



DNV

VCS VERIFICATION REPORT

“NORTH PIKOUNDA REDD+ PROJECT” IN REPUBLIC OF CONGO

MONITORING PERIOD:

1 JANUARY 2012 TO 31 DECEMBER 2012

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Prepared By	DNV Climate Change Services AS
Contact	Veritasveien 1, 1322 HØVIK, Norway; Tel: +47 67 57 99 00 Fax: +47 67 57 99 11 Email: climatechange@dnv.com http://www.dnv.com Org. No: NO 994 774 352 MVA
Approved By	Edwin Aalders
Work Carried Out By	Andres Espejo (Team Leader); Nicolas Bayol (Local Expert)
Technical review by:	Edwin Aalders

Summary:

DNV Climate Change Services AS (DNV) has performed the verification of the emission reductions reported for the “North Pikounda REDD+ Project” for the period 1 January 2012 to 31 December 2012, to review and determine the monitored reductions in GHG emissions that have occurred as a result of the project activity.

The verification was performed on the basis of VCSA Programme Guidelines & Standard version 3.2 for the VCS projects, as well as criteria given to provide for consistent project operations, monitoring and reporting. The verification was conducted by means of document review, follow-up interviews and site inspection, and the resolution of outstanding issues.

In our opinion, the GHG emission reductions reported for the project in the monitoring report (version 06) of 19 August 2013) are fairly stated. The GHG emission reductions were calculated correctly on the basis of approved methodology VM0011 (Version 1.0) and the monitoring plan contained in the VCS PD of 19 August 2013.

Hence, DNV Climate Change Services AS (DNV) is able to certify that the net anthropogenic GHG removals by sinks or emissions by sources (i.e. net GHG benefits) from the “North Pikounda REDD+ Project” during the period amount to 69 547 tonnes CO₂ equivalent. DNV Climate Change Services AS verified that the non-permanence risk rating of the proposed project activity for this verification is 21% which is to be applied to the change in carbon stocks at this verification (i.e. equal to 13 338 tCO₂e). The amount of VCUs to be issued would be 56 209 tCO₂e.

DNV does not assume any responsibility towards the issuance and utilization of the VCUs hereby verified and certified. Request for issuance of VCUs shall be made by the project proponent to an approved VCS Program Registry based on the requirements set out under the most recent version of the VCS Program Guidelines clause on VCS Registration.

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.

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1 INTRODUCTION

Olam International Ltd has commissioned DNV Climate Change Services AS (DNV) to carry out the verification and certification of emission reductions reported for the “North Pikounda REDD+ Project” (the project) in the period 1 January 2012 to 31 December 2012. This report contains the findings from the verification and includes a verification statement for the verified carbon units.

1.1 Objective

Verification is the periodic independent review and *ex-post* determination by an accredited Verification Body (VB) of the monitored emissions by sources and removals by sinks that have occurred as a result of the registered CDM project activity during a defined verification period.

A verification statement is the written assurance by a DOE that, during a specific period in time, a project activity achieved the net anthropogenic GHG removals as verified.

The objective of this verification was to verify the net anthropogenic GHG removals reported for the “North Pikounda REDD+ Project” for the period 1 January 2012 to 31 December 2012.

1.2 Scope and Criteria

The scope of the verification is:

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

The verification shall ensure that reported net anthropogenic GHG removals are complete and accurate in order to be certified.

The criteria of the verification are:

- VCS Standard Version 3.3/31/ and other relevant requirements defined by VCSA.
- AFOLU requirements: VCS Version 3.3 /34/
- AFOLU Non-Permanence Risk tool: VCS Version 3.2 /32/
- The approved methodology VM0011 Version 1.0 /29/

The verification shall ensure that reported emission reductions are complete and accurate in order to be verified.

1.3 Level of assurance

The verification report expresses a conclusion with a reasonable level of assurance about whether the reported net anthropogenic GHG removals data is free from material misstatement. DNV applied a materiality threshold of 5% with respect to omission or misstatements concerning reported quantities as per VCS standard 5.3.1 4).

1.4 Summary Description of the Project

Project Proponents (Parties):	<ul style="list-style-type: none"> - Congolaise Industrielle des Bois; BP 145, Brazzaville, République du Congo - Olam International Limited; 9 Temasek Boulevard, #25-01 Suntec Tower 2, Singapore 038989
Title of project activity:	North Pikounda REDD+ Project
Baseline and monitoring methodology	VM0011 Version 1.0
Location of the project activity	Concession of the UFE of Pikounda – Nord, Department of Sangha, Republic of Congo
Project’s crediting period:	1 January 2012 to 31 December 2041
Period verified in this verification:	1 January 2012 to 31 December 2012

2 VALIDATION PROCESS, FINDINGS AND CONCLUSION

2.1 Validation Process

The validation of the different changes to the project description followed the same process as the verification, c.f. Section 3 Verification Process.

2.2 Validation Findings

2.2.1 Gap Validation

This is not applicable.

2.2.2 Methodology Deviations

No methodology deviations have been identified in this monitoring period.

2.2.3 Project Description Deviations

There are two methodology deviations which have been identified.

Nº	VCS PD	Deviation and assessment
1	Methods for the Estimation of carbon in the Growth Foregone due to selective logging	Since the FMP is more than 5 years old (c.f. methodology deviation in the VCS PD), no inventory was conducted at the beginning of the project, and the first measurement was conducted at the end of the first monitoring period, there has been a <u>temporal</u>

Nº	VCS PD	Deviation and assessment
		<p><u>deviation</u> to the project description in this monitoring period.</p> <p>In order to model which would be the carbon stocks at the beginning of the first monitoring period, the project proponent has applied mean Annual Growth Rates of DBH to each of the DBH of trees measured in the forest inventory.</p> <p>DNV checked the rates used /4//18//23//47/ and confirmed that these are species specific or group of species specific and that are applicable to trees which grow in the same edapho-climatic conditions as the project area. Hence, this deviation will not affect the accuracy of the estimations.</p>
2	Methods for the Estimation of carbon in the Regrowth after selective logging	<p>As described in the VCS PD, since the project proponent was not able to find a regrowth factor, it had proposed a deviation consisting in measuring the regrowth through sampling plots within the project area. This deviation was accepted as part of the project validation (c.f. Validation report)</p> <p>Since the regrowth is estimated by comparing carbon stocks in regeneration plots, the same issue was faced as with the previous case. In this case average increment diameter rates were used in order to model the expected diameter at the beginning of the period.</p> <p>DNV checked the rates used /4//18//23//47/ and confirmed that are species specific or group of species specific and that are applicable to trees which grow in the same edapho-climatic conditions as the project area. Hence, this deviation will not affect the accuracy of the estimations.</p>

Following the provisions of VCS Standard Version 3.3 /31/, since these deviations represent a deviation from the criteria and procedures relating to monitoring or measurement set out in the methodology and since these do not affect the conservativeness of the estimations, they would be acceptable. DNV confirmed that this change would be a correction and it would not affect the applicability or application of the methodology, additionality or the scale of the project.

2.2.4 *New Project Activity Instances*

This is not a grouped project, so this would not be applicable.

2.3 *Validation Conclusion*

DNV is able to confirm the project is in compliance with the VCS requirements for validation.

3 VERIFICATION PROCESS

3.1 Method and Criteria

The verification was performed through means of the following three phases in accordance with the requirement of the registered VCS PD /2/, the applied methodology, and the VCS Standard Version 3.3 /31/ and other relevant VCS requirements.

- A desk review of the monitoring report and all support documents.
- Follow-up interviews with project stakeholders and site inspection.
- The resolution of outstanding issues and the issuance of the verification report and statement.

The following sections outline each step in more detail.

The verification of the net GHG removals has assessed all factors and issues that constitute the basis for GHG removals and emissions from the project. These include:

- i) Review of the monitoring report, the non-permanence risk assessment and other relevant documentation such as Standard Operating Procedures /1//3/;
- ii) Remote verification of the project boundary /6/ using a SPOT 4/5 satellite imagery of various periods /13/. DNV conducted a desk review of the project boundary delineation by selecting 50 random points of the project boundary’s shapefile using an ArcGis tool, and checked visually the accuracy of the boundary delineation;
- iii) Forest inventory field data sheets, forest inventory calculation spreadsheet and carbon calculation spreadsheet /5/;
- iv) Shapefiles with the delineation of the project area, the project boundary, and the location of the permanent sample plots /6/;

Verification team

The verification team is in accordance with the requirements of the CDM Accreditation Standard for Operational Entities version 3.0.

