or other reference documents.

/23/ International Organisation for Standardisation: *ISO 14064-2*, 1 March 2006

/24/ Verified Carbon Standard: *AFOLU Non-Permanence Risk Tool*, Version 3.0, 8 March 2011.

/25/ Verified Carbon Standard: *Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities* (VT0001, Version 1.0).

/26/ Verified Carbon Standard: *VCS Standard:* Version 3.0, 8 March 2011.

/27/ Verified Carbon Standard: *VCS Standard:* 2007.1, 18 November 2008.

/28/ Climate, Community & Biodiversity Alliance: *CCB Standards*, Second Edition, 2011.

/29/ Verified Carbon Standards: *Approved VCS Methodology VM0010 – Methodology for Improved Forest Management: Conversion of Logged to Protected Forest*, Version 1.1,

December 2008.

/30/ Verified Carbon Standard: *Approved VCS Methodology VMD0017 – REDD Methodological Module: Estimation of Uncertainty for REDD Project Activities (X-UNC)*: Version 1.0.

/31/ Verified Carbon Standard: *VCS Guidance – AFOLU Guidance: Example for GHG Credit Accounting Following a Loss Event*: 8 March 2011.

/32/ Verified Carbon Standard: *Approved VCS Tool for the Estimation of Uncertainty for the IFM Project Activities* VT0003 v1.0*, 2010.*

/33/ IPCC: *2006 IPCC Guidelines for National Greenhouse Gas Inventories:* Volume 4: Agriculture, Forestry and Other Land Use.

/34/ IPCC: *IPCC Good Practice Guidance for LULUCF:* Chapter 3: LUCF Sector Good Practice Guidance.

Documentation used by DNV to validate / cross-check the information provided by the project participants

/35/ Ministry of Agriculture and Forestry: *Classifying land for forestry in the emissions trading scheme*, May 2010.

/36/ Ministry for the Environment: *Land Use, Land-use Change and Forestry Sector: Greenhouse Gas Emission Projections for the First Commitment Period of the Kyoto Protocol from LULUCF Activities under Article 3.3 - Results, Data and Methodology 2011 Report*, April 2011.

/37/ Ministry of Agriculture and Forestry: *Pre-1990 Forestry Allocation and Exemptions*, December 2010.

/38/ Payton, I.J., Barringer J., Lambie, S., Lynn, I., Forrester, G., Pinkney, E.J. 2009. *Carbon sequestration rates for post-1989-compliant indigenous forests.* Landcare Research report LC0809/107 to MAF Policy.

/39/ Payton, I. J. 2007. *Forest Carbon Tables to Determine Carbon Dioxide (CO_2) Emissions Resulting From the Deforestation of Pre-1990 Indigenous Forest Land***.**

Landcare Research Contract Report: LC0708/052.

/40/ Vittoz, Pascal1; Stewart, Glenn H.1 & Duncan, Richard P.1: *Earthquake impacts in old-growth Nothofagus forests in New Zealand*, *Journal of Vegetation Science 12: 417-426, 2001*.

/41/ Ministry of Agriculture and Forestry: *Forests Act 1949*, 11 October 1949.

/42/ Ministry of Agriculture and Forestry: *Forests Amendment Act 1993*, Public Act 1993 No. 7, 24 March 1993.

/43/ Ministry of Agriculture and Forestry: *A field measurement approach for carbon assessment in post-1989 forests*, October 2010

Persons interviewed during the initial verification, or persons who contributed with other information that are not included in the documents listed above.

	Date	Name	Organization	Topic
/44/	26-June-2012	Sean Weaver	Carbon Partnership (Project Developer)	Methodology development, project design and project implementation
/45/	26-June-2012	Harold Thomas	Rowallan Alton Inc. (Chairman)	Project ownership; Certificate of Encumbrance;
/46/	26-June-2012	Ken McAnergney	RAI Management Committee	Project status
/47/	26-June-2012	Mike Gibbs	RAI Management Committee	
/48/	26-June-2012	Alan Griffiths	Ministry of Agriculture and Forestry	Eligibility of project area under Article 3.4 of the Kyoto Protocol and the New Zealand compliance carbon accounting system;
/49/	26-June-2012	Alan Tinnelly	Ministry of Agriculture and Forestry	Regulation of indigenous forest

				reserves with regard to sustainable forest management; Applicability of environmental impact assessment requirement to Rarakau forest carbon project; Right of use of land by project proponents; Carbon credit ownership. Authentication of project documents stated in the PDD and the monitoring report.
/50/	28-June-2012	Bruce Halugan	Southland District Council	Confirmation of Common practice including deforestation and forest degradation; Actual land uses and land-use alternatives; Confirmation of existence of sustainable forest management plans in all 11 land parcels in the Inception Project; Confirmation of exclusion of Maori-owned land from the ban
/51/	28-June-2012	Simon Moran	Southland District Council	

				from clear-felling, and whether this extends to SILNA land included in the Inception project; Confirmation of whether the Southland District (resource management) Plan mandates the total preservation of forests and complete cessation of timber harvesting from indigenous forests. Confirmation of Common practice including deforestation and forest degradation and evidence or indicators for these. Authentication of project documents stated in the PDD and the monitoring report.
/51/	28-June-2012	Mike Gibbs	RAI Management Committee	Confirmation of free prior and informed consent (FPIC) in relation to stakeholder participation in project design and the supporting evidence that due account of stakeholder comments had been taken.
/52/	28-June-2012	Norma Gibbs	RAI Shareholder	
/53/	28-June-2012	Helen Hurst	RAI Shareholder	
/54/	28-June-2012	Murray August	RAI Shareholder	
/55/	28-June-2012	Owen August	RAI Shareholder	Authentication of project documents stated in the PDD and

/56/	28-June-2012	Pat Palmer	RAI Shareholder	the monitoring report.

APPENDIX A

VALIDATION AND VERIFICATION PROTOCOLS

Tale 1a Requirements Checklist for Methodology Assessment

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
1. About Eligibility Criteria					
1.1 Does the Methodology include clearly defined eligibility criteria?		DR	Section 1.1 - The Methodology clearly defines the eligibility criteria in accordance with Section 5.1 of ISO 14064-2 Standard, including specific conditions under which it can be used and the evidence required to demonstrate eligibility.	OK	OK
1.2 Does the Methodology require project proponents to describe the project and its context in the GHG project plan?		DR	Section 2 – Project proponents (PPs) are required to describe the projects following the requirements of parts (a) to (m) in Section 5.2 of the ISO 14064-2 Standard. CAR 1 According to Section 1.1.3, the legal protection of the eligible forests within the Project Area shall be by means of a legal covenant (Memorandum of Encumbrance) on the title of the land preventing baseline activities for the duration of the project. To meet this methodology criterion, the methodology requires project proponents (PPs) to provide legal covenant to be placed on the land title within 3 months of the successful validation of inception project and verification of sub-projects.	OK ~~CAR 1~~	OK OK

			While this may be appropriate for the validation of project design, the methodology should require PPs to provide, at verification of project implementation, legal covenant documentation for each eligible forest in the project area as evidence that the project has been protected by legally binding commitment to prevent baseline activities, and to assure continuation of management practices that protect the credited carbon stocks over the length of the project crediting period. CAR 2 Section 5.2(c) of ISO 14064-2 Standard requires the description of project location, including geographic and physical information to allow the unique identification and delineation of the specific extent of the project. Information about geographic coordinates of the project is important in meeting the criteria. In Section 2.3, the methodology does not require PPs to include the geographic coordinates of each land polygon vertex in the project boundary description to enable unique project identification and delineation. Carbon Partnership is requested to correct this. CAR 3	~~CAR 2~~	OK

			Section 5.2(f) of ISO 14064-2 Standard requires PPs to describe the project and its context in a GHG project plan including project technologies, products, services and the expected level of activity. While Section 2.6 of the methodology includes a description of project technologies, it does not include the requirement for PPs to describe project products and services and the expected level of project activity. Carbon Partnership is requested to correct this.	OK	OK
2. About Baseline Approach					
2.1 Does the Methodology provide appropriate and adequate criteria and procedures for identifying and assessing potential baseline scenarios?		DR	Section 4: The Methodology provides appropriate and adequate guidance, procedures and criteria for selecting and modelling realistic and credible land use. PPs are also required to provide justification for a selected baseline and for excluding alternative baselines. **CL 1** Paragraph 4 under Section 4.1.2.1 assumes that "…for this ex-ante baseline analysis, the current level of timber harvest that is economically viable in 2010 will be the same for the remainder of the Project Period". The 50 years project period is a long time during which timber harvest levels may	~~CL 1~~	OK

			change due to, for example, a change to the sustainable harvest rate threshold emanating from increased demand for currently harvested timber species or a new demand for timber species not currently utilized (as a result of novel timber processing technologies or use). Carbon Partnership shall substantiate this assumption.		
2.2 Does the Methodology require the project proponents to select the most conservative, realistic and credible baseline scenario for the project that reflects what most likely would have occurred in the absence of the project?		DR	Section 4.1.1: Each project in the Grouped Project must determine the baseline scenario as wood harvesting according to the wood harvesting component of a Sustainable Forest Management plan or Sustainable Forest Management Permit for each land parcel in the project area.	OK	OK
3. About Additionality					
3.1 Does the Methodology provide adequate and appropriate criteria and procedures by which project proponents can demonstrate that the project results in GHG emission reductions or removal enhancements that are additional to what would occur in the baseline scenario?		DR	Section 4.1.5: The Methodology requires PP to test the additionality projects using the 'Project Test' (Regulatory Surplus, Implementation Barriers, Common Practice) of the Voluntary Carbon Standard (VCS 2007:1). **CL 2** The Methodology refers PPs to the older version of VCS Standard which has been superseded by the VCS Standard: Version 3.1 . The Methodology shall require PPs to use the 'Project Test' in the	~~CL 2~~	OK

			most recent version of the VCS Standard.		
4. About Project Boundary					
4.1 Does the Methodology require that the project boundaries (including carbon pools and greenhouse gases to be included or excluded) are clearly defined, and is adequate and appropriate guidance provided in the MED to achieve this?		DR	Section 2.3.5: Project owners and project developers are required to clearly define the project's geographical boundaries for each project in the Grouped Project, and to provide project location maps, project area map, eligible forest area map, 1990 eligibility map and project area vegetation map as evidence of conformance to project boundary definition. Section 3 – GHG sources, sinks and reservoirs relevant to the baseline scenario and sources, sinks and reservoirs relevant to the baseline GHG emissions and removals are given in Tables 3a, 3b and 3c of the Methodology. Justification to include or exclude certain types of carbon pools is provided. **CL 3** Table 3b - The justification for including below-ground biomass in carbon pools is stated as "When you kill a tree you also kill its roots". This does not apply to all harvested trees. Some trees, especially the indigenous species, can and do regenerate from stumps after harvesting. This justification may only apply in cases where a tree is uprooted. Carbon	~~CL 3~~	OK

			Partnership is requested to provide a more appropriate justification for including below-ground biomass pool. **CAR 4** Table 3c refers to Table 20 as containing carbon pools included in emission sources other than resulting from changes in stocks in carbon pools. The Methodology document does not contain Table 20. Carbon Partnership shall correct this. **CAR 5** Section 5 and Section 6 refer to Section 3 for information on "Baseline Scenario GHG Sources, Sinks and Reservoirs" and "Selecting Relevant Baseline GHG Emissions and Removals", respectively. Sections 5 and 6 shall each include respective information and not simply directing PPs to Section 3. Carbon Partnership is requested to correct this.	~~CAR 4~~ ~~CAR 5~~	OK OK
5. About Emissions					
5.1 Does the Methodology provide adequate and appropriate criteria and procedures for		DR	Section 7.1 provides equations and guidelines required for project proponents to model the ex-		

calculating greenhouse gas emissions relevant for baseline scenario?			ante baseline greenhouse gas accounts. The Methodology clearly differentiates between baseline GHG sources and sinks to be modeled, - Emissions from above ground biomass - Emissions from collateral damage to non-target trees caused by tree felling and extraction - Emissions from below ground biomass - Sequestration in harvest patches due to regrowth following timber harvest And those to be excluded from modelling - Emissions through fossil fuels burned in baseline harvesting practices - Harvested wood products Hence, the net baseline emissions is equal to the sum of above ground biomass (total wood harvested plus collateral damage) and below ground biomass in all land parcels minus the sum of carbon sequestration from forest regrowth after harvest in all land parcels. The net carbon stock change across the baseline is then annualised by dividing by the time elapsed since the start of the project activity. The carbon stock changes in the trees, deadwood and wood products are estimated using guidelines and default values adopted from the New Zealand		

			Land Use Carbon Accounting System (LUCAS), VCS, and IPCC, and peer reviewed forestry models of forest management across baseline period. **CAR 6** The principle of transparency in Section 3 of the ISO 14064-2 Standard requires a disclosure of sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence. The Methodology uses a collateral damage factor of 20% of total wood harvested to account for damage to non-target above ground biomass resulting from timber harvesting operations. The basis or source of this value is not indicated. Carbon Partnership is requested to provide the basis and/or the references for this factor. **CAR 7** The factor for carbon proportion of dry biomass is given as 0.5 in Equation 7.1.7d and as 0.47 in the parameter list. Also, the factor for New Zealand average oven dry wood density for indigenous canopy tree species is given as 0.49 t/m^3 in Equation 7.1.7a and as 0.42 t/m^3 in Equation 7.1.7d. DNV deems this to be non-conforming to ISO 14064-2 principle of consistency. Carbon Partnership	~~CAR 6~~ ~~CAR 7~~	OK OK

			shall correct these inconsistencies. **CAR 8** Section 7.1.7 - The factor for New Zealand average oven dry wood density for indigenous canopy tree species is given as 0.49 t/m^3 in Equation 7.1.7a and as 0.42 t/m^3 in Equation 7.1.7d. Carbon Partnership is requested to correct these inconsistencies.	~~CAR 8~~	OK
5.2 Does the Methodology establish criteria and procedures for quantifying GHG emissions and/or removals for selected GHG sources, sinks and/or reservoirs relevant for project scenario for each year of the proposed crediting period?		DR	Section 7.2 - The Methodology provides equations and guidance for calculating net project removal in the project scenario due to ongoing forest growth in logged forest land parcels for the project period. This is done by first calculating enhanced removals (multiplying operational area of each forest type by the mean sequestration rate for three different indigenous forest types) and then subtracting project activity emissions. The New Zealand national average sequestration rates are applied as default mean sequestration rates. Net carbon credits are calculated by subtracting emissions due to leakage and buffer credits.		
5.3 If highly uncertain data and information are relied upon, does the Methodology provide		DR	Section 10.4 – Although the ISO 14064-2 Standarddoes not give specific guidance on the		

criteria and procedures for selecting assumptions and values that ensure that the quantification does not lead to an overestimation of GHG emission reductions or removal enhancements?			assessment of uncertainty, the Methodology applies guidance from the Approved VCS Tool for the Estimation of Uncertainty for IFM Project Activities , which allows use of conservative estimates instead of uncertainties. Provided these are based on verifiable literature sources or expert judgment, the uncertainty is assumed to zero. The Methodology does provide a basis for adjusting the number of GHG credits for each year in the crediting period for total uncertainty for both the baseline and project scenarios. However, the basis and/or reference for Sustainable Harvest Rate (SHR), Collateral Damage and Total Wood Harvested (TWH) assumptions are not included. **CAR 9** Carbon Partnership shall provide the basis and/or reference(s) for 60% Sustainable Harvest Rate, 20% Collateral Damage and the reference(s) for the three default conversion factors for Total Wood Harvested. **CAR 10** The methodology relies on the application of default mean sequestration rates from look-up tables based entirely on the New Zealand national average sequestration rates. Data from the look-up	~~CAR 9~~ ~~CAR 10~~	OK OK

			tables are national averages and have been shown by some sources (e.g., Ministry of Agriculture and Forestry: *A field measurement approach for carbon assessment in post-1989 forests*, October 2010) to be inaccurate and their use could result in under- or over-estimation of carbon stocks and VERs. Thus, the methodology shall also require PPs to establish permanent sample plots in the eligible forest areas to collect empirical, project-specific carbon stock information and data for second and subsequent verification periods.		
5.5 Does the Methodology provide criteria and procedures to assess the risk of a reversal of a GHG emission reduction or removal enhancement (i.e., permanence of GHG emission reduction or removal enhancement)?		DR	Section 8.2 - The Methodology requires project proponents to apply the most recent VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination to determine the risk of reversal of GHG emission reductions and the total buffer proportion to be withheld in the buffer account. In calculating the number of VERs for the project, GHG credits are adjusted using this buffer proportion to account for risk.	OK	OK