Role	Last Name	First Name	Country	Type of involvement					
				Desk review	Site visit / Interviews	Reporting	Supervision of work	Technical review	TA 14.1 competence
Team leader (Verifier)	Espejo	Andres	Italy	✓	✓	✓	✓		✓
Local expert	Bayol	Nicolas	France	✓		✓			✓
Technical reviewer	Aalders	Edwin	Norway					✓	✓

Duration of verification

Preparations:	From 1 April 2013 to 25 April 2013
On-site verification:	From 28 April 2013 to 3 May 2013
Reporting, calculation checks and QA/QC:	From 5 May 2013 to 26 August 2013

3.2 Document Review

The monitoring report Version 06 dated 19 August 2013 /1/, the net GHG benefits spread sheet of the net anthropogenic GHG removals by sinks /5/, the Standard Operating Procedures (SOP) for forest inventory, the SPOT 4/5 satellite imagery, forest inventory field data sheets, forest inventory and carbon calculation spreadsheet, ESRI Shapefiles with the delineation of the project area, and the ESRI Shapefile with the location of the permanent sample plots were assessed as part of the verification. In addition, the validated VCS PD (in particular the baseline estimations and the monitoring plan contained in the VCS PD) /2/, the final validation report of the registered VCS PD /67/, and the applicable approved methodology VM0011 Version 1.0 were checked.

3.3 Interviews

In the period from 28 April 2013 to 3 May 2013 DNV conducted various interviews with the project proponent's staff, staff of other project entities involved in the project, and other stakeholders such as the REDD+ national initiative coordinator. The list of interviewed persons is detailed in section 6.

The following issues were checked during these interviews:

- ✓ The information flows for generating, aggregating and reporting the monitoring parameters were checked. The project proponent has in place a forest inventory system, which has Standard Operating Procedures (SOP) /19//20//21/ in place that governs the collection of data and its recording.
- ✓ Interviews with relevant personnel to confirm that the operational and data collection procedures are implemented in accordance with the monitoring plan of the VCS PD /69//68//73/.
- ✓ The assumptions of the GHG calculations of the Monitoring Report (MR) /1/ were checked against the information provided in the hard copy inventory information and the inventory excel spreadsheets /5/.
- ✓ The net GHG emission reductions and removals calculations were presented in an excel spreadsheet /5//9/. The calculations of the spreadsheet were checked during this phase.
- ✓ Quality control and quality assurance procedures as part of their quality management system were checked /19/.

3.4 Site Inspections

On 29-30 April 2013 and 1 May 2013, interviews and a field inspection were carried out in North Pikounda concession and CIB facilities of wood processing in Pokola. As part of this inspection the following activities were performed:

- ✓ An assessment of the implementation and operation of the proposed project activity through visual inspection and through interviews with the project proponent's staff. Project boundaries and the

stand information were assessed using a Pocket PC with the geographic information uploaded and connected to a GPS receiver.

- ✓ Revisiting of randomly selected 2 inventory sampling plots which were re-measured by the project proponent's staff under observation of DNV. While the project proponent was carrying out the re-measurement, DNV verified that the operational and data collection procedures were implemented in accordance with the monitoring plan of the VCS PD /2/ and verified the information flows for generating, aggregating and reporting the monitoring parameters. Furthermore, the monitoring equipment was checked in order to confirm that the monitoring practices followed the requirements of the VCS PD /2/ and the applicable methodology. Furthermore, DNV performed a consistency check in order to verify the consistency of the previous measurement and the re-measurement, and to verify the correctness of the reported stand growth.
- ✓ Confirmation that the quality control and quality assurance procedures were in place;

3.5 Resolution of Any Material Discrepancy

A corrective action request (CAR) is issued, where:

- i. Non-conformities with the monitoring plan or methodology are found in monitoring and reporting, or if the evidence provided to prove conformity is insufficient;
- ii. Mistakes have been made in applying assumptions, data or calculations of emission reductions which will impair the estimate of emission reductions;
- iii. Issues identified in a FAR during validation to be verified during verification have not been resolved by the project participants.

A clarification request (CL) shall be raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met.

A forward action request (FAR) is issued for actions if the monitoring and reporting require attention and/or adjustment for the next monitoring period.

As part of the project verification six CARs and three CLs were raised. The CARs were satisfactorily addressed by the project proponent by revising the net emission reductions calculation and the monitoring report (refer to Appendix B).

4 VERIFICATION FINDINGS

This section summarises the findings from the verification of the GHG removals reported for the “North Pikounda REDD+ Project” for the period 1 January 2012 to 31 December 2012.

4.1 Project Implementation Status

4.1.1 Implementation status of the project activity(s)

In order to verify the implementation status and the project boundaries reported in the MR, DNV performed the following actions:

- A remote verification of the project boundaries by systematically checking the project boundary polygon file and checking its delineation against SPOT 4/5 high resolution imagery /13/.
- A field inspection was carried-out using the project polygon information loaded in a PDA connected to a GPS receptor.

DNV confirmed that the implementation is in accordance with that stated in the MR /1/.

Furthermore, during the site visit, DNV was able to confirm that the project boundary has not changed since validation, and that the project boundary is under control of the project participants as confirmed in the validation report /67/. Therefore, no further check on the project control has to be conducted during the first verification as established by the by paragraph 3.4.2 of AFOLU requirements: VCS Version 3.3 /34/.

DNV confirmed during the site visit, that the proposed project activity follows the indications on forest management stated in the registered VCS-PD /2/, which consists on no logging.

As part of the site visit DNV was able to confirm that the project implementation is in accordance with the project description contained in registered VCS-PD of 19 August 2013.

4.1.2 Implementation status of the monitoring plan and the completeness of monitoring

- Information (data and variables) provided in the monitoring report that is different from that stated in the registered VCS-PD

DNV checked the monitoring plan contained in the registered VCS-PD of 19 August 2013 /2/ and compared it with the monitoring report version 06 of 19 August 2013 /1/, to verify whether there was any difference that would cause an increase in estimates of the GHG emission reductions in the current monitoring period.

DNV confirmed that there is no variation between *ex-ante* estimates and *ex-post* estimated/calculated values/measurements.

- Compliance of monitoring with monitoring plan

The monitoring has been carried out in accordance with the revised monitoring plan and formulae contained in the registered VCS-PD of 19 August 2013 /2/.

As required by the monitoring plan /2/ and the applicable methodology VM0011 Version 1.0 the project proponent effectively monitors the required parameters to determine the project's removals by sinks and emissions by sources.

The parameters reported, including source, frequency and review criteria as indicated in the monitoring plan were verified to be correct and in line with the validated monitoring plan of the VCS-PD. Necessary

management system procedures including responsibility and authority of monitoring activities have been verified to be consistent with the PD. Knowledge of personnel associated with the project activity was also found to be satisfactory.

Further information on the verification of the information flow (from data generation, aggregation, to recording, calculation and reporting) for each measured parameter is included in Appendix C.

4.1.3 Remaining issues from previous validation or verification

This is the first verification which has been carried-out contemporaneously to the project validation. No remaining issues were identified during the validation /67/.

4.1.4 Previously validated methodology deviations

This verification is conducted contemporaneously to validation and as part of validation various deviations were identified. Please refer to the VCS PD and the validation report.

4.2 Accuracy of GHG Emission Reduction or Removal Calculations

4.2.1 Baseline emissions and removals

Following the provisions of VM0011 Version 1.0 /29/, the annual emissions resulting from the legally sanctioned selective logging is the combination of the degradation of the Project Area ($C'_{degradation,t}$) as well as annual emissions due to selective logging operations ($C'_{emissions,t}$):

$$C'_{baseline,t} = C'_{degradation,t} + C'_{emissions,t}$$

- Baseline emissions due to degradation

According to equation 3.2 of VM0011 Version 1.0 the degradation of the Project Area ($C'_{degradation,t}$) would be estimated through the following equation:

$$C'_{degradation,t} = (C_{DWdecay,t} + C_{ItHWPoxidation,t} + C_{growth_forgone,t} - C_{regrowth,t}) \times \frac{44}{12}$$

From these emission sources or removals, the first two were estimated ex-ante and reported in the VCS PD. DNV checked the GHG calculations spreadsheet and confirmed that the values provided in the VCS PD were used in the ex-post calculations /5/.

The only which are to be determined ex-post are the carbon lost due to growth foregone in the aboveground ($C_{growth_forgone,t}$) and the Annual carbon increase in the biomass due to regrowth following logging ($C_{regrowth,t}$). As explained in section 2.2.3. Project Description deviations, this parameter has been estimated by conducting a forest inventory at the end of the monitoring period, and adjusting this inventory with average increment diameters in order to estimate the carbon stocks at the beginning of the period. This will lead to accurate estimates of changes in carbon stocks as the increments are based on species-specific or group-of-species specific data of trees growing in the same edapho-climatic conditions. DNV confirmed that the estimation of carbon stocks were determined correctly and that the data measured was accurate (c.f. Appendix C).

- Baseline emissions due to logging operations

According to VM0011 Version 1.0, the annual emissions due to selective logging operations ($C'_{emissions,t}$) would be calculated as follows:

$$C'_{emissions,t} = E_{harvest_onsiteprep,t} + E_{hauling,t} + E_{transport,t} + E_{processing,t} + E_{distribution,t}$$

From these emission sources, all were estimated ex-ante and reported in the VCS PD. DNV checked the GHG calculations spreadsheet and confirmed that the values provided in the VCS PD were used in the ex-post calculations /5/.

The baseline emissions $C'_{baseline,t} = 69\,547\text{ tCO}_2$.

4.2.2 Project emissions and removals

As explained in the VCS PD, project emissions would be expressed as the sum of the emissions from natural disturbance ($C_{natdisturb,t}$) and the emissions from illegal harvesting ($C_{illegal_harvest,t}$) which will be monitored:

$$C'_{actual,t} = \left[(C_{natdisturb,t} + C_{illegal_harvest,t}) \times \frac{44}{12} \right]$$

As part of this monitoring period no emissions from natural disturbances or illegal harvesting have been reported. DNV confirmed that no such emissions occurred through the verification of the monitoring system and direct confirmation (c.f. Appendix C).

Therefore project emissions ($C'_{actual,t}$) = **0 tCO₂**.

4.2.3 Leakage

According to the applicable methodology VM0011 Version 1.0 the leakage emissions would be equal to the leakage emissions from activity shifting ($CL_{activityshifting,t}$ i.e. intensification of logging operations under the control of the project proponent or new areas acquired by the project proponent), plus the emissions from market leakage ($CL_{market,t}$), and plus the emissions related to the intensification of the harvesting operations:

$$C'_{leakage,t} = (CL_{activityshifting,t} + CL_{market,t}) \times \frac{44}{12} + CL'_{emissions,t}$$

- Leakage emissions from activity shifting ($CL_{activityshifting,t}$)

Following the provisions of VM0011 Version 1.0, the emissions due to activity shifting would be estimated by the following equation:

$$C_{activityshifting,t} = C_{IH_activityshifting,t} + C_{SH_activityshifting,t}$$

Where:

- $C_{activityshifting,t}$: Annual total carbon losses due to baseline activity shifting in other lands managed or operated by the Project Proponent in year t (tC)
- $C_{IH_activityshifting,t}$: Annual total carbon losses from activity shifting due to intensification of harvest volume in year t (tC)
- $C_{SH_activityshifting,t}$: Annual total carbon losses from activity shifting due to shifting of harvest volume in year t (tC)

DNV checked the leakage calculations /8/ against available evidence /25/ and confirmed that the information of the 5 previous years which serves as historical reference to determine whether intensification has occurred is accurate. DNV checked the calculations and confirmed that no harvesting intensification has occurred. Hence this leakage source is zero.

- Market leakage (CL_{market,t})

In accordance with AFOLU requirements: VCS Version 3.3, §4.6.14, the project proponent has directly accounted for market leakage associated with the project activity, at the country-scale applied to the same general forest type as the project (i.e. other forest concessions in the North of the country). DNV deems that this is reasonable.

In order to estimate this, the project proponent has followed the provisions of Sharma et al. (2012) /58/ which indicates that the market leakage can be expressed through the following equation:

$$V_{ML, C, M} = M \times \left[\bar{V}_{after, C, M} - \left(\bar{V}_{before, C, M} \times (1 \pm i) \right) \right]$$

- $V_{ML, C, M}$ - Total volume of timber harvested due to the market leakage
- M - Number of years in the monitoring period
- $\bar{V}_{after, C, M}$ - Average annual volume of timber production after the implementation of an IFM-LtPF project from the same forest types or tree species composition and in the same climatic region within the host country, for the monitoring period, M
- $\bar{V}_{before, C, M}$ - Average annual volume of timber production before the implementation of an IFM-LtPF project from the same forest types or tree species composition and in the same climatic region within the host country, for the historical reference period, N

Therefore, if

$$\bar{V}_{before, C, N} \times (1 \mp i) \geq \bar{V}_{after, C, M} \rightarrow \text{No leakage due to ML}$$

$$\bar{V}_{before, C, N} \times (1 \mp i) < \bar{V}_{after, C, M} \rightarrow \text{leakage due to ML}$$

DNV checked the leakage calculations /8/ against available evidence /25/ and confirmed that no market leakage has occurred. Leakage emissions will be estimated ex-post.

DNV confirmed that no such emissions occurred through the verification of the monitoring system and data spot-checks (c.f. Appendix C).

Therefore, the leakage emissions ($C'_{leakage,t}$) = 0 tCO₂.

4.2.4 Uncertainty deduction

DNV checked the uncertainty calculations of the forest inventory and confirmed that it was calculated correctly. Furthermore it confirmed that the reported uncertainties in the VCS PD have been used in the calculation of GHG emission reductions. DNV confirmed that the propagation of errors has been done following IPCC LULUCF GPG /63/.

Hence, DNV is able to confirm that the uncertainty in the applicable monitoring period is 6%. Hence, no discount is required as this is below 10%.

4.2.5 Buffer credits – Non-permanence risk assessment

Following the provisions of paragraph 3.19.2 of the VCS Standard Version 3.3, the project participant has conducted a non-permanence risk assessment /3/ following the provisions of the AFOLU Non-Permanence Risk tool: VCS Version 3.2. According to this assessment /3/ the overall non-permanence risk rating of the proposed project activity is 21%.

Risk Category	Rating
a) Internal Risk	17
b) External Risk	4
c) Natural Risk	0
Overall Risk Rating (a + b + c)	21%

DNV confirmed that the non-permanence assessment has been carried adequately and applying conservative assumptions where needed. A detailed assessment of the risk analysis carried out by the project proponent in the non-permanence report /3/ can be found in Table 2 of Appendix A of this report. Therefore, the total buffer credits foreseen in the proposed project activity are: Buffer credits = 21% x 63 515 = 13 338 tCO_{2e} in the monitoring period.

4.2.6 Net anthropogenic GHG emissions

In view of the above the total VUCs would be equivalent to 56 209 tCO_{2e}.

No significant reporting risks have been identified for the data reported. All the data required for net anthropogenic GHG removals or emissions calculations are obtained following the Standard Operating Procedures /19//20//21/ and in line with the procedures provided in the VCS PD /2/. There are QA/QC measures in place to check the consistency and the correctness of the collected data /19//20//21/. After these checks, data is then transferred to specific databases in which a new quality check is done. A total of 42% /20//19//21/ of all permanent sampling plots were revisited by the forest inventory manager to ensure the transparency and accuracy of the data being monitored and recorded. All reported and consolidated data from the inventory database is processed in order to calculate the net anthropogenic GHG removals by sinks. Data collection procedures, QA/QC procedures and its implementation, and the specific databases were verified by DNV.

As outlined above, the input data for calculating the net anthropogenic GHG removals, the calculating process and the result are complete and transparent /1/. Therefore, DNV is able to confirm the accuracy of the estimation of VUCs to be issued.

4.3 Quality of Evidence to Determine GHG Emission Reductions or Removals

The net anthropogenic GHG emission reductions in the monitoring period 1 January 2012 to 31 December 2012 was verified to be 69 547 tCO_{2e} while the total VUCs would be equivalent to 56 209 tCO_{2e}.

Sufficient evidence was presented for the reported net anthropogenic GHG emission reductions. The project entity has in place a monitoring system which has specific procedures for the main activities in which are defined responsibilities for the supervision of the activity, a description of the activity, the QA/QC measures in place, and the recording and archiving of the relevant information. As part of the quality system periodical internal audits are carried out by the quality management responsible to ensure the transparency and accuracy of the data being monitored and recorded. DNV verified that this system is in place and confirms the existence of a clear audit trail.

4.4 Management and Operational System

The project proponent has established management procedures and implemented the same effectively to ensure that the process is consistent. The procedures /21//20//19//7//2/ cover: management responsibilities, data monitoring procedures, training procedures, periodical internal audits, management reviews and corrective actions in case of any deviations effectively. Quality control and quality assurance measures processes are followed as per defined procedures and carried out periodically.

Responsibilities for the different aspects of the project monitoring are clearly defined in the SOPs and the monitoring plan provided in the VCS PD.

DNV further confirmed that these SOPs have been integrated in CIB's management system which is subject to periodical audits from FSC auditors. These ensures the robustness of the management system and operational system applicable to the monitoring of the carbon component.

5 VERIFICATION CONCLUSION

DNV Climate Change Services AS (DNV) has performed the verification of the net anthropogenic GHG removals that have been reported for the “North Pikounda REDD+ Project” for the period 1 January 2012 to 31 December 2012.