5.6 Are the GHG emission reductions or removal enhancements quantified as the difference between the GHG emissions and/or removals from GHG sources, sinks and reservoirs relevant for the project and those relevant for the baseline scenario?		DR	Section 8.1 - The emission reductions are the net GHG emission removals by sink minus the baseline net GHG removals by sinks minus market leakage.	OK	OK
5.7 Does the Methodology use tonnes as the unit of measure and convert the quantity of each type of GHG to tonnes of CO_2-e?		DR	Section 7.1.7d - The Methodology uses tonnes as the unit of measure and converts the quantity of each type of GHG to tonnes of CO_2-e. However, the carbon equivalence notation (CO_2-e) is not used in all relevant formulae. **CL 4** Carbon Partnership shall clarify why the CO_2-e notation is not used in the formulae.	~~CL 4~~	OK
6. About Leakage					
6.1 Does the Methodology require project developers to demonstrate that there is no leakage (either through activity shifting or market leakage) in and outside their project areas?		DR	Section 7.3 - The Methodology requires PPs to address both activity shifting and market leakage based on the Green Collar IFM LtPF v1.0 VCS approved Methodology VM0010, and gives guidance on how to calculate adjustments to project credits to account for potential market leakage (by the application of relevant leakage factors provided by the Methodology). This provides additional assurance to the prevention of leakage due to	OK	OK

			project implementation.		
7. About Monitoring, Data and Parameters					
7.1 Does the Methodology provide criteria and procedures for monitoring and reporting relevant GHG sources, sinks and reservoirs?		DR	Section 11 – The Methodology provides elaborate criteria and procedures for project monitoring that includes: - Purpose of monitoring - Types of data - Origin of data - Monitoring methodologies - Monitoring roles and responsibilities - GHG information management systems **CAR 11** Both monitored and not monitored data and parameters used in emissions calculations should be defined in the Methodology clearly and appropriately to make it possible for the emission reductions to be estimated and verified in the verification periods. Although the Methodology provides an elaborate monitoring procedure for project monitoring, it is also good practice for methodologies to prescribe specific data and parameters not monitored (default or possibly measured one time), and data and parameters monitored. These data and parameters (including units, measurement procedures, measurement	~~CAR 11~~	OK

			frequency, quality assurance/quality control procedures, etc.) shall be summarised in separate tables for clarity. Carbon Partnership shall include separate tables for (a) data/parameters not to be monitored and (b) data/parameters to be monitored. **CAR 12** Section 11.4 – The Methodology shall require PP to prepare standard operating procedures (SOPs) for project management, project monitoring and data storage and security. **CAR 13** Section 11.3.2 - The methodology shall enable a more flexible approach to the design of the site inspection components of the monitoring system.	~~CAR 12~~ ~~CAR 13~~	OK OK
7.2 Does the Methodology provide quality management procedures to manage data and information, including the assessment of uncertainty, relevant to the project and baseline scenarios?		DR	Section 10 - Methodology provides procedure on the management of monitoring data records. The Methodology requires that data collected as part of monitoring is archived electronically and kept at least for 2 years after the end of the project period. Data archiving shall take both electronic and paper forms, and copies of all data shall be provided to each project participant. Project proponents are	OK	OK

			required to keep and maintain copies of all electronic data and reports on durable media such as CDs and copies of the CDs are to be stored in multiple locations. The types of data to be included in the archives are clearly specified in the Methodology.		
8. About Adherence to the principles of the ISO 14064-2 Standard					
8.1 Does the Methodology adhere to the ISO 14064-2 principles of relevance, completeness, consistency, accuracy, transparency and conservatism?		DR	The Methodology is developed in line with the project-level principles of ISO 14064-2 Standardas demonstrated in Sections 3.1 through to 3.8 of this report, subject to satisfactory responses to CARs and CLs.	~~Satisfactory responses to all CARs and CLs required~~	OK

Table 1b Requirements Checklist for Project Validation

(Please note that Ancillary Impacts section of the PDD is not subject to validation and verification)

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
5.1 GENERAL REQUIREMENTS					
1. Does the GHG project conform to relevant requirements of the GHG programme to which it subscribes (if any), including eligibility or approval criteria, relevant legislation or other requirements?		DR	Section 1 - The general requirements for the Rarakau Programme include eligibility criteria, the use of good practice guidance, and the specific requirements of the ISO 14064-2 Carbon standard.	OK	OK
2. Does the project proponent identify, consider and use relevant current good practice guidance from a recognized origin?		DR	Section 1.2 – Project Proponents (PPs) use relevant current good practice guidance from recognised sources such as IPCC 2006 Guidelines on National GHG Inventories, the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), New Zealand Carbon Monitoring System and Climate, Community and Biodiversity Standard (CCB).	OK	OK
3. Does the project proponent justify any departure from using relevant current good practice guidance		DR	Section 1.2 - The justification for using earlier version of VCS methodological guidance is that a more recent 2011 version was not available at the	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
from recognized origins?			time when much of the PDD and Methodology development took place. Another justification for variations from relevant elements of current good practice guidance were for purposes of simplifying project carbon accounting requirements and aligning them with the New Zealand national compliance forest carbon accounting regime.		
5.2 DESCRIBING THE PROJECT					
1. Project title, Purpose(s) and Objective(s)					
1. Does the PDD include a clearly identifiable project title, project purpose(s) and project objective(s)?		DR	Section 2.1 - The PDD includes a clearly identifiable title of the project activity, and the primary and secondary project purposes and objectives. CL1 PP shall clarify the enforceability of the Memorandum of Encumbrance.	~~CL 1~~	OK
2. Type of GHG project					
1. Is the project type clearly described?		DR	The project type is described in Section 2.2 of the PDD as "improved forest management – logged to protected forest (IFM-LtPF)".	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
3. Project location including geographic and physical information allowing the unique identification and delineation of the specific extent of the project					
1. Can the information provided in the PDD allow for the unique identification and delineation of the specific extent of the project?		DR	Clear project maps are included in Section 2.3 of the PDD that allow for identification of project location and delineation. However, the geographic coordinates are not included as required by the applicable Methodology. CAR 1 PPs shall include the geographic coordinates as per applied Methodology (Section 2.3.6) to allow for unique identification of the project.	~~CAR 1~~	OK
4. Conditions prior to project initiation					
1. Are the conditions prior to project initiation clearly described in the PDD with supporting evidence?		DR	Section 2.4 - According to the Methodology, options for original conditions of the forest in the eligible forest area are (a) old-growth forest not currently being logged and (b) previously logged regenerating forest. The original condition for	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			Rarakau project is described as previously logged regenerating forest. Climate Partnership uses a report by the Forest Research Institute as evidence to describe conditions of forest areas in the eligible forest area prior to project initiation.		
5. A description of how the project will achieve GHG emission reductions and/or removal enhancements					
1. Is the description of how the project will achieve GHG emission reductions and/or removal enhancements clear?		DR	Section 2.5 describes project GHG strategies for achieving GHG emission reductions and/or removal enhancements. CAR 2 PP shall include a brief description of early stages of project history to show when project began. CL 2 The name/word 'Rarakau' in the project title in the Methodology text box in Section 2.1.1 is given as	~~CAR 2~~ ~~CL2~~	OK OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			'Rakiura'. PPs shall clarify the right name/word. CL 3 One of the activities to be terminated in the project scenario to achieve GHG removal enhancement is fuel wood harvesting above the *de minimis* (≤5% of the allowable annual commercial timber harvest volume) in regenerating forests. To satisfy the need for energy, fuel wood harvesting above the *de minimis* could occur and could be shifted to areas outside the project and this could result in GHG leakage. PP shall clarify how the project would mitigate this possibility of GHG leakage.	~~CL3~~	OK
6. Project technologies, products, services and the expected level of activity					
1. What products/services will be produced by the project? What technologies are used in the project? Are the technologies properly selected to provide the		DR	Section 2.6 - Project technologies are described.	OK	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	planned products/services?					
2.	What is the expected level of activity? Is the expected level properly estimated with supporting evidence and assumption?		DR	CAR 3 While Section 2.6 includes a description of project technologies (by reference to Section 2.6 of the methodology), it does not include clear descriptions of products, services and the expected level of project activity. This does not conform to Section 5.2(f) of ISO 14064-2 Standard which requires PPs to describe the project and its context in a GHG project plan including project technologies, products, services and the expected level of activity. PP shall provide more detail on products, services and specific project activities to be included in project implementation.	~~CAR 3~~	OK
7.	**Estimated amount of emission reductions (in tonnes of CO_2e) over the crediting period**					
1.	How many tonnes CO_2 equivalent emissions reductions will be generated from the GHG		DR	Section 2.7 - The estimated GHG emission reductions and removal enhancements from the project are estimated to be 3,036 tCO_2e per annum starting 1 January 2009.	~~Satisfactory responses to all CARs and CLs in Methodology~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
project?				~~validation checklist in Table 1a required~~	
8. Identification of risks that may substantially affect the project's GHG emission reductions or removal enhancements					
1. Are the risks that may substantially affect the project's GHG emission reductions or removal enhancements appropriately identified? What risks are identified?		DR, I	Section 8 – Yes - The following risks have been identified: Internal risks – (a) opportunity cost risk where the NPV from the most profitable alternative land use activity is 20 – 50% higher than project activity (b) project longevity risk from the length of time the activities that maintain carbon stocks will continue Natural risks – (a) Fire risk from adjacent properties not controlled by project owner where fire is used as a land management practice. (b) Extreme weather risk from cyclone events in the project area.	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			(c) Geological risk from earthquake and landslide events in the project area.		
2. How are the risks evaluated to determine their potential effects to the project's GHG emission reductions or removal enhancements?		DR	Section 8 - PPs use the latest version of the VCS AFOLU Non-Permanence Risk Tool, as required by the applicable Methodology, to identify and rate the internal, external and natural risks: (a) Internal risk = 7 (b) Natural risk = 4 OVERALL RISK = 11 Overall risk rating is converted to a percentage (i.e. 11%) and then multiplied by the net change in the project's carbon stocks to determine the number of buffer credits.	OK	OK
9. Project proponents roles and responsibilities, including contact information of the project proponent, other project participants					
1. Who are the project proponents? Are their roles and responsibilities, including contact information, clearly		DR, I	Section 2.9 - The project proponents are Rowallan Alton Incorporation (representing project owner community), Koru Ekos Trust (program operator) and Carbon Partnership (project developer). Roles and responsibilities, including contact details, are	OK	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	described in the PDD?			clearly described.		
10.	**Any information relevant for the eligibility of the project and quantification of emission reductions or removal enhancements, including legislative, technical, economic, sectoral, social, environmental, geographic, site-specific and temporal information**					
	1. Is any relevant information identified? If yes, describe the consequence.		DR, I	The project comprise an aggregation of 11 land parcels totaling 1,367 ha within which the eligible forest areas (738 ha) are classed as non - Kyoto forest, having been classified as 'forest land' at 31 December 1989 and where the baseline and project activities are forest - remaining - as - forest activities. The project is based on an 'Improved Forest Management – Logged to Protected Forest' (IFM - LtPF) Methodology and applicable only to lands conforming to Article 3.4 of the Kyoto Protocol. New Zealand elected to not undertake Article 3.4 of the Kyoto Protocoland as such, the LULUCF baseline and project activities (forests -	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			remaining - as - forest activity) are located outside the GHG accounting boundary of the Kyoto Protocol (non - Kyoto forest). All land owners in the project are indigenous peoples of Maori descent from a variety of tribal backgrounds, who were granted land under "The South Island Landless Natives Act 1906". These owners comprise shareholders of the "Rowallan Alton Incorporation established under the Maori Affairs Act. DNV deems this information sufficient to support eligibility of project area as non-Kyoto forests, conforming to Article 3.4 of the Kyoto Protocol and ineligible for carbon crediting under any international or domestic compliance carbon - financing instrument or GHG accounting regime.		
11. A summary environmental impact assessment when such an assessment is required by applicable legislation or regulation					
1. Are there any requirements for an		DR	Section 2.11 – PP states that an EIA is not required for forest carbon projects undertaken in the		

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	Environmental Impact Assessment (EIA) by applicable legislation or regulation? And if yes, is an EIA approved? Does the approval contain any conditions that need monitoring?			voluntary carbon market in New Zealand, because voluntary forest protection is a permitted activity under New Zealand law and local government legislation. PP has not provided evidence of EIA exemption for the project activity. CL 4 PP shall provide evidence that the project activity is a permitted activity and does not require an EIA.	~~CL 4~~	OK
12.	**Relevant outcomes from stakeholder consultations and mechanisms for on-going communication**					
1.	Have relevant stakeholders been consulted?		DR, I	During the site inspection, DNV cross-checked and confirmed that relevant stakeholders who included Southland District Council, Rowallan Alton Incorporation shareholders and the New Zealand Ministry of Agriculture and Forestry had been consulted. PPs have provided documentary evidence of stakeholder consultations.	OK	OK
2.	Has due account been taken of any stakeholder		DR	During the site inspection, DNV cross-checked and confirmed that due account of stakeholder	OK	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	comments received?			comments had been taken account of.		
3.	Have mechanisms been identified in the PDD for on-going communication with stakeholders?		DR	The applicable Methodology requires all projects in the grouped project to implement the project consultation protocol. The PDD includes an extensive description of the project consultation protocol in Section 9.1.3, for each stage of the project cycle.	OK	OK
13.	**Schedule**					
1.	Has the chronological plan for the date of initiating project activities, and the date of terminating the project been described in the PDD?		DR	Section 2.13 – The project start date is 1 January 2009 and project termination is scheduled for 31 December 2058.	OK	OK
2.	Has the chronological plan for frequency of monitoring and reporting and the project period, including relevant project activities in each step of the GHG project cycle been described in the PDD?		DR	Section 2.13 - The project period is 50 years, with an indefinite option to roll over for subsequent project periods. Project crediting period is 5 yearly from 1 January 2009 to 31 December 2058. CL 5 The applicable Methodology defines 'Project Management Period as "comprising each annual project management cycle, starting on the project	~~CL 5~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			start date, which marks the beginning of the project period". However, the project timeline element (d) in Section 2.13 of the PDD refers project management periods as "Annual periods starting on 1 February 2012". This is inconsistent with the applicable Methodology which requires annual project management cycle to start on the project start date, which for the Rarakau Forest Carbon Project, is 1 January 2009. PP shall clarify this inconsistency.		
5.3 GHG SOURCES, SINKS & RESERVOIRS					
1. Criteria and procedures for identifying and assessing GHG sources					
1. Does the PDD include criteria and procedures for identifying and assessing GHG sources, sinks and reservoirs controlled, related to, or affected by the project?		DR	Section 3 – The PP follows criteria and procedures in the applicable Methodology.	~~Satisfactory responses to all CARs and CLs in Methodology validation checklist in Table 1a required.~~	**OK**

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
5.4 DETERMINING BASELINE SCENARIO					
1. Description of how the baseline scenario is identified and description of the identified baseline scenario					
1. What is the baseline scenario?		DR	Section 4.1 - Wood harvesting under a sustainable forest management plan, as per New Zealand forestry law, which result in a reduction in mean carbon stocks and associated emissions. This is in line with the Methodology	OK	OK
2. Which baseline scenarios have been identified? Is the list of baseline scenarios complete?		DR	Section 4.1.1 – PPs use three ways to identify the baseline activity: - Historical level of logging for South Island Landless Native Act (SILNA) area. - Continuation of common practice of economical harvesting of lands as per Sustainable Forest Management (SFM) plans - Pre-project timber harvesting and forest management plans prepared by the project owner. Using the above approach, complete list of alternative land uses in the SILNA lands has been	OK	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
				identified as: • Selective logging timber harvest; • Clear felling and replanting with exotic species; • Clear felling and conversion to pastoral farming; • Clear felling and left for regeneration; • Conservation.		
3.	How have the other baseline scenarios been eliminated in order to determine the baseline? Is the determination of the baseline scenario in accordance with the guidance in the Methodology?		DR	Section 4.1.1 – The process of baseline assessment and selection involves identification of possible land uses, assessment of land use options and land suitability, local technical capacity in all of the possible land use types, and economic and institutional barriers for all land use options. The justification for selecting the baseline of timber harvesting under a SFM plan is that it is the only activity that fits with the regulatory environment and provides the land owners with revenue.	OK	OK
4.	Is the baseline scenario determination compatible		DR	Section 4 – Yes and appropriate referencing is provided. This was further checked and confirmed	OK	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	with the available data and are all literature and sources clearly referenced?			by the Southland District Council and the Ministry of Agriculture and Forestry during the site visit.		
5.	Is all documentation relevant, correctly quoted and interpreted?		DR	Section 4 – Quoted documentation include South Island Landless Natives Act (SILNA), SFM plans for forested land parcels, published literature, Southland District Council's Resource Management Act 199, the Forests Act 1949 and the Kyoto Protocol's Article 3.3 and Article 3.4. DNV deems these documents relevant, correctly quoted and interpreted.	OK	OK
6.	Can the assumptions and data be deemed reasonable?		DR	Section 4 – DNV deems assumptions about possible land uses and land use options, land suitability, technical capacity, economic barriers and institutional constraints in the project area to be reasonable.	OK	OK
7.	Has the Methodology been correctly applied to identify what would occur in the absence of the proposed ISO 14064-2 project activity?		DR	Section 4 – Yes	OK	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
8.	Does the project proponents include other relevant information concerning present or future conditions, such as legislative, technical, economic, socio-cultural, environmental, geographic, site-specific and temporal assumptions or projections?		DR	Section 4.1.3 – PPs include information about a pending claim with the Waitangi Tribunal (the WAI 158 Claim) by the forest land owners in the project area, who are seeking redress for loss of opportunity to transform their lands into other land uses, such as forestry or farm land as per original land grant under the SILNA legislation of 1906. The success of this claim could change the baseline to (a) deforestation – a baseline activity not permitted under the applicable Methodology and (b) forest degradation – a baseline activity permitted by the applicable Methodology. If (a) occurred and deforestation was legally sanctioned, there would be an adjustment to the baseline, but only for baseline activities involving unsustainable logging rates and where the baseline activity is a forest-remaining-forest activity. DNV deems this information relevant concerning future fate of the project pursuant to the pending claim. CL 6 The PPs shall, however, clarify the fate of the whole project and the associated VERs in the event where the baseline activity is changed to	~~CL 6~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			deforestation and where the baseline activity is NOT a forest-remaining-forest activity.		
2. Identifying GHG sources, sinks and reservoirs for the baseline scenario and for the project					
1. Which GHG sources, sinks and reservoirs are identified for the baseline scenario? Is the identification complete?		DR	Section 3 - The PPs clearly differentiate between baseline GHG sources and sinks to be modeled, - Emissions from above ground biomass - Emissions from collateral damage to non-target trees caused by tree felling and extraction - Emissions from below ground biomass - Sequestration in harvest patches due to regrowth following timber harvest And those to be excluded from modelling - Emissions through fossil fuels burned in baseline harvesting practices - Harvested wood products DNV deems these to be appropriate and in accordance with the Methodology.	OK	OK
3. Description of how the emissions of GHG by source in baseline scenario are reduced					

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
below those that would have occurred in the absence of the project activity (assessment and demonstration of additionality)					
1. What approach does the project use to assess additionality? Is this in line with the Methodology?		DR	Section 4.1.5 – The project uses a project test approach to test for additionality of the project in line with the Methodology. The approach involves three tests, namely, regulatory surplus, implementation barriers and common practice. Relevant regulations (e.g., Forest Act and Resource Management Act) do not mandate forest owners to conserve forest but allow forest harvesting within SFM plans. In relation to project implementation barriers, forest preservation from any harvesting is not an attractive land use option because it does not offer land owners revenue like other alternative land uses, (e.g., timber harvesting and agriculture). Hence, this project cannot be viable without the revenue from the sale of voluntary carbon credits. PPs have provided sufficient evidence to demonstrate that forest harvesting under SFM plans is the common practice in SILNA lands.	~~Satisfactory responses to all CARs and CLs in Methodology validation checklist in Table 1a required.~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
2. What is the conclusion with regard to the additionality of the project activity?		DR	On the basis of evidence provided by the PPs, DNV deems the Rarakau Forest Carbon Project to be additional, subject to PPs providing satisfactory responses to CARs and CLs in Table 1a.	~~Satisfactory responses to all CARs and CLs in Methodology validation checklist in Table 1a required~~	OK
5.5 GHG SOURCES, SINKS & RESERVOIRS FOR THE BASELINE SCENARIO					
1. Identifying GHG sources, sinks and reservoirs for the baseline scenario and for the project					
1. Which GHG sources, sinks and reservoirs are identified for the baseline scenario? Is the identification complete?		DR	Section 3 – As per Section 11 of the applicable Methodology. GHG emission sources counted are above-ground woody biomass removed from the forest, above-ground woody biomass entering the deadwood pool in form of discarded crown and branches of harvested trees, aboveground carbon pool from collateral damage from harvesting activities and from the decomposition of below-ground woody biomass.	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			GHG sinks counted are those from CO_2 sequestered in the natural background rate of natural forest regeneration and from harvest patches. For reservoirs, the project measures and estimates the change in stocks in carbon reservoirs rather than the total content of carbon stored in the reservoirs. Emissions that are excluded are woody debris, methane from biomass burning, and fuel consumed in project design and implementation. Sinks excluded are harvested wood products, litter and soil organic carbon. Credible justification for the inclusion or exclusion of sources, sinks and reservoirs is included within Section 3 of the PDD.		
5.6 SELECTING RELEVANT GHG SOURCES, SINKS & RESERVOIRS FOR MONITORING OR					

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
ESTIMATING GHG EMISSIONS AND REMOVALS					
1. Selecting relevant GHG sources, sinks and reservoirs for regular monitoring or estimation.					
1. Does the PDD include criteria and procedures for selecting relevant GHG sources, sinks and reservoirs for regular monitoring or estimation?		DR	Yes in Section 11 - As per Section 11 of the applicable Methodology.	OK	OK
5.7 QUABTIFYING BASELINE GHG EMISSIONS AND/OR REMOVALS					
1. Quantifying GHG emissions and/or removals for the baseline scenario					
1. Are the calculations documented according to the Methodology and in a complete and transparent manner for each relevant		DR	Section 7 – Sections 7.1.1 through to 7.3.2 contain steps for calculating the baseline scenario GHG emissions and removals and the actual GHG calculations are presented in the forest carbon accounting Spreadsheet in Appendix 6 .	~~Satisfactory responses to all CARs and CLs in Methodology validation~~	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	GHG for each GHG source, sink and/or reservoir relevant for the baseline scenario?			CAR 5 In Section 7.2.1 Step 10, ER (enhanced removals) which, according to the Methodology, is equal to the NPR (net project removals), are stated as 2,730 306 tCO_2 yr^{-1}. However, the ER or NPR is given as 2 730 tCO_2 yr^{-1} in both Table 7.2.3 and Appendix 6. Furthermore, NPR is stated as 400 tCO_2 yr^{-1} in Section 7.2.3 Step 12. DNV deems this to be non-conforming to ISO 14064-2 principle of consistency. PPs shall correct this inconsistency and state the correct amount of NPR.	~~checklist in Table 1a required~~ ~~CAR 5~~	OK
2.	Have conservative assumptions been used when calculating the baseline and project emissions?		DR	Yes – as per Methodology	OK	OK
3.	Are uncertainties in the		DR	Yes – as per Methodology	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
baseline and project emission estimates properly addressed?					
2. Greenhouse emission or removal factors					
Are the emission or removal factors					
1. Derived from a recognized origin?		DR	Yes – Sources included are IPCC, VCS, New Zealand government and other published literature.	OK	OK
2. Appropriate for the GHG source or sink concerned?		DR	See Draft Conclusion (next column)	~~Satisfactory responses to all relevant CARs and CLs in Methodology validation checklist in Table 1a required~~	OK
3. Current at the time of quantification?		DR	See Draft Conclusion (next column)	~~Satisfactory responses to all relevant CARs and CLs in Methodology~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
				~~validation checklist in Table 1a required~~	
4. take account of the quantification uncertainty and are calculated in a manner intended to yield accurate and reproducible results?		DR	See Draft Conclusion (next column)	~~Satisfactory responses to all relevant CARS and CLs in Methodology validation checklist in Table 1a required~~	OK
5. Are consistent with the intended use of the GHG report.		DR	See Draft Conclusion (next column)	~~Satisfactory responses to all relevant CARS and CLs in Methodology validation checklist in Table 1a required~~	OK
5 Quantifying leakage					
6. Are the leakage calculations documented according to the		DR	Yes – Section 7.3. According to the Methodology, there is no leakage due to activity shifting where the project proponent has control only over resource	OK	

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
Methodology and in a complete and transparent manner?			use in the project area and has no access to other forest resource. PPs have stated that the project owner has control only over resource use in the Rarakau project area and has no access to other forest resources; therefore leakage due to activity shifting is zero. DNV deems this assessment acceptable. Similarly, PPs estimate leakage due to market effects to be zero because the response to any change in the market will most likely come from the international sector. DNV deems PPs' justification and assumptions for this assessment to be appropriate.		
5.8 QUANTIFYING GHG EMISSION REDUCTION AND REMOVAL ENHANCEMENTS					
1. Have equations and parameters for quantifying GHG emission reductions and removal enhancements during project implementation been clearly and properly identified?		DR	Yes – PPs have applied the equations and parameters as per Methodology.	OK	

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
2.	Have the GHG emission reductions or removal enhancements been quantified as the difference between the GHG emissions and/or removals from GHG sources, sinks and reservoirs relevant for the project and those relevant for the baseline scenario?		DR	Section 8.1 – Equation 8.1 is not properly applied in in the calculation of net GHG emission reductions (NPB) in Appendix 6 and does not follow the Methodology and the estimates are, therefore, incorrect. CAR 6 According to Equation 8.1 in the Methodology, NPB = NBE (net baseline emissions) - NPR (net project removals) - TML (total market leakage). The error is that NPB has been calculated as NBE + NPR-TML, resulting in: NPB=3 036 tCO_2-e yr^{-1}, BUF (Buffer) = 334 tCO_2-e yr^{-1} and NCC(Net carbon Credits) = 2 702 tCO_2-e yr^{-1} PPs shall to correct this.	~~CAR 6~~	OK
3.	Has the project proponent quantified GHG emission reductions and removal enhancements separately for each relevant GHG		DR	Yes – Sections 7 & 8. GHG emission reduction and removal enhancements have been calculated separately for above-ground biomass and below-ground biomass following the Methodology.	OK	

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	and its corresponding GHG sources, sinks and/or reservoirs for the project and the baseline scenario?					
4.	Has the project proponent used tonnes as the unit of measure and converted the quantity of each type of GHG to tonnes of CO_2e using appropriate GWPs?		DR	Yes	OK	OK
5.9	**MANAGING DATA QUALITY**					
1.	Has the project proponent established and applied quality management procedures to manage data and information, including the assessment of uncertainty, relevant to the project and baseline scenario?		DR	Section 10 of the PDD describes an on-line system called CO_2Forest to be used as a basis for a full development of the project's data management system as per Section 10.1 of the Methodology.	~~Satisfactory responses to all relevant CARs and CLs in Methodology validation checklist in Table 1a required~~	OK
2.	Has the project proponent reduced, as far as is practical, uncertainties		DR	Yes – As per Section 10.4 of the applicable Methodology/**2**/.	OK	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	related to the quantification of GHG emission reductions or removal enhancements?					
5.10 MONITORING THE GHG PROJECT						
1.	**Monitoring, including estimation, modelling, measurement or calculation approaches**					
	1. Is the purpose of monitoring clearly stated in the PDD		DR	Yes - The purpose of monitoring is stated clearly in Section 11.1.	OK	OK
	2. What types of data and information need to be reported in order to estimate the emission reductions and provide other relevant information		DR	Sections 11.2 - Types of data and information to be reported include net baseline emissions, net project removals, leakage, additionality and those related to non-permanence risk. However, specific parameters to be monitored and	~~Satisfactory responses to all relevant CARs and CLs in Methodology validation checklist in~~	OK