The project proponents are responsible for the collection of data in accordance with the monitoring plan and the reporting of the net anthropogenic GHG removals from the project.

It is DNV’s responsibility to express an independent verification statement on the reported net anthropogenic GHG removals from the project. DNV does not express any opinion on the selected baseline scenario or on the validated and registered VCS-PD.

DNV conducted the verification on the basis of VCS requirements, the monitoring methodology VM0011 Version 1.0, the monitoring plan contained in the registered VCS-PD of 19 August 2013, the monitoring report (version 06) dated 19 August 2013 and the non-permanence risk report (version 7) dated 26 June 2013. 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 removals and GHG emissions 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 net anthropogenic GHG emission reductions are fairly stated.

In our opinion the net anthropogenic GHG removals of the “North Pikounda REDD+ Project” for the period 1 January 2012 to 31 December 2012 are fairly stated in the monitoring report (version 06) dated 19 August 2013.

The net anthropogenic GHG emission reductions were calculated correctly on the basis of the approved baseline and monitoring methodology VM0011 Version 1.0 and the monitoring plan contained in the registered VCS-PD of 19 August 2013.

DNV Climate Change Services AS verified that the net anthropogenic GHG removals from the “North Pikounda REDD+ Project” in the reporting period from 1 January 2012 to 31 December 2012 are:

GHG Emission Reductions or Removals	tCO ₂ e
Baseline Emissions or Removals	69 547
Project Emissions or Removals	0
Leakage	0
Net GHG emission reductions or removals	69 547
Buffer (21%)	13 338
VCUs	56 209

DNV Climate Change Services AS verified that the non-permanence risk rating of the proposed project activity for this verification is 21% which is to be applied to the change in carbon stocks at this verification 63 515 tCO₂e, giving a total buffer equal to 13 338 tCO₂e. The amount of VCUs to be issued would be **56 209 tCO₂e**.

Oslo, 26 August 2013.



Andrés Espejo
VCS Verifier
DNV Italy



Edwin Aalders
Approver
DNV Climate Change Services AS

6 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 periodic verification conclusions, and are usually further checked through interviews with key personnel.

Ref.	Document name
/1/	Carbon Conservation Pte Ltd: <i>VCS Monitoring Report (MR) for project activity "North Pikounda REDD+ Project" in Republic of Congo</i> , version 03 dated 22 April 2013 reviewed during the desk review and version 06 dated 19 August 2013 verified by DNV.
/2/	Carbon Conservation Pte Ltd: <i>VCS-PD for project activity "North Pikounda REDD+ Project" in Republic of Congo</i> , version 5.3 dated 24 April 2013 first version received from the project proponent and version 07 dated 19 August 2013
/3/	Carbon Conservation Pte Ltd: <i>Non-permanence risk report: VCS version 3</i> , version 7, 26 June 2013
/4/	Congolaise Industrielle des Bois & TERE A : Plan d'Aménagement UFE Pikounda Nord (2012-2031), Version 2 dated February 2012 approved by the government and Version 1 dated December 2011
/5/	Carbon Conservation Pte Ltd: Spreadsheet with ex-ante and ex-post GHG accounting, 19 August 2013
/6/	Congolaise Industrielle des Bois: ESRI Shapefiles of project boundary, carbon accounting area, roads, and planned timber extraction roads, year 2013
/7/	Carbon Conservation Pte Ltd: Inventory strategy for the North Pikounda REDD+ Project, 6 April 2013, including: -Spreadsheet: Comparison of different allometric models -Spreadsheet: Validation of Existing Forest Inventory Data
/8/	Carbon Conservation Pte Ltd: Leakage assessment for the North Pikounda REDD+ Project, including: -Spreadsheet: Leakage-Intensification – year 2012 -Spreadsheet: Leakage-Market-Effect – year 2012
/9/	Carbon Conservation Pte Ltd: Uncertainty analysis report for the North Pikounda REDD+ Project including: -Spreadsheet: Baseline Activities Emissions Uncertainty Analysis -Spreadsheet: Baseline Degradation Uncertainty Analysis
/10/	Congolaise Industrielle des Bois & Ministère de Développement Durable, de l'Économie Forestière et de l'Environnement : Etude dendrométrique pour l'aménagement de l'UFE Pikounda Nord, December 2010 which includes volume equations and the harvesting and commercialisation coefficients
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/12/	Contract between Astrium and Congolaise Industrielle des Bois for the supply of Spot images for the monitoring of the North Pikounda REDD+ Project, 7 January 2013
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/14/	Mirko Meoli - Congolaise Industrielle des Bois: Impact de l'exploitation sur l'écosystème forestier dans les concessions de la Congolaise Industrielle des Bois (CIB), February 2005
/15/	Memorandum of Understanding (MOU) for the implementation of the REDD+ pilot project in North Pikounda UFE signed between the Ministry of Sustainable Development and the Forest Economics of the Environment of Republic of Congo and Congolese Industrielle des Bois, 24 May 2012
/16/	Agreement of Development and Processing ("Convention d'aménagement et transformation" in French) No 12/MEFPRH/CAB/DGEF/DF-SGF 13/11/2002 signed between the Congolese government and Congolese Industrielle des Bois (CIB) and Order No. 5856/MEF / CAB / DGEF / DF-FMS 13/11/2002 approving the agreement to assign the Unit of Forest Exploitation (UFE) Pikounda North
/17/	Gaspard LEMBE, Ingénieur en chef des Eaux et Forêts, SIG – Télédétection – SGBD. Stratification of the forests of the North Pikounda UFE. September 2012.
/18/	Congolaise Industrielle des Bois: CROISSANCE EN DIAMETRE DES PRINCIPALES ESSENCES COMMERCIALES SUR LES DISPOSITIFS DE SUIVI DE LA CIB UFA de Kabo, Pokola et Loundoungou-Toukoulaka. Version 2, December 2011
/19/	Congolaise Industrielle des Bois: Standard Operating Procedure (SOP) for the control of PSPs. Version 2, 20 February 2013
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/22/	JF Gillet: Protocole n°2 : Conception et application d'une technique d'enrichissement dans les forêts dégradées - Volet dynamique forestière, September 2007
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/24/	Congolaise Industrielle des Bois: Video showing the local stakeholder consultation meeting held in Molanda, 2012
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Ref.	Document name
	-Exportation operations from Pokola and from LDG -Production and consumption in Loundougou saw mill -Production and consumption in Pokola saw mill
/26/	Congolaise Industrielle des Bois: Spreadsheets with data on : -Payload on trucks from forest to Pokola -Production of sawnwood per species in the period 2006-2011 -Production and consumption in sawmills in the period 2007-2012
/27/	Congolaise Industrielle des Bois: Evidences of local stakeholder consultations conducted regarding the Pikounda REDD+ project. Checked during the site visit.
/28/	Congolaise Industrielle des Bois & Carbon Conservation Pte Ltd: Financial models for the project activity and the baseline scenario, year 2012

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

Ref.	Document name
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/31/	VCSA: VCS standards: VCS Standard Version 3.3, 4 October 2012
/32/	VCSA: AFOLU Non-Permanence Risk tool: VCS Version 3.2, 4 October 2012
/33/	VCSA: 'Program Definitions: VCS Version 3.4', 4 October 2012
/34/	VCSA: AFOLU requirements: VCS Version 3.3, 4 October 2012
/35/	ISO 14064-3:2006: Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions, First edition, 1 March 2006
/36/	ISO 14065:2007: Greenhouse gases — Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognitions, First edition, 15 April 2007
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Persons interviewed during the initial verification, or persons who contributed with other information that are not included in the documents listed above.