Checklist Question		Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	required? Is the identified data type and information complete, including units of measurement?			reported, including units and frequency of measurement are not specified. PPs shall correct this after addressing the relevant CARs and CLs in the Methodology validation checklist.	~~Table 1a required~~	
3.	Is the origin of data specified?			Yes – Origin of data is specified in Section 11.3	OK	OK
4.	Do monitoring procedures include monitoring methodologies including estimation, modelling, measurement or calculation approaches?			Yes – Section 11.4 includes the monitoring methodologies for project description information, GHG information, ancillary impacts and project administration information. However, since this is based on the Methodology, satisfactory responses to all relevant CARs and CLs is required before the monitoring procedures could be deemed OK.	~~Satisfactory responses to all relevant CARs and CLs in Methodology validation checklist in Table 1a required~~	OK
5.	Are the monitoring times and periods included?			Yes - Annual project management cycle and a 5-yearly project monitoring cycle (Section 11.5)	OK	OK
6.	Are monitoring roles and responsibilities clearly and properly defined?		DR	Section 11.6 – The primary monitoring roles and responsibilities will be undertaken as a co-management arrangement between the project steering committee and the project developer. CAR 7		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			PPs state that details of project monitoring roles will be developed following successful project validation and registration. DNV deems this to be unsatisfactory considering that the project will be validated and verified before registration. PPs shall clearly define respective monitoring roles and responsibilities for the steering committee and the project developer before project registration.	~~CAR 7~~	OK
7. Do the monitoring procedures include GHG information management systems, including the location and retention of stored data?		DR	Section 11.7 – The project will use the GHG information system described in the applicable Methodology. CAR 8 PP shall include in the monitoring plan a commitment to developing standard operating procedures relevant to the implementation and monitoring of the project.	~~CAR 8~~	OK
2. Description of the monitoring plan					
1. How has it been assessed that the monitoring arrangements described in		DR	Section 11 – PPs state that the project monitoring plan will be developed after project validation. The PDD should contain a detailed plan of how the		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
the monitoring plan are feasible within the project design?			project would be monitored. The monitoring report will report the implementation of the monitoring plan and provide evidence that project implementation adheres to the PDD monitoring plan and the applicable Methodology. This implies that the project monitoring plan should be included in the PDD prior or at validation. CAR 9 PPs shall include a project monitoring plan as part of the PDD.	~~CAR 9~~	OK
5.11 DOCUMENTING THE GHG PROJECT					
1. Does the project proponent have documentation that demonstrates conformance of the GHG project with the requirements of this part of ISO 14064-2, consistent with validation and verification needs?		DR	Yes. Project documents are provided in Section 12 of the PDD. During the site inspection, DNV cross-checked the authenticity of the documents with the New Zealand Ministry of Agriculture and Forestry, Southland District Council, Rowallan Alton Incorporation management and the shareholders.	OK	OK
5.12 OWNERSHIP					
1. Proof of Title					
1. Has evidence of proof of title been		DR	During the site inspection, DNV checked and	OK	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
provided through one of the following: a) A legislative right? b) A right under local common law? c) Ownership of the forest land generating the reductions /removals? d) A contractual arrangement with the owner of the forest land in the project area that protects project activities?			confirmed that the land in the project area is owned by shareholders who constitute the Rowallan Alton Incorporation by virtue of their right granted under local common law – South Island Landless Natives (SILNA) Act 1906. PP also provided a signed Memorandum of Encumbrance/**17/** under the Property Law Act 2007 and a signed Project Agreement/**18/** that protects project activities. The legal protection applies for the duration of the Project Period.		

Table 1c Requirements Checklist for Project Verification

Checklist Question		Assessment by DNV	Comments / Notes
1. Project Description			
1.1	Does the MR contain the project title as in PDD?	☒ Yes ☐ No	
1.2	Does the MR have a version number of the MR and date?	☒ Yes ☐ No	~~CAR1~~
1.3	Is the MR template valid?	☒ Yes ☐ No	The VCS Monitoring Report Template is used as required by the applicable Methodology/**2**/.
1.4	Does the MR provide a summary description of the project?	☒ Yes ☐ No	Summary description of the project provided in Section 1.1.
1.5	Does the MR clearly indicate the sectoral scope and project type indicated?	☒ Yes ☐ No	Section 1.2 indicates the project type as Improved Forest Management and that this is an inception project of the grouped project entitled the 'Rarakau Programme'.
1.6	Does the MR provide contact information, roles and responsibilities for the project proponent(s)?	☒ Yes ☐ No	Contact information for the project proponents is provided in Section 1.3. ~~CL 1~~

Checklist Question		Assessment by DNV	Comments / Notes
1.7	Does the MR provide contact information and roles/responsibilities for any other project participant(s)?	☒ Yes ☐ No	Contact information for other entities involved in the project is provided in Section 1.4.
1.8	Does the MR indicate the project start date, specifying the day, month and year?	☒ Yes ☐ No	Project start date is 1 January 2009
1.9	Does the MR indicate project crediting period, specifying the day, month and year for the start and end dates and the total number of years?	☒ Yes ☐ No	The first project crediting period is 1 January 2009 to 31 December 2011 and the total project period is 50 years (1 January 2009 to 31 December 2058
1.10	Does the MR indicate the project location and geographic boundaries?	☒ Yes ☐ No	Project location and geographic boundaries including project maps are indicated in Section 1.7.
1.11	Does the MR provide the title, reference and version number of the Methodology(s) applied to the project?	☒ Yes ☐ No	The applied Methodology is Rarakau Programme Methodology D2.1 v1.0, 15 May 2012.
1.12	Have all open issues identified in the validation report and/or previous verification report been resolved by the project participant?	☒ Yes ☐ No	Yes – For example, SOPs have been provided, roles and responsibilities have been defined, legal covenant to protect project activities has been provided, etc., in response to CARs and CLs.
2. Project Implementation Status			

Checklist Question		Assessment by DNV	Comments / Notes
2.1	Does the MR describe the implementation status of the project activity(s)?	☒ Yes ☐ No	Implementation status of the project is described in Section 2.1
2.2	Does the MR provide information regarding the operation of the project activity(s) during this monitoring period, including any information on events that may impact the GHG emission reductions or removals and monitoring?	☒ Yes ☐ No	Provided in Section 2
2.3	Are all physical features of the project activity, proposed in the PDD, in place?	☒ Yes ☐ No	
2.4	Does the MR describe how leakage and non-permanence risk factors are being monitored and managed?	☒ Yes ☐ No	~~CAR 2 (Sections2.1.1.4, 3.3.3.2 & 3.3.3.3)~~ ~~CAR 3 (Section 2.1.1.4)~~
2.5	Is the project activity being operated as described in the PDD?	☒ Yes ☐ No	~~CAR 4 (Section 3.3.3.7)~~
2.6	Does the MR describe and justify any deviations from the monitoring plan in the PDD?	☒ Yes ☐ No	Section 2.2

Checklist Question		Assessment by DNV	Comments / Notes
2.7	Does the MR provide relevant information about new instances of the project activity(s) and demonstrate that each new instance of the project activity(s) meets the eligibility criteria set out in the PDD?	☐ Yes ☒ No	No new instances of project activities initiated
2.8	Are the explanation/reasons provided for the excess/deficit VERs when compared to the estimated VERs in the PDD for the verification period acceptable?	☐ Yes ☐ No	N/A
3. Description of the Monitoring Plan			
3.1	Does the MR describe the monitoring plan?	☒ Yes ☐ No	Section 3.3 describes the monitoring plan, which includes purpose of monitoring and description of the project management plan
3.2	Does the description include organizational structure, responsibilities and competencies	☒ Yes ☐ No	Section 3.3.4.4 describes roles and responsibilities. ~~CAR 5~~
3.3	Does the description include methods for generating, recording, storing, aggregating,	☒ Yes ☐ No	In Section 3, Tables 3.1and in summary tables of data and parameters available at validation.

Checklist Question		Assessment by DNV	Comments / Notes
	collating and reporting data on monitored parameters?		~~CAR 6~~
3.4	Does the description include procedures for handling internal auditing and non-conformities?	☒ Yes ☐ No	
4. Compliance of the monitoring plan with the monitoring Methodology			
4.1	Is the validated monitoring plan in accordance with the approved Methodology applied by the proposed project activity?	☒ Yes ☐ No	
4.2	Are there any monitoring aspects of the project activity that are not specified in the monitoring plan?	☐ Yes ☒ No	

Checklist Question	Assessment by DNV	Comments / Notes
5. Compliance of monitoring with the monitoring plan		
5.1 Does the MR describe data and parameters available at validation	☒ Yes ☐ No	In Section 3, Tables 3.1and in summary tables of data and parameters available at validation
5.2 Does the MR describe data and parameters monitored subsequent to validation?	☒ Yes ☐ No	
5.3 Has the monitoring plan been properly implemented and followed by the project participants?	☒ Yes ☐ No	Checked & confirmed during the site inspection
5.4 Have all parameters stated in the monitoring plan and the applied Methodology been sufficiently monitored and updated as applicable?	☒ Yes ☐ No	
6. Assessment of data and calculation of greenhouse gas emission reductions		
6.1 Have calculations of baseline emissions, proposed project activity emissions and leakage, as appropriate, been carried out in accordance with	☒ Yes ☐ No	Section 3.4 – The standard practice is to include equations used together with estimates of GHG emissions and removals.

Checklist Question	Assessment by DNV	Comments / Notes
the formulae and methods described in the applied Methodology document?		~~CAR 7~~
6.2 Have any assumptions used in emission calculations been justified?	☒ Yes ☐ No	Checked & confirmed during the site inspection
6.3 Have appropriate *ex-ante* fixed parameters been correctly used?	☒ Yes ☐ No	The eligible forest area, sustainable harvest rate and collateral damage have been used correctly
6.4 In case there are anomalies in reported data, do this anomalies impact reported emission reductions or do they impact operational data to be different from information stated in the PDD, so that this could raise concerns related to the project's additionality?	☐ Yes ☒ No	No anomalies in the reported data

APPENDIX B

RESOLUTION OF CORRECTIVE ACTION REQUESTS AND CLARIFICATION REQUESTS

Table 2a Resolution of Corrective Action Requests and Clarification Requests – Methodology Assessment

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR 1	Requirement According to Section 1.1.3 of the proposed methodology, the legal protection of the eligible forests within the Project Area shall be by means of a legal covenant (Memorandum of Encumbrance) on the title of the land preventing baseline activities for the duration of the project. To meet this methodology criterion, the methodology requires project proponents (PPs) to provide legal covenant to be placed on the land title within 3 months of the successful validation of inception project and verification of sub-projects. Evidence and Failure While this may be appropriate for the validation of project design, the methodology shall require PPs to provide, at verification of project implementation, legal covenant documentation for each eligible forest in	Section 1.1.3 of the Methodology has been adjusted to now state: "The Project Owner and Project Developer shall provide, at verification of project implementation, legal covenant documentation for each eligible forest in the project area as evidence that the project has been protected by legally binding commitment to prevent baseline activities, and to assure continuation of management practices that protect the credited carbon stocks over the length of the project crediting period."	As evidence to protect the project activities, Table 1.1.3 of the methodology now requires PPs to provide at verification a memorandum of encumbrance on the title of the land. CAR 1 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	the project area as evidence that the project has been protected by legally binding commitment to prevent baseline activities, and to assure continuation of management practices that protect the credited carbon stocks over the length of the project crediting period.		
CAR 2	Requirement Section 5.2(c) of ISO 14064-2 Standard requires the description of project location, including geographic and physical information to allow the unique identification and delineation of the specific extent of the project. Evidence and Failure In Section 2.3, the methodology does not require PPs to include the geographic coordinates of each land polygon vertex in the project boundary description to enable unique project identification and delineation.	An additional requirement has been inserted to Section 2.3.6. It reads: "Project Developers are required to include the geographic coordinates of each land polygon vertex in the project boundary description to enable unique project identification and delineation." A new evidence requirement table is included (Table 2.3.6) which imposes two requirements of PPs: "The geographic coordinates of each land polygon vertex for the Project Area land parcel/s."	The methodology now requires PPs to include geographic coordinates to allow the unique identification and delineation of the extent of the project. CAR 2 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Carbon Partnership shall correct this.	"The geographic coordinates of each land polygon vertex for the Eligible Forest Area land parcel/s contained within the Project Area."	
CAR 3	Requirement Section 5.2(f) of ISO 14064-2 Standard requires PPs to describe the project and its context in a GHG project plan including project technologies, products, services and the expected level of activity. Evidence and Failure While Section 2.6 of the methodology includes a description of project technologies, it does not include the requirement for PPs to describe project products and services and the expected level of project activity. Carbon Partnership shall correct this.	Section 2.6 of the methodology has been modified as follows: Deleted: Original text. Replaced with: "Project Developers are required to describe project technologies, products, services and the expected level of activity. This shall include a detailed description of each of the project activities to be undertaken during project implementation."	Modification to Section 2.6 is deemed adequate. CAR 3 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR 4	Requirement Table 3c refers to Table 20 as containing justification for carbon pools included in emission sources other than resulting from changes in stocks in carbon pools. Evidence and Failure The Methodology document does not contain Table 20. Carbon Partnership shall include a table containing carbon pools included in emission sources.	Corrected as follows: "Table 20" listed in Table3c was included in error and referred to an earlier version of the section and table numbering convention for this document. The correct (new) table number for Table 20 is Table 3b. This has been corrected.	Correction adequate. CAR 4 is closed
CAR 5	Requirement Section 5 and Section 6 refer to Section 3 for information on "Baseline Scenario GHG Sources, Sinks and Reservoirs" and "Selecting Relevant Baseline GHG Emissions and Removals", respectively. Evidence and Failure Sections 5 and 6 shall each include respective information and not simply directing PPs to Section 3.	Corrected as follows: Sections 5 and 6 now have the full set of information and do not refer back to Section 3.	Sections 5 and 6 each include respective information. CAR 5 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR 6	Requirement The principle of transparency in Section 3.6 of the ISO 14064-2 Standard requires a disclosure of sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence. Evidence and Failure The Methodology uses a collateral damage factor of 20% of total wood harvested to account for damage to non-target above ground biomass resulting from timber harvesting operations. The basis of this value is not indicated. Carbon Partnership shall provide the basis for 20% collateral damage value.	Carbon Partnership consulted the published literature and consulted with forest carbon experts in New Zealand and could find no published or unpublished studies on collateral damage in indigenous timber harvesting operations in New Zealand indigenous forest. Carbon Partnership was therefore left to provide a conservative estimate of the likely volume of collateral damage caused by logging operations to non-target above-ground and below-ground biomass in the baseline. Collateral damaged is caused by the felling and hauling of target trees, log loading sites, and road-building activities. Carbon Partnership is committed to including a conservative estimate of non-target biomass emissions in the baseline to reflect the realities of logging operations. In the absence of published or unpublished data on this topic Carbon Partnership has decided to include a default for this methodology element but	The basis for collateral damage value and the downward adjustment of the value to 10% is deemed appropriate and adequate. CAR 6 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		make it more conservative than previously and calculate Collateral Damage (CD) as 10% of the Sustainable Harvest Rate (SHR). The SHR is an above-ground carbon pool only and accounts only for the merchantable bole of the harvested target tree. Carbon Partnership asserts that a CD of 10% of SHR is therefore conservative.	
CAR 7	Requirement The principle of consistency in Section 3.4 of the ISO 14064-2 Standard requires consistent GHG-related information to enable meaningful comparisons in GHG-related information. Evidence and failure Section 7.1.7 – The factor for carbon proportion of dry biomass is given as 0.5 in Equation 7.1.7d and as 0.47 in the parameter list. DNV deems this to be non-conforming to ISO 14064-2 principle of	0.47 was left in Equation 7.1.7d in error. It has been corrected to 0.5. Many thanks for spotting this error.	Error corrected. CAR 7 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	consistency. Carbon Partnership shall correct these inconsistencies.		
CAR 8	<u>Requirement</u> The principle of consistency in Section 3.4 of the ISO 14064-2 Standard requires consistent GHG-related information to enable meaningful comparisons in GHG-related information. <u>Evidence and Failure</u> Section 7.1.7 – The factor for New Zealand average oven dry wood density for indigenous canopy tree species is given as 0.49 t/m^3 in Equation 7.1.7a and as 0.42 t/m^3 in Equation 7.1.7d. Carbon Partnership shall correct these inconsistencies.	0.42 was left in Equation 7.1.7d in error. It has been corrected to 0.49 as requested. Many thanks for spotting this error.	Error corrected. CAR 8 is closed
CAR 9	<u>Requirement</u>	Reference for Sustainable Harvest Rate:	References provided. Explanation of the