Ref.	Date	Name	Organization	Topic
/68/	29 April 2013	Luc Ondembou (Cartographer)	Congolaise Industrielle des Bois:	- GIS - Concession area
/69/	29-30 April 2013	Mercier Mayinga (Responsible RIL)	Congolaise Industrielle des Bois:	- Forest inventory - QA/QC procedures
/70/	30 April 2013	Denis Dechenaud	Congolaise	- Statistics production of

Ref.	Date	Name	Organization	Topic
		(CIB Directeur Exploitation) Patrick Leromellec (Chief Statistics) Mickael Felder (Production Chief) Lagare Gackosso (Statistics) Edouard Madingw (Joint Chief Statistics)	Industrielle des Bois:	<ul style="list-style-type: none"> - concessions and sawmills - Logistics and operations of CIB - Chain of Custody system
/71/	1 May 2013	J.F. Gillet (Responsible project DYNNAFFOR)	DYNNAFOR	<ul style="list-style-type: none"> - Regeneration in the project area and justification of the method for the estimation of the regrowth factor
/72/	3 May 2013	G. C. Boundzanga (REDD coordinator) Arnaud Kiese (Chief Juridical issues REDD initiative) Théophile Msiakoulou Louledo (Chief project actions)	REDD national coordination – Republic of Congo	<ul style="list-style-type: none"> - Laws and regulations regarding forest management - Confirmation of right of use and approval of FMP - Alternative scenarios - Additionality and common practice
/73/	28 April – 3 May 2013	Rémi Duval (Senior Forest Engineer) Ralph Strebel (VP of REDD+)	Carbon Conservation	<ul style="list-style-type: none"> - GHG accounting - Forest inventory implementation
/74/	28 April – 3 May 2013	Jean-Dominique Bescond (Responsible project development)	Congolaise Industrielle des Bois / OLAM	<ul style="list-style-type: none"> - Forest implementation

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APPENDIX A

VCS NON-PERMANENCE RISK ASSESSMENT

VCS Non-Permanence Risk assessment checklist

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
1 Internal Risks				
1.1 Project Management				
a) Species planted (where applicable) associated with more than 25% of the stocks on which GHG credits have previously been issued are not native or proven to be adapted to the same or similar agro-ecological zone(s) in which the project is located (Score 2).	0	The project is an IMF LtPF implemented in a primary tropical moist forest. Hence this risk is not applicable to the project activity. OK.		0
b) Ongoing enforcement to prevent encroachment by outside actors is required to protect more than 50% of stocks on which GHG credits have previously been issued (Score 2).	0	The project is an IMF LtPF implemented in a primary tropical moist forest, where the degradation agent is the project proponent. The project proponent has the concession rights, so there is no risk of encroachment from the previous degradation agent. Furthermore, the project area is only accessible through one road which is guarded as confirmed by the site visit, so the risk of encroachment is negligible. OK.		0
c) Management team does not include individuals with significant experience in all skills necessary to successfully undertake all project activities (ie, any area of required experience is not covered by at least one individual with at least 5 years experience in the area) (Score 2).	0	The project proponent, CIB, holds various concessions in the area which are FSC certified and which have protected areas which are not allocated for logging. Hence, it is demonstrated that experience in management and these type of project activities. OK.		0
d) Management team does not maintain a presence in the country or is located more than a day of travel from the project site, considering all parcels or polygons in the project area (Score 2).	0	As DNV was able to confirm during the site visit, all the staff of CIB is one hour from the project area. OK.		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
e) Mitigation: Management team includes individuals with significant experience in AFOLU project design and implementation, carbon accounting and reporting (eg, individuals who have successfully managed projects through validation, verification and issuance of GHG credits) under the VCS Program or other approved GHG programs (Score -2).	-2	The management team includes staff from Carbon Conservation with significant experience in AFOLU project design and implementation as evidenced by the CCBS project “Reducing Carbon Emissions from Deforestation in the Ulu Masen Ecosystem, Aceh, Indonesia” OK.		-2
f) Mitigation: Adaptive management plan in place (Score -2).	-2	The project proponent has in place an approved Forest Management Plan which will not be fully implemented, yet the management provisions will still be in place. Furthermore, the project has defined a steering committee which will meet twice a year in order to check the status of the project and project activities. Hence, DNV considers that an adaptive management plan, or at least management planning is in place.		-2
Total Project Management (PM)	-4	The total risk is -4-		-4
1.2 Financial viability				
a) Project cash flow breakeven point is greater than 10 years from the current risk assessment b) Project cash flow breakeven point is between 7 and up to 10 years from the current risk assessment c) Project cash flow breakeven point between 4 and up to 7 years from the current risk assessment d) Project cash flow breakeven point is less than 4 years from the current risk assessment	d) 0	As justified in the validated IRR analysis, the breakeven point would be within four years of the project implementation /28/.		c) 1

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
e) Project has secured less than 15% of funding needed to cover the total cash out before the project reaches breakeven f) Project has secured 15% to less than 40% of funding needed to cover the total cash out required before the project reaches breakeven g) Project has secured 40% to less than 80% of funding needed to cover the total cash out required before the project reaches breakeven h) Project has secured 80% or more of funding needed to cover the total cash out before the project reaches breakeven	0	<u>CL2</u> <u>Evidence and clarification</u> a) The project proponent is requested to provide evidence in order to demonstrate that the project has secured 80% or more funding needed to cover the total cash out before the project reaches break even.	CL2	
i) Mitigation: Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven	-2	<u>CL2</u> <u>Evidence and clarification</u> b) The project proponent is requested to provide evidence in order to demonstrate that the project has callable financial resources for at least 50% of total cash out before the project reaches breakeven.	CL2	-2
Total Financial Viability (FV)	0		CL2	0
1.3 Opportunity Cost				
a) NPV from the most profitable alternative land use activity is expected to be at least 100% more than that associated with project activities; or where baseline activities are subsistence-driven, net positive community impacts are not demonstrated b) NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project activities	a) 8	The baseline alternative land-use scenario would be at least 100% more profitable than the associated with project activities /28/.		a) 8

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
<p>c) NPV from the most profitable alternative land use activity is expected to be between 20% and up to 50% more than from project activities</p> <p>d) NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated</p> <p>e) NPV from project activities is expected to be between 20% and up to 50% more profitable than the most profitable alternative land use activity</p> <p>f) NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity</p>				
<p>g) Mitigation: Project proponent is a non-profit organization</p>	0	Not argued by the project proponent.		0
<p>h) Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over the length of the project crediting period</p>	-2	The project proponent has a legally binding commitment with the Congolese government to continue management practices that protect the credited carbon stocks over 30 years of crediting period /15/. This was effectively confirmed during the meeting held with the REDD national coordinator /72/.		-2
<p>i) Mitigation: Project is protected by legally binding commitment (see Section 2.2.4) to continue management practices that protect the credited carbon stocks over at least 100 years</p>	0	Not argued by the project proponent.		0
<p>Total Opportunity Cost (OC)</p>	6			6

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
1.4 Project Longevity				
a) Without legal agreement or requirement to continue the management practice (Score is 24 - (project longevity/5) b) With legal agreement or requirement to continue the management practice (Score is 30 - (project longevity/2)	b) 15	The project proponent has a legally binding commitment with the Congolese government to continue management practices that protect the credited carbon stocks over 30 years of crediting period /15/. Hence the project longevity would be $30 - 15 = 15$. OK.		b) 15
Total Project Longevity (PL)	15	The total project longevity risk is 15.		15
1.5 Total Internal Risk				
Total Internal Risks (PM+FV+OC+PL)	17		CL2	17
2 External Risks				
2.1 Land Ownership and Resource Access/Use Rights				
a) Ownership and resource access/use rights are held by same entity(s) b) Ownership and resource access/use rights are held by different entity(s) (eg, land is government owned and the project proponent holds a lease or concession)	b) 2	The Pikounda-Nord UFE is under the ownership of the Congolese government. The government has given the concession to the project proponent based on a 30 years lease /15/. OK.		b) 2
c) In more than 5% of the project area, there exist disputes over land tenure or ownership	0	DNV confirmed during the meeting held with the REDD national coordinator /72/, and through review of evidence /43//41/ that the land tenure ownership is clear and that no disputes exist in the project area, including overlapping rights.		0
d) There exist disputes over access/use rights (or overlapping rights)	0	DNV confirmed during the meeting held with the REDD national coordinator /72/, and through review of evidence		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
		/43//41/ that the land tenure ownership is clear and that no disputes exist in the project area, including overlapping rights.		
e) WRC projects unable to demonstrate that potential upstream and sea impacts that could undermine issued credits in the next 10 years are irrelevant or expected to be insignificant, or that there is a plan in place for effectively mitigating such impacts.	0	Not applicable to this project.		0
f) Mitigation: Project area is protected by legally binding commitment (eg, a conservation easement or protected area) to continue management practices that protect carbon stocks over the length of the project crediting period	-2	The project proponent has a legally binding commitment with the Congolese government to continue management practices that protect the credited carbon stocks over 30 years of crediting period /15/.		-2
g) Mitigation: Where disputes over land tenure, ownership or access/use rights exist, documented evidence is provided that projects have implemented activities to resolve the disputes or clarify overlapping claims	0	Not argued by the project proponent.		0
Total Land Tenure (LT)	0	The total land tenure risk is zero.		0
2.2 Community Engagement				
a) Less than 50 percent of households living within the project area who are reliant on the project area, have been consulted	0	No households live within the project area.		0
b) Less than 20 percent of households living within 20 km of the project boundary outside the project area, and who are reliant on the project area, have been consulted	0	No households live within 20 km of the project boundary outside the project area.		0
c) Mitigation: The project generates net positive	-5	<u>CAR4</u>	CAR4	0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
<p>impacts on the social and economic well-being of the local communities who derive livelihoods from the project area</p>		<p><u>Requirement</u> §2.3.2 of the AFOLU Non-Permanence Risk tool: VCS Version 3.2 states “Community engagement shall be assessed for projects where local populations, including those living within or surrounding the project area (given as within 20 km of the project boundary), are reliant on the project area, such as for essential food, fuel, fodder, medicines or building materials. Where local populations are not reliant on the project area, <u>the risk is not relevant to the project and the risk rating for community engagement (CE) shall be zero.</u>”</p> <p><u>Evidence and failure</u> DNV confirmed during the site visit that not people live in the project area and that the closest population lives more than 20 km from the project boundary. Furthermore, it was confirmed that the project area is occasionally used for hunting purposes by local populations, yet this is occasional as the access to the project area is difficult. In view of this and considering the fact that the main risk would be the commencement of logging operations, DNV deems that the risk for community engagement is not relevant and it should be zero.</p>		
<p>Total Community Engagement (CE)</p>	<p>-5</p>		<p>CAR4</p>	<p>0</p>
<p>2.3 Political Risk</p>				
<p>a) Governance score of less than -0.79 (Score 6) b) Governance score of -0.79 to less than -0.32 (Score 4) c) Governance score of -0.32 to less than 0.19 (Score 2)</p>	<p>a) 6</p>	<p>The governance score of Republic of Congo is -1.063, hence it is lower than -0.79.</p>		<p>a) 6</p>