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	The principle of transparency in Section 3.6 of the ISO 14064-2 Standard requires a disclosure of sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence. <u>Evidence and Failure</u> Section 10.4 – The references for Sustainable Harvest Rate (SHR) (Section 10.4.1.1) and for Total Wood Harvested (TWH) default conversion factors (Section 10.4.1.2) are not provided. Carbon Partnership shall provide reference(s) for the 60% Sustainable Harvest Rate and for New Zealand-specific default conversion factors for Total Wood Harvested (Beech: 0.85; Conifer: 0.90; Broadleaf hardwood: 0.90).	This reference has been inserted as requested. The reference is MAF 2002. See methodology reference list for details. Reference for TWH (the following paragraph has been added to section 7.1.2: "Default conversion factors for TWH were estimated by Carbon Partnership as a result of discussions with forestry and forest carbon scientists in the absence of any published or unpublished studies available on this point. These figures are conservative. For example, a harvested beech (*Nothofagus*) tree will commonly contain a considerable volume of non-commercial wood (e.g. crown, branches, and bole wood damaged by borer) as much as 66% (Wardle 1984, p346). The default of 15% of above ground non-commercial wood that does not become sawlog is generously conservative. The merchantable timber conversion rate for conifers and broadleaf timber species is	basis for the TWH is deemed adequate. CAR 9 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		greater than it is for beech, but again there are no studies available to derive a national default. In the absence of any such studies, but with the knowledge that not the entire harvested tree is recovered and turned into a commercial sawlogs, it was necessary to derive a conservative default that could be logically defended on the basis of common knowledge of those in the indigenous forestry industry/sector. These default values can be updated if and when new data on this topic become available and can be incorporated into 10-yearly baseline revisions."	
CAR 10	Requirement Section 5.9 and the principle of accuracy in Section 3.4 of the ISO 14064-2 Standard requires, as far as is practical, a reduction in bias and uncertainties in GHG-related information. Evidence and Failure The methodology relies on the application of default mean sequestration	A new section has been added to the Methodology (11.4.8) to address this CAR.	Response is deemed appropriate. CAR 10 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	rates from look-up tables based entirely on the New Zealand national average sequestration rates. Data from the look-up tables are national averages and have been shown by some sources (e.g., Ministry of Agriculture and Forestry: *A field measurement approach for carbon assessment in post-1989 forests*, October 2010) to be inaccurate and their use could result in under- or over-estimation of carbon stocks and VERs. Thus, the methodology shall also require PPs to establish permanent sample plots in the eligible forest areas to collect empirical, project-specific carbon stock information and data for second and subsequent verification periods.		
CAR 11	Requirement Section 11 –Although the Methodology provides an elaborate monitoring procedure for project monitoring, it is good practice for methodologies to	Section 11 of the Methodology has been entirely rewritten to remedy this CAR requirement.	Section 11 has been revised to include separate tables for monitored and not monitored data. CAR 11 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	prescribe specific data and parameters not monitored (default or possibly measured one time), and data and parameters monitored. Evidence and Failure Both monitored and not monitored data and parameters used in emissions calculations are not defined in the methodology clearly and appropriately to make it possible for the emission reductions to be estimated and verified in the verification periods. Carbon Partnership shall include separate tables for (a) data/parameters not to be monitored and (b) data/parameters to be monitored.		
CAR 12	Requirement Section 5.10 of the ISO 14064-2	The Methodology has been modified to include requirement for SOP in:	Modifications to require relevant SOPs for project management, project monitoring and

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Standard requires the project to establish and maintain criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline scenario Evidence and Failure Section 11.4 – The Methodology does not require PP to prepare standard operating procedures (SOPs) for project management, project monitoring and data storage and security.	Section 10.2 (final sentence) Section 11.3.10 Section 11.4.7	data storage and security are deemed adequate. CAR 12 is closed.
CAR 13	Requirement Section 5.10 of the ISO 14064-2 Standard requires the project to establish and maintain criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline		

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	scenario Evidence and Failure Section 11.3.2 - The methodology shall enable a more flexible approach to the design of the site inspection components of the monitoring system. Round 2: PP states that the site inspection components of the project monitoring system should be consistent with the methodological requirements of the VCS. However, PP does not state which specific which VCS methodological requirements are being referred to.	Methodology: Section 11.3.2 and 11.3.3 modified accordingly. Round 2. PP has removed reference to methodological requirements of the VCS because the VCS have no specific methodological requirements for eligible forest boundary and eligible forest area inspections apart from: "The methodology shall establish criteria and procedures for monitoring, and specify the data and parameters to be monitored, as set out in the *VCS Standard*." VCS AFOLU Requirements V3.0. Additions to the Meth: 1. Section 11.3.2 has been modified with	Removal of reference to VCS methodological requirements provides PPs with flexibility in designing the site inspection component of the project monitoring system. CAR 13 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		the following wording: "All projects are required to prepare an Eligible Forest Boundary Inspection Plan that is incorporated into the Eligible Forest Area Inspection Plan." 2. Section 11.4.8 of the Meth has been modified: Paragraph 5 now reads: "Parameters to be measured are those specified in the carbon pools used by this methodology (excluding below ground live biomass which will continue to use national default values)." 3. Section 2.3.5. c) now states: "Include an aerial image using a resolution of less than 1.0m"	
CL 1	<u>Evidence and Clarification</u> The methodology is not clear on why this carbon pool has not been considered. Please note that there are acceptable methods to estimate this carbon pool (i.e. AM0010) and	The methodology does not include the harvested wood products carbon pool because it is not required under the ISO14064-2 standard. It is also not required under the Plan Vivo standard (by	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	according to VCS AFOLU requirements this should be considered within the project boundary within the framework of an IFM project. Clarification is sought on whether this carbon pool would be considered as *de-minimis*." Round 2: This is still not clear. IPCC and VCS require the inclusion of wood products and not considering this carbon pool would lead to a non-accurate or non-conservative estimate of baseline emissions in that by excluding wood products from the baseline scenario (in which harvesting occurs) will over-credit the offset accruing to the "project scenario" forest management alternative since ignoring wood products treats all harvest as an emission (in the baseline)	way of comparison). This carbon pool is required by VCS but this element of the methodology (like many others) does not seek VCS validation. Round 2 Responses: The total baseline timber harvesting volumes permitted in New Zealand are very low per hectare per year and the harvested wood product element of the baseline carbon pool is in this methodology deemed to be *de minimis*.	DNV cross-checked available information on timber harvests from indigenous forests from the Ministry of Primary Industries (http://maxa.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/indigenous-forests/indigenous-forestry-on-private-land/indigenous-forestry02.htm) which confirmed that timber harvests from indigenous forests is *de minimis* and has been decreasing since 1991 due to • Introduction of the sustainable management of private indigenous forests managed for timber production • Government ban on log and chip exports, and one third consisted of the export of wood chips from forests on SILNA lands • A downturn in the demand of

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	and credits this as avoided emission in the project scenario. Because there are acceptable methods to account for harvested wood products, the 'undue complexities in accounting methods' justification given in the methodology is not satisfactory. PP shall provide another justification for not including harvested wood products in Table 3b of the methodology.		indigenous forest timber internationally CAR 1 is closed.
CL 2	<u>Evidence and Clarification</u> Section 4 – Paragraph 4 under Section 4.1.2.1 assumes that "…for this ex-ante baseline analysis, the current level of timber harvest that is economically viable in 2010 will be the same for the remainder of the Project Period". This assumption may not be valid for the	Corrected as follows: Deleted "It is assumed for this *ex-ante* baseline analysis that the current level of timber harvest that is economically viable in 2010 will be the same for the remainder of the Project Period."	Clarification deemed adequate. CL 2 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	remainder of the project period. This is because the 50 years project period is a long time during which timber harvest levels could change due to, for example, a change to the sustainable harvest rate threshold emanating from increased demand for currently harvested timber species or a new demand for timber species not currently utilized (as a result of novel timber processing technologies or use). Carbon Partnership shall substantiate the validity of this assumption over the 50-year project period.	Replaced with: "Project Developers are required to update the baseline every 10 years from the Project Start Date."	
CL 3	Evidence and Clarification Section 4.1.5 – The Methodology requires PPs to test the additionality projects using the 'Project Test' (Regulatory Surplus, Implementation Barriers, Common Practice) of the Voluntary Carbon Standard (VCS 2007:1). This older version of VCS	Corrected in the following way: The wording of Section 4.1.5 has been adjusted as follows: "This methodology tests the additionality of the project using the most recent version of the VCS Additionality Tool.	The methodology now requires PPs to use the most recent version of the VCS Standard. CL 3 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Standard has been superseded by the VCS Standard: Version 3. The Methodology shall require PPs to use the 'Project Test' in the most recent version of the VCS Standard.	Project Description Documentation undertaken prior to 2011 will use the following method (from the 2007 version of the VCS Additionality Tool):"	
CL 4	<u>Evidence and Clarification</u> Table 3b – The justification for including below-ground biomass in carbon pools is stated as "When you kill a tree you also kill its roots". This does not apply to all harvested trees. Some trees, especially the indigenous species, can and do regenerate from stumps after harvesting. This justification may only apply in cases where a tree is uprooted. Carbon Partnership shall provide a more appropriate justification for including below-ground biomass pool.	The only NZ indigenous tree species known to be capable of regenerating from stumps are: *Cordyline australis, Aristotelia serrata, Melicitus ramiflorus, Fuscia excorticata, Alectyron excelsum, Carpodetus serratus, Corynocarpus laevigatis, Griselenia littoralis, Hohiria sexstylosa* *Myrsine australis, Pesudopanax crassifolius, Schefflera digitata, Sophora microphyla, Beilschmiedia tawa, Weinmannia racemosa.* (Burrows 1994). Of these, *Beilschmedia tawa, Weimannia racemosa, Alectyron excelsum*, and *Corynocarpus laevigatis* could be considered commercial timber species. The methodology has been modified in the following way: Section	The justification which includes modifications to Section 7.1.5 of the methodology is deemed adequate. CL 4 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		7.1.5 new wording added:- "There is one exception to this default rule: When the target tree species for commercial timber harvesting in the baseline includes any of the following: *Beilschmedia tawa, Weimannia racemosa, Alectyron excelsum*, or *Corynocarpus laevigatis* Project Developers are required to: 1. Calculate the proportion of AGBE attributable to these species 2. Include the AGBE attributable to these species and remove the corresponding BGBE attributable to these species in the baseline." Tables 3b, 5b and 6b have been updated.	
CL5	<u>Evidence and Clarification</u> Section 7.1.7d – The methodology uses tonnes as the unit of measure and converts the quantity of each type of GHG to tonnes of CO_2-e. However, the carbon equivalence notation (CO_2-e) is not used in all relevant formulae.	Fixed – see revised Section 7.1.7d	Clarification and corrections to Section 7.1.7d deemed adequate CL 5 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Carbon Partnership shall clarify why the CO_2-e notation is not used in the formulae.		
CL6	Evidence and Clarification *Calculation of sustainable Harvest Rate (SHR):* In addition to the fact that probably equations should be clearer in order establish the relation with OFA from a GHG accounting perspective, there are some doubts on the adjustment proposed in the case the SFM plan was produced 2 years earlier than the project start. The adjustment is assuming that the higher the standing volume is, the higher will be the increment, which is not exactly correct. In fact increment might be higher in stands with less volume.	This adjustment option is only for forests that are well short of late succession and are hence subject to annual increment in carbon stocks. The point made is gratefully received and the methodology has been modified to restrict the adjustment only to forests that are within a defined temporal window within which they can make this adjustment. Note in the PDD that the adjustment was a 10 year time lapse between the measurements used to derive the timber harvest plans and the preparation of the baseline for the PDD.	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Round 2: According to Table 7.1.8 since year 30 the mean sequestration rate decreases which could mean that the mean annual increment decreases with age from year 30. So it is not so clear that the mean annual increment would increase in this time. PP shall provide more clarity on how the SHR is estimated.	Round 2 Response: This methodology uses the sustainable harvest rate as the basis for calculating the baseline emissions from baseline timber harvesting. In turn the sustainable harvest rate is calculated on the basis of a sustainable forest management plan. If a forest is regenerating (i.e. classed as Logged Forest in this meth) after being logged in the past (within the Removals Window) then there will be annual increment causing an increase in the standing carbon stocks. If the SFM plan was prepared in year x (e.g. 2003) and then the carbon project was developed as an alternative form of development for the forest and due to start in year y (e.g. 2014) then baseline emissions in the project will be based on a baseline timber harvest regime that would have started in 2013 in a forest that had grown between 2003 and 2014. This means that the modelled baseline emissions would be greater in the project where there has	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		been a significant lapse in the time between the completion of the SFM plan and the carbon project. This is because the forest in question would have a higher carbon stock per ha starting point under this scenario compared with a carbon project that followed shortly after the completion of the SFM plan. To account for this growth of the forest in the intervening period (and the ability to harvest a higher volume of timber in the baseline - because the standing carbon stocks are bigger), projects have the option of using an adjustment factor to taken this into account. The adjustment factor is based on the sustainable harvest rate derived empirically during the preparation of the SFM plan. The sustainable harvest rate is the rate of mean annual increment into harvestable boles that the forest can sustain in perpetuity – taking into account a conservativeness factor (see 7.1.1 in the Meth). This is derived from the	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		sustainable management plan calculations as required by MAF. Please note that this calculation does not use the sequestration rate curves in Table 7.1.8, but instead uses the empirically derived (i.e. measured) mean annual increment for this particular forest as required in the sustainable forest management plan (also required in this meth). To clarify this in the meth I have added a footnote to equation 7.1.1b that states: "This calculation uses empirical growth rate data from the SFM plan to derive a sustainable harvest rate (SHR) which is assumed to be sustained in perpetuity (i.e. a requirement of a SFM plan harvest rate). Equation 7.1.1b uses the SHR but simply applies two time steps to that SHR to derive the total standing volume at T2." Round 3 Response:	
	Round 3:	I have removed the option to make any adjustment to the SHR. Equations 7.1.1a	The option to make adjustment to the SHR has been removed from the methodology.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	PP's response is not necessarily correct. -Coming to the example provided, it is correct that the carbon stocks would be higher in 2014 in comparison to 2003. This would mean that more standing timber exists and that more wood would be harvested. So, for instance, if the SHR is calculated as the standing volume by the rotation length, it would give a higher SHR. Hence, the approach suggested in the methodology would be correct. -However, in this case the SHR is not calculated with that formula but it is based on a size-class model built with data collected in the forest inventory. In this case the SHR will depend on the volume per size-class and the specific increment per size-class. So, in some cases (for instance, if there is a significant decrease in the increment with each size-class) it could occur that a stand with more volume has a lower increment. In this case the assumed	and 7.1.1b and their associated text have been removed. I have also adjusted the PDD and monitoring report accordingly.	CL 6 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	equation would not be exactly correct.		
CL 7	Evidence and Clarification *Calculation of sustainable Harvest Rate (SHR):* Equations 7.1.1 a and b have a couple of inconsistencies in the units of the parameters. TSV's units are m^3/ha not m^3/ha/year. Furthermore, SHR is theoretically expressed in m^3/ha (c.f. last sentence of par.1 under Section 7.1.1 Step 1 on pp. 53, 56) while in 7.1.1a it is expressed in m^3/ha/year.	Thank you for spotting the inconsistency. The TSV parameters have been corrected to m^3/ha. SHR is indeed m^3/ha/yr. This is because the SHR is calculated as the annual allowable timber harvest rate for a sustainable forest management plan, calculated as 60% of the assessed annual increment into the harvestable boles. The last sentence of par.1 under Section 7.1.1 Step 1 on pg. 53 has been corrected to now state (as it always should have done) "The SHR is measured in m^3 per ha	Corrections checked and deemed adequate CL 7 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		year." The equation on page 56 has also been corrected for consistency. It now reads as it should (i.e. m^3 ha^{-1} yr^{-1}).	
CL 8	Evidence and Clarification *Calculation of sustainable Harvest Rate (SHR):* PP shall clarify how the area is considered in the whole calculation. In order to estimate the SHR (m^3/ha) what area is considered here (OFA?)? This has to be clear in the methodology since the OFA is monitored and any reversal area is included in the whole equation in order to update the estimates. So I believe that this is something that	Thank you for pointing out this. The area applied is indeed the OFA which is also the eligible forest area. The first sentence in section 7.1.1 on page 53 now reads: "The "Sustainable Harvest Rate" (SHR) corresponds to the component of an Annual Logging Plan (arising in conjunction with a Sustainable Forest Management Plan) that specifies the annual sustainable harvest rate for the Operational Forest Area (OFA) for each land parcel within the Project Area."	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	should appear in the formulae. This is applicable to the rest of the parameters; it is not clear how the area is considered for GHG accounting purposes. Round 2: The issue is that it is not clear how OFA is included in the whole GHG accounting. For instance, in equation 7.1.2 b TWH is equal to SHR divided by a constant. However, the SHR is expressed in m^3/ha/year and TWH is expressed in m^3/year. From that point onwards the GHG accounting continues with values per year. The parameter OFA is missing in this equation.	Round 2 Response: The OFA is the Eligible Forest Area. The term OFA is used because this is the language of the Sustainable Forest Management Plans as required by MAF and I wanted to make the language match what foresters and project developers are already familiar with. Whenever Eligible Forest Area is used in other methodologies, OFA is used here. But there is no difference in principle. All of the equations relate to the OFA unless specified otherwise. Taking your example of Equation 7.1.2b – the calculation of Total Wood Harvested [in the OFA] for each species	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants

type uses the following equations:

Equation 7.1.2b:	$TWH_{BC} = SHR2_{BC} / 0.85$ $TWH_{PC} = SHR2_{PC} / 0.90$ $TWH_{BL} = SHR2_{BL} / 0.90$
Parameters	
$SHR2_{BC}$	Sustainable Harvest Rate (beech) at start of Project Period (m^3 ha^{-1} yr^{-1})
$SHR2_{PC}$	Sustainable Harvest Rate (podocarp) at start of Project Period (m^3 ha^{-1} yr^{-1})
$SHR2_{BL}$	Sustainable Harvest Rate (broadleaf) at start of Project Period (m^3 ha^{-1} yr^{-1})
TWH_{BC}	Total Wood Harvested beech (m^3 yr^{-1})
TWH_{PC}	Total Wood Harvested podocarp (m^3 yr^{-1})
TWH_{BL}	Total Wood Harvested broadleaf (m^3 yr^{-1})

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		If you look at Appendix 6 in the PDD you will see that all the equations are derived from data that come from the OFA and in particular the Total Standing Volume and then Sustainable Harvest Rate for each land parcel contained within the OFA. I did not think it necessary to keep referring to the OFA throughout each new set of equations given that the equations are derived from the OFA anyway.	
	Round 3 We would suggest making all equations coherent and refer all to m^3/year or to m^3/ha/year. We understand that it is implicit but it is a formal issue that can be corrected easily and would bring coherence to the equations provided.	Round 3 Response I have added a clarification in the description of each of the parameters in all of the relevant equations as requested	PP's clarification on how OFA is included in the whole GHG accounting is deemed adequate. All equations are now coherent. CL8 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CL 9	Evidence and Clarification *Calculation of sustainable Harvest Rate (SHR):* The methodology is proposing to calculate this by multiplying the Mean Sequestration Rate (MSR) by a fraction of the OFA which is equal to 1/MRR. This means that every year the sequestration would be equal to 1/MRR% of the OFA, which seems not to be correct. According to the text, seems that 1/MRR is the proportion of OFA that is harvested every year, this would mean that year 1 1/MRR*OFA (ha) would be harvested and that only 1/MRR*OFA*MSR tCO_2 would be sequestrated. Therefore, the second year would be 2/MRR*OFA*MSR, …. and	I suspect the reviewer is referring to the calculation of the Sequestration in Harvest Patches (SHP) in section 7.1.8 (pg. 59-61) here (and not SHR)? If so, this is my response: In the baseline timber harvesting operation for a project period of 50 years, the harvest patches will be created each year (in practice every 5-10 years but removing the allowable annual volume for the 5-10 year period). But for simplicity of the model we assume that the harvesting occurs annually. The maximum age that any of the harvest patches could possibly be by the end of the project period is 50 years. Rather than using the sequestration rates for each of	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	in year 50 it would be 50/MRR*OFA*MSR."	the years in the project period, this methodology applies the mean sequestration rate for the whole project period. For beech this is 6.044 (rounded to 6.0). Then this rate of 6.0 (for beech) is multiplied by the (annual) fraction of the OFA that comprises the (annual) Mean Patch Area. We assume that for the 80 year rotation for beech, that a sustainable forest management timber harvest regime will reproduce harvestable trees every 80 years in that patch, and that the annual Mean Patch Area is (therefore) an 80th of the OFA. If the annual MPA is greater than an 80th of the OFA then the timber harvest regime in the baseline would not be sustainable and would breach the conditions imposed by MAF. The SHP therefore is calculated as the estimated	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		annual area created by timber harvesting multiplied by the mean annual sequestration rate for that species type for the project period.	
	Round 2: Not very clear still. Imagine that there are 80 ha (OFA) of beech which has a rotation rate of 80 years (MRR). This would mean that the mean annual patch area would be equal to 1 ha; meaning that every year 1 ha of the OFA would be harvested. Now, multiplying 6 (MSR) by 1 ha would have the sequestration of one patch harvested only one year. So one harvested patch would	Round 2 Response: I agree with your logic. I realised that this component of the meth was not sufficiently developed. I decided to simplify this component of the meth considerably by re-designing it entirely and making it much easier to conceptualise. This also had the effect of making the meth more conservative on this point. Please see the new section 7.1.8 which calculates the SHP as TCO_2 divided by 2 and expressed as a negative number to reflect the fact that it is a removal. As a result I have adjusted the PDD accordingly for this parameter and all consequent parameters. These changes have been incorporated into the	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	sequestrate 6 tCO_2 every year. Now, the rest of patches have to be considered; thus the second year another 1 ha would be harvested and that year it would sequestrate 6 tCO_2e. So the second year would sequester the sequestration of the patch harvested the previous year and the patch harvested this year. Therefore, 2*6. And so forth for the rest of the years. Would this be the case? Round 3: After careful review of all the assumptions made and all the equations in the methodology, we find that the assumptions made for the determination of the baseline emissions/removals and the project removals are not consistent.	spreadsheet (Appendix 6, the PDD text (p 59 onwards) and also in the executive summary of the PDD. Round 3 Response: I am determined to keep this simple and conservative. I have changed the methodology provisionally (i.e. these changes are not yet incorporated into the text of the Meth or the PDD). The changes are as follows: The SHR calculation has been simplified	DNV checked and confirmed that the national average sequestration rate for regenerating indigenous forests in New Zealand is 3 t CO_2/ha/yr which has been considered low by stakeholders, and that there have been consultations headed by the Ministry of Primary Industries for the proposal to replace this existing fixed carbon sequestration value with new values

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	-Removals using the data used for the baseline: Using the actual data for the verification, we have a SHR of 212 m^3/year / 738 ha = 0.29 m^3/ha/year. Considering a residual default of 0.85, shoot-root-ratio of 0.25, a basic density of 0.49, a collateral damage of 0.1 the GHG removals would be 0.42 tCO_2/ha/year. These would be the emissions per ha. Now, if we apply the 0.6 correction factor we would have the GHG removals at the time of the forest inventory. These would be equal to 0.69 tCO2/ha/year. Using real data and the formulae of the methodology, this would be the theoretical sequestration rate at the time of the forest inventory. -Removals estimated using the approach for project removals: These are not based on real data but on Payton (2007).	in the spreadsheet and removes the adjustment previously used (as per my response to CL2). I have also removed the SHP component and instead replaced it with a single (i.e. one-off) issuance of credits amounting to half the TCO_2 to account for the permanent reduction of mean carbon stocks in the Baseline compared with the Project Scenario. This is because a sustainable harvest regime will create a saw tooth pattern with a flat line below the mean original carbon stocks (if assuming an unlogged forest situation). It is the difference between these two flat lines that is compensated for in the project scenario, but compensated for only once, because the change in mean carbon stocks only happens once as a consequence of baseline harvesting (but is maintained as a flat line because of non-ongoing harvest and regrowth).	of 4 - 7 t CO_2/ha/yr based on a nationally-averaged growth curve for regenerating indigenous forests. DNV further cross-checked with Dr. Ian Payton a researcher in ecosystems and global change at Landcare Research who confirmed that average modelled sequestration rate over the first 200 years is 3.7tCO_2/ha/yr across all beech species and across all habitat types. Therefore, DNV deemed PP's average 3.7 t CO_2/ha/yr reasonable and representative of the carbon sequestration rates for indigenous forests in New Zealand. *(http://www.mpi.govt.nz/news-resources/publications.aspx?title=Indigenous sequestration rate and enhancing Calculation of Emissions and Removals;* *http://www.pce.parliament.nz/assets/Uploads/Reports/pdf/Forestry Regulations submission.pdf)* CL 9 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	According to this source, for beech the mean sequestration rate would be 3.7 tCO_2/year/ha. This is a value which is significantly higher to the above. Hence, assuming that the standing stock will continue growing at 3.7 tCO_2/year/ha while the application of the GHG accounting of the methodology along with the forest inventory data gives 0.69 tCO_2/ha/year is not correct.	But still the mean baseline carbon stocks will be lower than the mean project carbon stocks, and this is rewarded with the one-off payment. The only other carbon benefits produced by projects occur in logged forest situations with the project removals. I have kept the project removals calculations the same as in previous versions of the methodology (i.e. using data from Payton et al) to keep the methodology simple. I have edited the meth to incorporate these changes, but my preference is to discuss this with you first and then if you approve of the logic I will continue to rework the rest of the meth, PDD and Monitoring Report accordingly. <u>Growth Rates</u> The SHR is calculated as 60% of the gross annual increment. The gross annual	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		increment is calculated using size class data and increment cores, as well as site assessments (e.g. looking at drainage, aspect etc.). The gross annual increment methodology is guided by MAF (now Ministry of Primary Industries) guidelines for the development of sustainable forest management plans and permits. Section 7.1 of the Meth explains this as follows: "The gross volume increment is calculated using a size class model for each forest/timber species type. ... The gross volume size increment per hectare for each size class is determined by multiplying the mean stem volume by the density change, and then multiplied by the total area hectare figure to give the total gross volume increment per year for each size class." This is then reduced by 40% (i.e. arriving at the 60% of gross annual increment	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		figure). The growth rates in the baseline focus on volume increment estimated using a size class model, calculating the average time individual stems take to grow from one size to the next, by estimating size class recruitment periods based on average size class diameter increment. As such, the baseline emissions calculation is based on growth rates. The project removals calculation is based also on growth rates. In the project scenario, enhanced removals are based on a national average for the three forest types. This is from data and analysis by Landcare Research (the government-owned research company specialising in ecology) that is used as the basis for lookup tables used in the New Zealand emissions trading scheme. I am not doing anything here that is out of order and I really do think it is	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		time to settle this issue. Baseline growth rates used for the derivation of SHR in the Rarakau Forest Carbon Project include data from reference area forests with gross annual increment for silver beech as follows (tCO_2/ha/yr): 2.25; 2.2; 3.04; 2.51; 4.04; 3.0; 7.5; 3.5; 3.6 - average: 3.51 Note that this is for the slower growing silver beech species (i.e. slower growing than red, black, and hard beech) in a location at the southern tip of New Zealand where growth rates will be slower than in warmer climates. The national default for beech used in the project scenario for enhanced removals is 3.7 tCO_2/ha/yr (based on national average growth rate data across all beech species). The average of 3.51 tCO_2/ha/yr is rather close to 3.7 tCO_2/ha/yr particularly given the species and the location. I assert that this is consistent and that it is therefore	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		acceptable to use the national default growth rate of 3.7 tCO_2/ha/yr for beech as specified in the methodology. One needs to recall that a red beech stand growing in northland will very likely have a considerably higher growth rate and yet enhanced removals will only allow that project to claim 3.7tCO_2/ha/yr unless it provides empirical data. Note also that the Rarakau Programme focuses on private land forests which do not tend to be located at very high altitudes. The higher altitude forests are usually located in national parks and other reserves, whereas private native forests are more predominantly located in low to mid altitudes where growth rates are higher due to higher average temperatures compared with high altitude forests which contribute to the national average growth rates. In other words, using the national average growth rate for the three forest types in this methodology is conservative.	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CL 10	Evidence and Clarification *Calculation of Sustainable Harvest Rate (SHR):* Equation 7.1.1 is assuming that no harvesting has occurred between the date of the SFM plan and the start of the project period. If so this should be clearer in the methodology. Round 2: The footnote states that this is an assumption, but probably it should be stated as a requirement.	A footnote has been added on page 54 to clarify this point. Round 2 Response: I have changed the word "assumed" to "required".	DNV checked the changes and are deemed adequate. CL 10 is closed
CL 11	Evidence and Clarification *Adjustment of the SHR in Equation 7.1.1*		

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	b The adjustment is assuming that the higher the Total Standing Volume (TSV) is, the higher the Sustainable Harvest Rate (SHR) will be. So if in the SFM it was estimated that 10% of the existing volume could be harvested in a sustainable way, this 10% would be applied to the new TSV in order to estimate the SHR. However, considering that the SHR is based on the bole increment (c.f. page 53), this assumption would mean that forests with more volume stocks would have higher increment which seems not correct if applied generally as it would assume that old stands would have a lower increment than younger stands. Please clarify.	Good point. Section 7.1.1 has had a new section added to clarify this point, whereby adjustment of the SHR by means of equation 7.1.1b is permitted only in those portions of the OFA that are classed as Logged Forest" and where the t1 (time at SFM Plan) and t2 (start of project Period) both fall within the Removals Window (RW) described in section 7.2.2 on pages 64 and 65. Text has been inserted in the last paragraph on page 53 as follows: "This applies only to those Logged Forest portions of the OFA that fall within the Removals Window (RW) described in Section 7.2.2."	Clarification deemed adequate. CL 11 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Round 2: The meaning of "portions of the OFA that fall in the RW" is not clear. The understanding is that it is not possible to have OFA out of the RW since this adjustment would be done at the beginning of the project, PP shall clarify whether that would be the case.	Round 2 Response: Any given project may include Logged Forest and Unlogged Forest portions of the OFA. For the Logged Forest portions of the OFA there is an option to make an adjustment to the SHR if there has been a significant time lapse between the completion of the SFM plan and the Project Start Date. I hope this clarifies the interpretation of the word "portions" here. To clarify I have changed the word 'portions" to "parcels". More specifically I have adjusted the language on page 53 of the meth to the following: "This applies only to those Logged Forest parcels within the OFA that are of an age since logging to enable them to fall within the Removals Window (RW) described in Section 7.2.2."	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CL 12	Evidence and Clarification *Monitoring plan:* • *Parameters available at validation:* The methodology provides all the main calculated parameters within this section, even ex-ante estimates; however, it should ideally include estimated parameters at validation. Since most of the equations of the MED provide already default values, probably the only parameters to be estimated initially would be SHR, OFA and the market leakage. From these parameters, all the other parameters of the methodology can be calculated following the equations of the methodology and the default values provided.	Just tell me what you want here. It is not clear to me what you want me to do. I am happy to simplify things but I do not understand the request. If you want me to remove specific parameters from the list available at validation and/or those monitored, please say so. OFA_{LF} is implied in the parameter EFA. This is because OFA = EFA. Because this is a methodology that includes both OFA_{LF} and OFA_{ULF} the parameter is just called EFA. I have made an amendment to the description of the EFA in the monitored parameters. SHP in parameters available at validation: Please tell me what you want me to do. On TAL in parameters available at validation: Please tell me what you want me to do. The CL is not clear to me what	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		the desired remedy is. On ORR & BUF in parameters available at validation: please tell me what you want me to do. I agree with the review of these parameters at each verification. That does not prevent us from including them as ex ante estimations at validation. On including TLK & NPB in parameters available at validation: It is possible to make an ex ante estimation of both of these at validation, particularly if we are using a baseline for the first 10 year period of the project period with baseline revisions every ten years. The point of these ex ante estimates at validation is to forecast the performance of the project should it proceed as planned. Then if there is any change to TLK or any other monitored parameter then this will show up in the monitoring report and the credits issued will result from the monitoring report. So again, please tell me what is broken that needs fixing here,	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	• *Parameters monitored:* Monitored parameters ideally should not be calculated parameters, but parameters that are measured in the field. The only parameters would be OFA and OFA TAL, activity leakage (although not expected under the	because I cannot see what is broken. On including EFA, ER, NPE, TML BFF in parameters available to be monitored: Please tell me what you want. General response to CL 12: I have already responded to previous corrective actions from the Sydney office that helped to give shape to the monitoring plan. The requests in CL 12 here are very difficult for me to understand. I can mostly understand the comments but what is not clear to me is what you want me to do about it. Please state clearly whether a particular parameter should be removed from a particular part of the monitoring plan or added to another.	
	Round 2: -Parameters available at validation: Most of these parameters are already available in the text of the methodology and are	Round 2 Response: I have removed the section entitled Parameters Available at Validation. I	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	not project specific, and others are calculated with formulae provided in the methodology, so it would be redundant to report these. So it seems that the only parameters that would be required for the calculations and are project specific would be: • SHR, • OFA • market leakage -Regarding the monitored parameters, the calculated parameters are obtained just using as input the measured parameters in the equations of the methodology, so reporting these as parameters would be redundant. In fact in the monitoring report, these would be reported anyway so it would be redundant also from this side. So to simplify, the PP may report only measured parameters, which seem to be: OFA and OFA TAL, activity leakage (although not expected under the programme), and the ORR.	have adjusted the section entitled "Monitored Parameters" to include OFA TAL and ORR only. The remaining data is provided in the PDD and not monitored and so is not included in the monitoring plan. I have also adjusted the table 11.4.1 to more accurately reflect monitored and non-monitored parameters. I have adjusted the PDD (p. 92) to reflect these changes in the Meth. I have adjusted the Monitoring Report to reflect these changes and simplifications.	DNV checked the revisions in relevant table and deemed them satisfactory. CL 12 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	PP shall revise the parameter tables		
CL 13	<u>Evidence and Clarification</u> *Treatment of Reversals* The monitoring includes an option for reversal but it is not clear how this is determined from the GHG accounting perspective. For example i. Is the logged area excised from the project area and the emissions are compensated with the buffer? ii. Is the logged area kept in the project area and emissions are determined by multiplying the logged area by TSV and OFA_{LF} would be updated?	A new section 11.2.1 has been added to the methodology to clarify procedures relating to reversals.	A sentence is included under OFA "Subtract reversal area from the Eligible Forest Area and recalculate the Net Carbon Credits by means of the most recent version of the Rarakau Programme Methodology". This is deemed acceptable. CL 13 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	PP shall clarify this.		

Table 2b Resolution of Corrective Action Requests and Clarification Requests – Project Validation

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR 1	Requirement Section 5.2(d) of the ISO 14064-2 Standard requires a description of conditions prior to project initiation. Evidence and Failure Section 2.5 does not include a brief description of early stages of project history to show when the project began.	This has been added to section 2.5.1 of the PDD.	A brief description of project history added in Section 2.5.1 of the PDD. CAR 1 is closed.
CAR 2	Requirement Section 5.2(f) of ISO 14064-2 Standard	Section 2.6 has been expanded to provide more detailed information on the activities to be	More detail on project activities has been to the PDD in Section

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	requires PPs to describe the project and its context in a GHG project plan including project technologies, products, services and the expected level of activity. Evidence and Failure While Section 2.6 includes a description of project technologies (by reference to Section 2.6 of the methodology), it does not include clear descriptions of products, services and the expected level of project activity. PP shall provide more detail on specific project activities to be included in project implementation.	undertaken in the Rarakau Forest Carbon Project.	2.6. Detail deemed adequate. CAR 2 is closed.
CAR 3	Requirement Section 5.2(c) of ISO 14064-2 Standard requires the description of project location, including geographic and physical information to allow the unique identification and delineation of the specific extent of the project. Evidence and Failure	These are provided in the Shape Files that support the maps presented in Section 2.3.5. These shape files are provided in The Geographic coordinates for the Project Area, Forest Area, Eligible Forest Area, and 1990 Eligibility are provided in Appendix 18.	Response deemed adequate. CAR 3 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Section 2.3.6 does not include the geographic coordinates of each land polygon vertex to enable this unique identification. PP shall include the geographic coordinates to allow for unique identification of the project.		
CAR 4	Requirement The principle of consistency in Section 3.4 of the ISO 14064-2 Standard requires consistent GHG-related information to enable meaningful comparisons in GHG-related information. Evidence and Failure Section 7.2.1 Step 10 – ER (enhanced removals) which, according to the methodology is equal to the NPR (net project removals), are stated as 2,730 306 tCO_2 yr^{-1}. However, the ER or NPR is also given as 2 730 tCO_2 yr^{-1} in both Table 7.2.3 and Appendix 6. Furthermore, NPR is stated as 400 tCO_2 yr^{-1} in Section 7.2.3 Step 12. PP shall correct this and state the correct amount	Section 7.2.1: The additional "306" was included in error. This has been removed and thereby remedied. Section 7.2.3: The inclusion of 400 for NPR was in error. This has been remedied by changing the number to the correct figure of -2,730 tCO_2 yr^{-1} (expressed as a negative number)	Corrections deemed adequate. CAR 4 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	of NPR.		
CAR 5	Requirement The principle of transparency in Section 3.6 of the ISO 14064-2 Standard requires a disclosure of sufficient and appropriate GHG-related information to allow intended users to make decisions with reasonable confidence. Evidence and Failure Section 7.1 –data and/or references supporting sustainable harvest rates for the eligible forest area are not provided.	Supplied in PDD Appendix 22 – pages 17, 18, and 24.	References provided. CAR 5 closed.
CAR 6	Requirement The principle of accuracy in Section 3.4 of the ISO 14064-2 Standard requires, as far as is practical, a reduction in bias and uncertainties in GHG-related information. Evidence and Failure Section 8.1 – According to Equation 8.1 in the methodology, NPB = NBE (net baseline emissions) – NPR (net project removals) – TML (total market leakage). The error is that	Equation 8.1 is changed in the methodology to NPB = -NPE – TLK. NPB = Net Project Benefits NPE = Net Project Emissions TLK = Total Leakage	Corrections to equation 8.1 deemed adequate. CAR 6 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	NPB has been calculated as NBE + NPR-TML. PPs shall correct this.		
CAR 7	Requirement Section 5.2(i) of ISO 14064-2 Standard and Section 2.9 of the applicable methodology require inclusion of roles and responsibilities, including contact information of the project proponent, other project participants, relevant regulator(s) and/or administrators of any GHG programme(s) to which the GHG project subscribes in the project description. Evidence and Failure Section 11.6 – PP states that details of project monitoring roles will be developed following successful project validation and registration. DNV deems this to be unsatisfactory considering that the project will be validated and verified before registration. PP shall clearly define respective monitoring roles and responsibilities for the steering	Clarified in sections: Section 2.9.2 Section 10.2 Section 11.3.10 Section 11.4.7 Also clarified in	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	committee and the project developer at verification (i.e., before project registration). Round 2: PP has defined respective monitoring roles and responsibilities in the revised PDD. However there is an incomplete statement, "Also clarified in…"	Round 2: The partial sentence "Also clarified in…" was left in the Response by Project Participants in error. It has been removed.	Response deemed adequate. CAR 7 is closed
CAR 8	<u>Requirement</u> Section 5.10 of the ISO 14064-2 Standard requires the project to establish and maintain criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline scenario Evidence and Failure The monitoring plan does not include a commitment a commitment to develop standard operating procedures relevant to the implementation and monitoring of the project.	PDD modified to include requirement for SOP in: Section 10.2 Section 11.3.10 Section 11.4.7	A requirement to develop SOPs has now been included in the PDD. CAR 8 closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR 9	Requirement Section 5.10 of the ISO 14064-2 Standard requires the project to establish and maintain criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline scenario. Evidence and Failure Section 11 – PP states that the project monitoring plan will be developed after project validation. The PDD should contain a detailed plan of how the project would be monitored. The monitoring report reports the implementation of the monitoring plan and provide evidence that project implementation adheres to the PDD monitoring plan and the applicable methodology. This implies that the project monitoring plan should be included in the PDD prior or at validation.	Remedied by rewriting of Section 11 of the PDD and Section 11 of the Methodology to ensure consistency between the two. Also clarified in PP Modifications to the PDD: The method for Eligible Forest Boundary inspections in Section 11.3.2 has been reworded as follows: "Make observations of the Eligible Forest Area boundary during the course of the Eligible Forest Area Inspections. This is conducted during the walking of line transects from one side of an Eligible Forest Area boundary to another, and by viewing the Eligible Forest Area boundary in both directions along the boundary from the point on each transect line as it meets the Eligible Forest Area boundary. If reversals at the Eligible Forest Area boundary are observed at points along the boundary that do not coincide with the line transect then the	The revised PDD now includes the monitoring plan. Revision deemed adequate. CAR 9 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	PP shall include a project monitoring plan as part of the PDD.	reversal is recorded in the same manner as described in Section 11.3.3 of this PDD."	
CL 1	<u>Evidence and Clarification</u> Section 1.1.3 of the applicable methodology requires project proponents to provide, at verification of project implementation, legal covenant documentation on the title of the land as evidence that the project has been protected from baseline activities for the duration of the project. A Memorandum of Encumbrance has been provided as evidence to fulfill this requirement. PP shall clarify the enforceability of the Memorandum of Encumbrance. Round 2: The revised PDD does not have Section 2.1.4.	Legal enforceability of Memorandum of Encumbrance is provided by adding information to Section 2.1.4 of the PDD. Round 2: The additional clarification was included in Section 2.14 of the PDD. The CL response by PP included a decimal place between the 1 and	Correction made. CL1 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		the 4 in error.	
CL 2	Evidence and Clarification Section 2.1.1 – The name/word 'Rarakau' in the project title in the methodology text box is given as 'Rakiura'. PP shall clarify the right name/word.	The term 'Rakiura' was put in as an example of a (hypothetical) project within the Rarakau Programme that was different from the Inception Project. Rakiura is the Maori name of Stewart Island. To avoid confusion Carbon Partnership has used the name 'Rarakau' instead of 'Rakiura' in this instance as requested.	Clarification deemed adequate. CL 2 is closed.
CL 3	Evidence and Clarification Section 2.5 – One of the activities to be terminated in the project scenario is fuel wood harvesting above the *de minimis* (≤5% of the allowable annual commercial timber harvest volume) in regenerating forests. However, to satisfy the need for energy, fuel wood harvesting above the *de minimis* could occur and could be shifted to areas outside the project and this could result in GHG leakage.	There is only one household in the project area. This is the household of the farm manager for the dairy grazing areas adjacent to the project forests. The fuelwood needs for this single household are minimal and would fall well within the *de minimis* range of ≤ 5% of the allowable annual commercial timber harvest volume. There are no commercial fuelwood operations in the project area and no landowners from outside the project area use the forests within the project area for fuelwood	During the site visit, DNV found only one dwelling for the farm manager in the project area. It is DNV's view that fuel harvesting and consumption by this household is well within the de minimis range of ≤ 5% of the allowable annual commercial timber harvest volume. CL 3 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	PPs shall clarify how the project would mitigate this possibility of GHG leakage.	supply. Project monitoring will require the project manager to report on this through the course of the monitoring cycle.	
CL 4	Evidence and Clarification Section 2.11 – PP states that an EIA is not required for forest carbon projects undertaken in the voluntary carbon market in New Zealand, because voluntary forest protection is a permitted activity under New Zealand law and local government legislation. PPs have not provided evidence of EIA exemption for the project activity. PP shall provide evidence that the project activity is a permitted activity and does not require an EIA.	Evidence of no EIA requirement is provided in the form of an email from the Ministry for the Environment that confirms this point. A copy of this email is provided in Appendix 15 of the PDD.	PPs provided a copy of email/16/ to DNV as evidence of no EIA requirement. During the site inspection, DNV cross-checked and confirmed the authenticity of the email with the New Zealand Ministry of Agriculture and Forestry. CL 4 is closed.
CL 5	Evidence and Clarification Section 2.13 – The applicable methodology defines 'Project Management Period as "comprising each annual project management cycle, starting on the project start date, which marks the beginning of the project period".	Many thanks for spotting this inconsistency. Section 2.13(d) of the PDD has been corrected to state: Project Management Periods: Annual periods starting on 1 January 2009.	Clarification deemed adequate. CL 5 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	However, the project timeline element in Section 2.13(d) of the PDD refers to project management periods as "Annual periods starting on 1 February 2012". This is inconsistent with the applicable methodology which requires annual project management cycle to start on the project start date, which, for the Rarakau Forest Carbon Project, is 1 January 2009. PP shall clarify this inconsistency.		
CL 7	<u>Evidence and Clarification</u> Section 4.1.3 states that the owners of forests subject to Rarakau forest carbon project have previously lodged a claim with the Waitangi Tribunal (WAI 158 Claim). Should this claim succeed, this will change the baseline to either deforestation or forest degradation. PP shall clarify the fate of the whole project and the associated VERs in the event where the baseline activity is changed (i.e., where the baseline activity is NOT a forest-	The following text has been added to Section 4.1.3: "Note that the Rarakau Programme Methodology specifies that the baseline and project activities must constitute forest remaining as forest activities, and thereby remain within Article 3.4 of the Kyoto Protocol (or equivalent in a post-2012 agreement). The successful resolution of the WAI 158 Claim on behalf of the Claimants would not cause the Project Owners to withdraw from the	Clarification of the fate of the project in the event the pending WAI 158 Claim is deemed adequate. CL 7 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	remaining-forest activity).	Rarakau Programme in order to pursue a deforestation baseline. Instead the Project Owners would pursue an adjusted baseline at the decadal timeframe for baseline revisions as specified in Section 4.1.2.1 of the Rarakau Programme Methodology D2.1v1.0, 15 May 2012. The unsustainable rate of (revised) baseline harvesting would be consistent with what was common practice timber harvesting rates for high intensity (unsustainable) selective logging in areas where this was legally sanctioned prior to the 1993 Forest Amendment Act, and/or prior to subsequent rulings under the Resource Management Act that prevented harvesting rates above those specified in the Forest Amendment Act (1993)."	
CL 8	<u>Evidence and Clarification</u> PP shall provide evidence of stakeholder consultation in project planning and project implementation	Section 9.1.5 shows the stakeholder consultations undertaken during project development. Evidence to support this table is provided in Appendix 19.	PPs have provided evidence of stakeholder consultation in project planning and implementation. DNV cross-checked and confirmed this evidence during the site inspection.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
			CL8 is closed