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
d) Governance score of 0.19 to less than 0.82 (Score 1) e) Governance score of 0.82 or higher (Score 0)				
f) Mitigation: Country is implementing REDD+ Readiness or other activities, as set out in this Section 2.3.3.	-2	DNV checked the sites of the Forest Carbon Partnership Facility /65/ and confirmed that Congo-Brazza has prepared a Readiness preparation proposal to be approved by the World Bank.		-2
Total Political Risk (PC)	4	The total political risk is 4.		4
2.4 Total External Risk				
Total External Risk (LT+CE+PC)	0		CAR4	4
3 Natural Risks				
3.1 Fire (F)				
3.1.1 Significance and Likelihood (LS)	0	The project proponent has selected a Likelihood of once every 100 years. DNV deems that this is reasonable considering that the project takes place in a primary moist tropical forest with no population. Usually this risk is significant in degraded forest where there is a combination of cleared lands rich in herbaceous communities which ignite easily, and people which causes the fires. OK.		0
3.1.2 Mitigation (M)	0.5	This is not relevant as the LS is zero. OK.		0
3.1.3 Score (LSxM)	0	The total fire risk is 0		0
3.2 Pest and Disease Outbreaks (PD)				
3.2.1 Significance and Likelihood (LS)	0	The project proponent has selected a Likelihood of once every 100 years. The significance selected by the project		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
		proponent is Insignificant (less than 5% loss of carbon stocks). DNV deems that this is reasonable considering that the project takes place in a primary moist tropical forest.		
3.2.2 Mitigation (M)	1	This is not relevant as the LS is zero. OK.		0
3.2.3 Score (LSxM)	0			0
3.3 Extreme Weather (W)				
3.3.1 Likelihood (LS)	0	The project proponent has selected a Likelihood of once every 100 years. The significance selected by the project proponent is Insignificant (less than 5% loss of carbon stocks). DNV deems that this is reasonable considering that the project takes place in a primary moist tropical forest.		0
3.3.2 Mitigation (M)	1	This is not relevant as the LS is zero. OK.		0
3.3.3 Score (LSxM)	0	The total extreme weather risk is 2		0
3.4 Geological Risk (G)				
3.4.1 Likelihood (LS)	0	The project proponent has selected a Likelihood of once every 100 years. The significance selected by the project proponent is Insignificant (less than 5% loss of carbon stocks). DNV deems that this is reasonable as no significant geological risks have been identified.		0
3.4.2 Mitigation (M)	1	This is not relevant as the LS is zero. OK.		0
3.4.3 Score (LSxM)	0	The total geological risk is 0.		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
3.5 Other Natural Risk (ON)				
3.5.1 Likelihood (LS)	0	There would not be other risks applicable to the project area.		0
3.5.2 Mitigation (M)	0	Not applicable.		0
3.5.3 Score (LSxM)	0	The total natural risk is 0.		0
3.6 Total Natural Risks				
Total Natural Risks (F + PD + W + G + ON)	0	Total natural risks would be equal zero.		0
4 Total Risk				
Overall Risk Rating	17		CL2 CAR4	21

APPENDIX B

**CORRECTIVE ACTION REQUESTS, CLARIFICATION REQUESTS
AND FORWARD ACTION REQUESTS**

Corrective action requests and clarification requests

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
CAR1	<p><u>Requirement</u> §2.2 of the VCS MR shall include a description of the project description deviations as defined in §3.6.1-3.6.3 of the VCS Standard Version 3.3.</p> <p><u>Evidence and failure</u> a) The VCS MR, §2.2, includes information on methodology deviations which are already described in the VCS PD. b) The VCS MR, §2.2, does not provide any information on two different deviations identified in this monitoring period due to the fact that the measurement of PSPs was only conducted at the end of the monitoring period: 1) The regrowth in the monitoring period is estimated by subtracting the annual diameter increment provided in the literature to the DBH measured at the end of the monitoring period for those trees <20 cm in the regeneration plot; 2) The growth forgone in the monitoring period is estimated by subtracting the annual diameter increment provided in the literature</p>	<p>CAR1.a) and b)</p> <p>§2.2 of the VCS-MR has been changed in order to present a description of the deviations for the 2012 monitoring period as defined in §3.6.1-3.6.3 of the VCS Standard Version 3.3. §2.2 now describe the deviations identified for the calculation of the Growth Foregone and regrowth parameters. This deviation, that will only be used for the 2012 monitoring period, consist in:</p> <ul style="list-style-type: none"> - using species-specific mean annual growth rates selected from monitoring of other PSPs in CIB concessions dedicated for this purpose or from the scientific literature; - subtracting the selected mean annual growth rates to the data measured in the PSPs instead of adding them, as the PSPs monitoring has been conducted at the end of the monitoring period. 	<p>a) The VCS PD has been revised. Now it provides only deviations to the VCS PD – OK. b) The VCS PD has been revised. Now it provides only deviations to the VCS PD – OK.</p> <p>CAR1 is closed.</p>

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	to the DBH measured at the end of the monitoring period for commercial species.		
CAR2	<p><u>Evidence and failure</u> The VCS MR template used is not in line with the official VCS template, i.e. the cover page is not in line with the template.</p>	<p>CAR2 Report template has been changed to VCS Monitoring Report Template v3.2</p>	<p>DNV confirmed that the MR is now in compliance with the VCS MR template.</p> <p>CAR2 is closed.</p>
CAR3	<p><u>Evidence and failure</u> DNV checked the GHG calculations and found that the regrowth and the growth forgone have the following issues:</p> <p>a) Since the measurement of PSPs has been conducted at the end of the monitoring period, in order to estimate the biomass increment using the annual diameter increments, each DBH shall be reduced using the increments provided by the literature, not increased.</p> <p>b) The regrowth has been estimated as the average regrowth per tree divided by the size of the overall plot (i.e. 0.5 ha). However, the regrowth shall be calculated at a plot level and referred to a value per ha using</p>	<p>CAR3.a) See answer to CAR1. Adequate corrections have been done in the corresponding spreadsheet.</p> <p>CAR3.b) Regrowth has been estimated at the plot level and the size of the regrowth nested plot has been corrected from 0,5 ha to 0,025 ha.</p> <p>CAR3.c) Uncertainty of Growth Foregone and Regrowth have been corrected and calculated based on a value of these parameters per plot and not per tree.</p> <p>CAR3.d) Inconsistencies identified during the audit have been corrected. The full database for tree species growth rates used in the modelling has been checked and the following changes have been brought:</p>	<p>a) The spreadsheet has been corrected - OK b) The spreadsheet has been corrected - OK c) The spreadsheet has been corrected - OK d) The spreadsheet has been corrected - OK</p> <p>CAR3 is closed.</p>