Table 2c Resolution of Corrective Action Requests and Clarification Requests – Project Verification

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CAR1	Requirement Section 5.11 of the ISO 14064 Standard requires the PP to have documentation that demonstrates conformance of the GHG project with the requirements of ISO 14064. This documentation shall be consistent with validation and verification needs Evidence and Failure The document numbering system does not correspond to the system in the PDD.	Corrected	Correction checked and deemed adequate. CAR 1 closed
CAR 2	Evidence and Correction In Sections 2.1.1.4, 3.3.3.2 & 3.3.3.3, Eligible Forest Boundary and Area Inspections shall be more than annual if project gets bigger than a certain size threshold as required by Sections 11.3.2 and 11.3.3 of the Methodology.	Section 11.3.3 of the Methodology has been adjusted to allow a more flexible approach to site inspections (cf. Meth CAR 13). This more flexible wording of the Meth allows projects to be inspected annually irrespective of the size, and for the timing of inspections to be determined in the PDD so long as it is consistent with the methodological requirements of the VCS. The PDD states that all projects in the Rarakau Programme will be subject to annual boundary	

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
		and forest area inspections by PPs combined with 5-yearly second party verification audits staggered in time with 5-yearly third party verification audits. This will mean that all projects are subject to annual PP inspections and then independent verifications every 2.5 years, and reversal rules for any reversals.	
	Round 2: PP states that the site inspection components of the project monitoring system should be consistent with the methodological requirements of the VCS. However, PP does not state which specific VCS methodological requirements are being referred to.	Round 2 Response: Reference to methodological requirements of the VCS has been removed because no specific requirements are indicated in the VCS Standard or the VCS AFOLU Requirements.	The removal of the reference to VCS methodological requirements provides for a more flexible approach to site inspection. CAR 2 is closed
CAR 3	<u>Requirement</u> Section 9.1.4 of the applicable methodology requires each project in the Rarakau Program to prepare a project dispute resolution framework to guide the process of dispute resolution should it occur during the	Updated wording in the Methodology Section 9.1.4. Dispute Resolution Framework for the Rarakau Forest Carbon Project is supplied in Appendix 2 of the Monitoring Report.	PP has developed and implemented a dispute resolution framework and evidence of this was provided during site assessment.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	course of the project. Evidence and Failure Section 2.1.1.4 of the MR does not include a dispute resolution framework and evidence of its implementation.		CAR 3 is closed
CAR 4	Requirement The VCS monitoring report template requires inclusion of competencies required for roles and responsibilities. Evidence and Failure PP shall include a summary of competencies required for roles and responsibilities in Table 3.3.4.4 as required by the VCS monitoring report template.	Remedied by adding information to Table 3.3.4.4.	Required competencies for roles and responsibilities added to Table 3.3.4.4. CAR 5 is closed.
CAR 5	Requirement Section 10.2 of the applicable methodology and Section 11.4.5 of the PDD require that all electronic data and reports also be copied on durable media such as CDs and that these copies are stored in multiple locations.	Corrected. Project Developer now has: On-site CD data archive Off-site CD data archive Project Owner now has: On-site CD data archive	Corrections to electronic data and records management system deemed adequate response to the CAR. CAR 8 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	Evidence and Failure The site audit did not find evidence of this occurring. PP shall correct this non-conformance.	Offsite CD data archive Programme Operator now has: On-side CD data archive Off-site CD data archive	
CAR 6	Requirement Section 5.10 of the ISO 14064-2 Standard requires the project to establish and maintain criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline scenario. Evidence and Failure While PP described procedures for project monitoring and data acquisition, transfer and reporting, the site audit did not find evidence of the documented standard operating procedures.	SOP provided in Appendix 3 of the Project Monitoring Report and Appendix 23 of the PDD.	SOPs are now documented. CAR 9 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	PP shall provide documented standard operating procedures relevant to project implementation and monitoring.		
CAR 7	Requirement Section 5.10 of the ISO 14064-2 Standard requires the project to establish and maintain criteria and procedures for obtaining, recording, compiling and analysing data and information important for quantifying and reporting GHG emissions and/or removals relevant for the project and baseline scenario. Evidence and failure During the site audit, piles of log and tree stumps were observed in areas adjacent to the eligible forest area boundary. This poses significant fire risk to the project. Section 2.1.1.3 of the MR indicates that this was the source of a fire event to the west of Forest Management Area 2 in January 2012. Since the use of fire as a forest management	Clarified as follows: Meth section 2.5 (b) p 28. PDD section 2.14 (bullet point 2 pg. 45) PDD Appendix 23 Monitoring Report Appendix 3	Undertakings by the project owner in the encumbrance and the SOP regarding fire risk management in areas adjacent to the eligible forest area boundary deemed as adequate fire mitigation measures. CAR 10 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	tool is not permitted in the project scenario and no alternative procedure exists for managing this fire risk, PP shall put in place a documented standard operating procedure for managing these log/stump piles.		
CL 1	Evidence and Clarification During the site audit, PP described and demonstrated the important role of the farm manager resident in the project area in the Rarakau forest carbon project monitoring and mitigation activities. However, this role and associated responsibilities is not included in the PDD and the monitoring report. PP shall clarify the role and responsibilities of the resident farm manager in the PDD and the MR.	Clarified as follows: PDD Section 2.9.2 Monitoring Report: Table 3.3.4.4	The role and responsibility of the resident farm manager is clarified in the PDD and the MR. CL 1 is closed
CL 2	Evidence and Clarification Section 3.3.3.8 of MR states that the Programme Operator will undertake a project management audit at 5-yearly	An additional paragraph has been added to the PDD (Section 11.3.8) that clarifies actions resulting from non-conformities discovered during a 5-yearly Project Management Audit.	Handling of non-conformities found from project management audits has been clarified in the added paragraph to Section 11.3.8.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
	intervals but does not include provision on the handling of non-conformities from such an audit. PP shall clarify how non-conformities found from project management audits will be handled.		CL 2 is closed.
CL 3	<u>Evidence and Clarification</u> In describing the monitoring plan in the MR in Section 3.3, PP refers to Project Management Reports (Sub-section 3.3.3.6) and Simplified Project Management Report (Sub-section 3.3.3.9). During the site audit, PP indicated that the two reports were actually part of the MR. PP shall include a distinct clarification of these documents in the MR.	This is clarified in Section 1.1.1 and 1.1.2 of the Monitoring Report.	Clarification deemed adequate. CL 3 is closed.

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CL 4	Evidence and Clarification During the site visit, PP indicated that, as a measure to mitigate project risk, the Rowallan Alton Incorporation has the right to restrict access to the project area. PP shall clarify how this will be achieved.	Clarified in PDD Section 2.14 (final paragraph, p 46).	Clarification deemed adequate. CL 4 is closed.
CL 5	Evidence and Clarification For Section 3.3.3.7, a Director's Certificate would not be sufficient evidence of project implementation. PP shall demonstrate during the site visit that the project has been implemented and that the GHG removal assertion has actually occurred.	Site visit demonstrated that the project has been implemented, although, as stated in Section 2.5.1 of the PDD, project implementation began (1 January 2009) well before the project development process was completed (mid 2012), and before the PP fully understood all of the detailed requirements to demonstrate project implementation. Note that project implementation was a requirement for gaining government funding for the completion of the project development process.	DNV inspected the project site and can confirm that the project has been implemented. CL 5 is closed.
CL 6	In the data and parameter monitoring tables, PP shall indicate N/A for those data and parameter with unknown actual values.	Fixed.	N/A has been indicated for those data and parameter with unknown actual values. CAR 6 is closed

CAR/CL ID	Corrective action request	Response by Project Participants	DNV's assessment of response by Project Participants
CL 7	PP shall include equations in the applied methodology in this section of the monitoring report.	Equations added as requested.	Relevant equations have been added to Section 4 of the MR. CAR 7 is closed.

LIST OF DOCUMENTS REQUIRED		DNV's assessment of response by Project Participants
1	Signed copy of Memorandum of Encumbrance	Provided
2	Signed copy of Directors' Certificate	Provided
3	Eligible Forest Area Inspection Template	Provided
4	Eligible Forest Boundary Inspection Template	Provided
5	Signed copy of Programme Agreement	Provided
6	Standard operating procedures	Provided
7	Dispute resolution framework	Provided

APPENDIX C

CURRICULA VITAE OF THE VALIDATION TEAM MEMBERS

Misheck Kapambwe

Holds a PhD in Forest Products Carbon Accounting, a Master of Business Administration (Sustainable Business) Degree and has done a Master of Wood Science Degree, a Graduate Diploma in Forest Industries, a Diploma in Forestry and a Diploma in Sawmilling Technology and has done short term courses in Carbon Accounting, Auditing of GHG gas offset projects and Integrated Management Systems Auditing. He has experience of over 2 years in validation and verification of numerous methodologies and projects under CDM program, VCS, CCBA and ISO 14064 Standards. His 20 years' experience also covers the fields of forest products processing and management, environmental management and resource conservation. Prior to joining DNV having around 5 years' experience in research in the areas of greenhouse accounting (including ecological carbon footprinting) and climate change policy.
His qualification, industrial experience and experience in forestry and forest industry demonstrate his sufficient sectoral competence in forestry (technical area &sectoral competence TA 14.1 &Sectoral Scope 14).

Noel Peters

Noel Peters has an Associate Diploma of Control Engineering and a Master of Science and Technology in Environmental Science. He has over 20 years' experience in environmental and safety risk management, and was first involved with climate change projects in 1990. His work experience includes four years in the pulp and paper industry, 10 years consulting to the waste industry including 2 years managing the operation and maintenance of a landfill gas facility. He has also provided strategic advisory and auditing services throughout the world to the energy, mining and manufacturing industry sectors.

He has provided auditing services relating to the Australian GHG schemes and the VCS, and is a DNV trainer for Corporate GHG inventories and is responsible for managing the team providing those services in the Australian region.

Noim Uddin

Noim holds PhD in Environmental Studies, Master of Science in Sustainable Energy Engineering and Bachelor of Science in Mechanical Engineering. Having an overall experience of around 12 years. Prior to joining DNV having 3 years' experience in sustainable energy strategy development, 4 years' experience on working biomass projects and 3 years on other renewables covering research, design and modelling, and experience in accreditation auditing under UNFCCC's CDM and JI schemes (DOEs and AIEs accreditation).

Noim has experience of around 3 years in validation and verification of numerous CDM/JI projects and third party verification under ISO 14064, ISO 14044, Renewable Energy Target and other voluntary greenhouse gas, and VCS.

Espejo, Andrés Bernabé

Holds a 6 year Bachelor/Master Degree in "Ingeniería de Montes" (Natural Resource Engineering) by the Polytechnic University of Madrid (Spain) . Having an overall experience of 7 years. Prior to joining DNV having 5 years' experience in biomass generation, natural resource management, and generation with other renewables, covering the management of forestry operations, management of grasslands and pasturelands, procurement of timber and biomass, management of forest states, pre-feasibility studies for renewable generation projects, etc.

He has experience of 2 years in validation and verification of numerous CDM projects.

His qualification, industrial experience and experience in CDM demonstrate him sufficient sectoral competence in Energy Generation from renewable energy sources (Technical Area 1.2) and Forestry (Technical Area 14.1).

Furthermore, his involvement in the development of various business plans demonstrate him sufficient financial expertise.