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	<p>the size of the regeneration plot, and then the average of all plots should be used as figure of regrowth.</p> <p>c) The uncertainty of the regrowth and growth forgone have not been correctly calculated as they are based on the standard deviation of all trees, not of the increment per area for all plots.</p> <p>d) DNV cross-checked the annual diameter increments used in the GHG accounting against available references /18//47/ and found some inconsistencies for the case of promotion species.</p>	<ul style="list-style-type: none"> - source for each Mean Annual Growth (MAG) has been indicated; - when a growth rate was not know for a tree species monitored, the following equation developed by Gourlet-Fleury in Picard (2011) has been used. This equation provide the estimated tree mean annual growth rates in cm based on its wood specific gravity: $MAG = 1,223 * EXP(-2,129 * WSG)$ 	
CAR4	<p><u>Requirement</u></p> <p>§2.3.2 of the AFOLU Non-Permanence Risk tool: VCS Version 3.2 states "Community engagement shall be assessed for projects where local populations, including those living within or surrounding the project area (given as within 20 km of the project boundary), are reliant on the project area, such as for essential food, fuel, fodder, medicines or building materials. Where local populations are not</p>	<p>CAR4</p> <p>Overview of the 2.3.2 Community Engagement Standard (from: VCS Risk Assessment Tool)</p> <p><i>I. Qualitative Requirements of the standard:</i></p> <p>1. Eligibility Requirement</p> <p>a) those living within or surrounding the project area (given as within 20 km of the project boundary</p> <p>b) are reliant on the project area</p> <p>Where local populations are not reliant on the project area</p>	<p>The mitigation risk has been set to zero.</p> <p>CAR4 is closed.</p>

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	<p>reliant on the project area, <u>the risk is not relevant to the project and the risk rating for community engagement (CE) shall be zero.</u>"</p> <p><u>Evidence and failure</u></p> <p>DNV confirmed during the site visit that not people live in the project area and that the closest population lives more than 20 km from the project boundary. Furthermore, it was confirmed that the project area is occasionally used for hunting purposes by local populations, yet this is occasional as the access to the project area is difficult. In view of this and considering the fact that the main risk would be the commencement of logging operations, DNV deems that the risk for community engagement is not relevant and it should be zero.</p>	<p>risk rating for community engagement (CE) shall be zero</p> <p>2. Project must Demonstrate that:</p> <p>the social and economic well-being of these communities receive a net positive benefit.</p> <p>The Project Proponents understand that Net Positive benefit (NPB), in simple terms, means the NPB goal means actions have positive effects on local communities that not only balance but are accepted to outweigh the inevitable negative effects of the physical disturbances and impacts associated with mechanized logging of the North Pikounda area.</p> <p><i>II. Quantitative Requirements of the standard</i></p> <p>The Proponents understand the standard for NPB to means that the implementation of the NPR+ Project will provide benefit or benefits that outweigh what would have happened in a without-project scenario. In a quantitative sense, the benefits of the Project must be greater (i.e. net positive) on the social and economic well-being of the impacted communities. As the standard is silent on what amount of benefit is required, it can be assumed that any agreed upon benefit that goes beyond what would have happened in a selective logging scenario, is net positive.</p> <p>Analysis of the 2.3.2 Community engagement standard in</p>	

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
		<p>the context of the North Pikounda REDD+ Project.</p> <p>2.3.2 Community engagement standard</p> <p>Analysis of the 2.3.2 Community engagement standard in the context of the North Pikounda REDD+ Project.</p> <p>2.3.2 Community engagement standard</p> <p>The NPR+ Project has local populations that regularly reside equal to or less than 20km of the project area and members of the Molanda community are reliant on the NPR+ Project Area for fishing, hunting, gathering of herbs, medicine, other non-timber forest products as well as having sites of particular cultural and esoteric value that relate to symbolic practices and rituals.</p> <p>The requirements of the 2.3.2 Community engagement standard indicate that those communities living within or surrounding the project area (given as within 20 km of the project boundary are to be reliant on the project area:</p> <p>The Molanda community is the closest fixed community to the NPR+ Project site, it is situated about 20 – 25 km from the boundary (estimated distance using GIS software) of the NPR+ Project Area boundary. The Molanda community is made up of both Bantu and Balouma indigenous groups (formally known as Pygmies). The Indigenous members of</p>	

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
		<p>the community in particular are semi-nomadic. As part of their semi-nomadic way of life, they spend a large part of year in the forest where they establish seasonal camps, far from Molanda. They therefore regularly live less than 20 km from the NPR+ Project site, and most of their area of gathering/hunting/fishing is closer than 20 km from the boundaries of the NPR+ project site. Furthermore, during those seasonal migrations, depending on the availability of natural resources on which they depends for their living, indigenous people can travel into the NPR+ project area for collecting resources.</p> <p>CIB Social program manager Roger Monbendzo has confirmed that this is the situation in North Pikounda.. Furthermore, the North Pikounda Socio-Economic Report (2010) clearly states that the administrative boundaries of UFE North Pikounda overlap the traditional land of the former village of Molanda, such that now, part of the NPR+ Project Area is administratively a part of the Molanda community.</p> <p>The NPR+ Project Area makes up a portion of the traditional lands of the Molanda communities and continues to be used by the community, particularly the indigenous semi-nomadic Balouma group. It is typical of villages such as this for the semi-nomadic indigenous people to be installed at the periphery of the village area. (N Pikounda Soci-Econ Report (2010))</p> <p>Essentially the boundary of the villages are much more dynamic, they alter slowly over time based on the movement</p>	

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
		<p>of the members of the community.</p> <p>The local Molanda community is community of subsistence fisherman, farmers and to a lesser extent subsistence hunters. They live in a delicate balance with the forests, rivers and nature that thoroughly surrounds them. Their lives are almost entirely reliant on what they are able to fish, harvest or hunt. Any small loss of access to land, or the loss of a single crop, or a drought affecting the rivers, all will negatively impact the subsistence livelihood of the Molanda community. They truly are a community of forest dwellers.</p> <p>As subsistence forest dwellers, the Molanda communities rely on all aspects of their lands, both large and small, and each of those aspects allows the community to prosper. Take a small amount away and the community will suffer; the difference between subsistence and not having enough is a very fine line. As such, there is significant relevance to every aspect of the community lands, even when not used extensively.</p> <p>Community Reliance</p> <p>The Proponents maintain that the local populations are reliant on a part of the project area for the following activities:</p> <ol style="list-style-type: none"> 1. Fishing - During the stakeholder engagement process, their were Molanda community members who 	

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
		<p>indicated that the area was used by fisherman. They would go to the area and set up a short term camp for a number of days in order to fish the area.</p> <p>Although the fishing is generally only intermittent, in years when the other areas might not be productive and there is a need to fish further afield, the fishing areas within the NPR+ Project Area can become areas that communities rely on to make up the balance in more difficult times.</p> <p>2. Hunting – A portion of the Molanda community uses the NPR+ project area for hunting.</p> <p>It is known that if the project area were to be selectively logged, that the increased access via roads and skidding trails would lead to an increase in the level of poaching of fauna, particularly the forest elephant. The increased access to the forest for poaching opportunities, weather it was for ivory or bushmeat, would create additional completion on forest resources that would be a detriment to any of the traditional hunters from Molanda. It is important to state that a poacher will hunt both legal and illegal game, and that local community are reliant on legal game, thus setting up competition. So long as no logging takes place, any hunting that is undertaken by the members of the Molanda community within the NPR+ Project Area would not be competing for limited resources with poachers, this is substantial benefit to the economic and social welfare of the community at large</p> <p>3. Non-Timber Forest Products: The Sepele Caterpillar</p>	

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
		<p>are considered a local delicacy and are actively collected. It is known, also from the community engagement activities, that some caterpillar collecting is conducted in the North Pikounda Project Area where the caterpillar trees are known to be. Additionally herbs and medicines would be traditionally collected during any fishing or gathering excursions within the NPR+ Project area.</p> <p>The less difficulty in access that the local communities have to the Project areas, the better able they will be able to maintain the subsistence activities. The fact that the NPR+ Project stops all logging means that the protection of the area is much better preserved as it well understood that logging can have negative impacts on the destruction of key NTFP resources.</p> <p>At least 800 medicinal plants are used in the Republic of Congo by traditional practitioners for making more than 1,500 drugs (FAO, 1999). For Balouma groups Pharmacopoeia is the only source of drugs, and is therefore of paramount importance. Unfettered access to all of the Molanda community area, including the NPR+ Area, however frequent, is important</p> <p>5. Spiritual Sites:</p> <p>It is known that there are old villages that were used by Molenda in past generations which are present in the NPR+ project area and have historical value for the Molanda community. These area could also have a spiritual value (i.e.,</p>	

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
		<p>initiation sites, cemeteries, places of esoteric value) but it is always difficult to know the existence of such spiritual/sacred site beforehand as local population are always reluctant to disclose their existence or location before harvesting operation start (because they of the fear of how they could be damaged).</p> <p>It is more liklely then not, that if logging proceeds, then some of these sites will either be lost or access will become more complicated because of harvesting activates.</p> <p>The Proponents maintain strongly that the community is in fact reliant on the NPR+ Project Area in a number of way, when looked at holistically, the rational is far more compelling then when viewed from the perspective of a single activity that community is engaged in whilst physically within the Project Area. It is thus important that a holistic perspective be adopted toward the concept of reliance of the members of the community on the NPR+ Project Area.</p> <p>Evidence Requirements –</p> <p>the rural appraisal conducted as part of the North Pikounda Social report was completed in 2010.</p> <p>Net Positive Benefit – the Standard</p> <p>As the standard requires the NPR+ Project to demonstrate that a net positive benefit occurs as a result of the NPR+ Project on the social and economic well-being of the</p>	

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
		<p>community or communities, the Proponents need to explain what they understand by the standard.</p> <p>The Project Proponents understand that Net Positive Benefit (NPB), in simple terms, means the NPB goal means actions have positive effects on local communities that not only balance but are accepted to outweigh the inevitable negative effects of the physical disturbances and impacts associated with mechanized logging of the North Pikounda area.</p> <p>Quantitative Requirements of the standard</p> <p>The Proponents understand the standard for NPB to means that the implementation of the NPR+ Project will provide benefit or benefits that outweigh what would have happened in a without-project scenario. In a quantitative sense, the benefits of the Project must be greater (i.e. net positive) on the social and economic well-being of the impacted communities. As the standard is silent on what amount of benefit is required, it can be assumed that any agreed upon benefit that goes beyond what would have happened in a selective logging scenario, is net positive.</p> <p>The Proponents maintain that the standard is achieved as so long there is only small amount of increase in benefit to the economic and social benefit of the communities. The quantity of the benefit is immaterial, as it must merely be more then without the NPR+ Project.</p>	

CAR ID	Corrective action request	Response by project proponents					DNV's assessment of response by project proponents
		Community Engagement - Demonstration of Net Benefits					
		Number	Activity Impacted	Benefit	With Project	V	
		1	Fishing	Access	+		
		2	Hunting	Access	+		
		3	Hunting	Hunting areas protected from Poachers	+		
		4	Gathering herbs/medicines	Access	+		
		5	Access to ancient villages	Access	+		
		6	Access to sacred sites	Access	+		
		7	Collection of caterpillars	Access	+		
		8	Community Access to medicine & education	Access to Pokola Medical facilities and to teachers	+		
		9	Community Access to profits of the NPR+ Project	Funding for community sustainability projects	+		

CAR ID	Corrective action request	Response by project proponents		DNV's assessment of response by project proponents
		TOTALS	9	2
		<p>Conclusion</p> <p>The Proponents thus conclude that the baseline activity of selective logging would undoubtedly have an impact on members of the Molanda community that rely upon the NPR+ area in a number of ways. It is thus maintained that, access that is not restricted by logging operations, hunting that is not in competition with poachers and NTFP gathering that is not inadvertently destroyed by mechanized logging operations provides net positive benefits to the social and economic welfare of the affected communities.</p> <p>The Proponents further maintain that in addition to the above mentioned benefits, as the project has been committed to CCBA standard, that as that portion of the project is developed, that there will be an increase in net benefits that the Project will provide to the Community beyond what would have happened in the baseline logging with out carbon project scenario.</p> <p>As such, the Proponents strongly maintain that they have meet the criteria for section 2.3.2 Community Engagement and that the NPR+ Project on a net basis, has positive impacts on the community.</p> <p>The Non Permanence Risk Assessment has been updated to reflect the above clarifications.</p>		

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
CAR5	<p><u>Evidence and failure</u></p> <p>DNV checked the uncertainty calculations and identified the following issues:</p> <p>a) The uncertainty of the oxidation rate of lthWP used is 30%. However, according to the IPCC GPG 2006 this is 50%.</p> <p>b) The uncertainty of the forest inventory applied is of 6%. This is correct for the commercial species, but the FMP shows a precision of 11% for the promotion species. Hence, a 6% uncertainty is not correct.</p> <p>c) The uncertainty of the dead wood decay seems to be not correct.</p> <p>d) The uncertainty of the regrowth and growth forgone are not correct as they are based on the standard deviation of the estimates per tree, not estimates per area of all plots.</p>	<p>CAR5.a) Oxidation uncertainty has been changed in the spreadsheet according to IPCC-2006 from 30% to 50%</p> <p>CAR5.b) In the Volumes estimation spreadsheet, a new section for uncertainty calculation has been added. The error of 11% has been applied for Promotion species. The corresponding absolute errors on total merchantable volumes estimations have been calculated. This error corresponds to 109,648 m³ for the 30 years of the project. Compared to the 1,427,166 m³ harvested under the baseline scenario for the same period, this gives an average uncertainty of 7.68% for the 30 years of the project. This figure will be applied for all uncertainty calculations related to timber volumes.</p> <p>CAR5.c) No uncertainty has been applied to the dead wood decay parameter. Rate of decay has been selected from Chamber and al (1999) for forest with similar climate and superior mean WSG (0,69, to be compared with the mean WSG of 0,58 for this project), which is considered to be the main predictor for rate of decay together with tree DBH. Chambers and al find a rate of decay of 0,19 yr⁻¹ with a Standard Error of 0,004 yr⁻¹.</p>	<p>a) The spreadsheet has been corrected - OK b) The spreadsheet has been corrected - OK c) The spreadsheet has been corrected - OK d) The spreadsheet has been corrected - OK</p> <p>CAR5 is closed.</p>

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents												
		<p>In order to be conservative, the rate of decay selected for the baseline scenario is 0,186 yr⁻¹, which correspond to the lower bound of the confidence interval for the calculated rate of decay.</p> <p>CAR5.d) Uncertainty for regrowth and growth foregone parameters have been recalculated (together with the parameters themselves) based on an estimate per area of all trees. The results are presented in Appendix of the VCS-MR and are summarized in the table herebelow:</p> <table border="1" data-bbox="743 751 1473 968"> <thead> <tr> <th></th> <th>Growth Foregone (tC/ha)</th> <th>Regrowth (tC/ha)</th> </tr> </thead> <tbody> <tr> <td>Mean</td> <td>0,4468</td> <td>0,3618</td> </tr> <tr> <td>Std Deviation</td> <td>0,2842</td> <td>0,2896</td> </tr> <tr> <td>CI95%</td> <td>0,1160</td> <td>0,0939</td> </tr> </tbody> </table> <p>Those results have been incorporated in the Baseline Degradation Emissions and in the Baseline Degradation Uncertainty calculation spreadsheets.</p>		Growth Foregone (tC/ha)	Regrowth (tC/ha)	Mean	0,4468	0,3618	Std Deviation	0,2842	0,2896	CI95%	0,1160	0,0939	
	Growth Foregone (tC/ha)	Regrowth (tC/ha)													
Mean	0,4468	0,3618													
Std Deviation	0,2842	0,2896													
CI95%	0,1160	0,0939													
CAR6	<p><u>Requirement</u> According to the non-permanence tool, "NPV from the most profitable alternative land use activity is expected to be between 50% and up to 100% more than from project</p>	<p>The risk has been reset to 8, which is the maximum.</p>	<p>The percentage of difference has been corrected and the risk has been reset to 8, which is the maximum risk.</p> <p>CAR6 is closed.</p>												

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	<p>activities”, which means that the NPV of the baseline scenario is compared with the NPV of the project scenario.</p> <p><u>Evidence and failure</u></p> <p>The project proponent has estimated the percentage of difference as the ration of the difference by the mean, which is not correct.</p>		

Clarification requests

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
CL1	<p><u>Evidence and clarification</u></p> <p>DNV checked the forest inventory applied and found that it has been designed as three blocks of 24, 14 and 19 plots which have been systematically located in those blocks. These blocks have been positioned in three different areas of the project area and always trying to ensure that they have the same representation of closed canopy, medium canopy and open canopy as the project area globally.</p>	<p>CL1</p> <p>First of all, Carbon Conservation would like to bring the attention of the certification body on the fact that VCS doesn't recommend random sampling design as the only way to lay out PSPs:</p> <p>VM0011 – 7.1.2.4 Sampling Design for the PSPs <i>“Different sampling design approaches are available for laying out the PSPs. Some of the commonly used sampling designs in forestry are random sampling, stratified sampling, stratified random sampling, stratified systematic sampling and cluster sampling.”</i></p>	<p>DNV deems acceptable the response of the project proponent.</p> <p>CL1 is closed.</p>

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
	<p>The calculation of the biomass estimates has been done considering that these plots are randomly located within the project boundary, despite the fact that they are clustered in three blocks.</p> <p>DNV deems that the estimates using this design shall be obtained considering that it is a cluster sampling with a varying size per cluster.</p> <p>Clarification is sought on whether the design chosen could be considered equivalent to a simple random sampling design, and whether the calculations assuming that it is a simple random sampling are correct.</p>	<p>The only recommendation of the methodology is that the sampling design doesn't bring a source of bias in estimating the measured parameters.</p> <p>As all sampling designs are valid according to VCS VM0011, we will consider that the following demand for clarification: <i>"Clarification is sought on whether the design chosen could be considered equivalent to a simple random sampling design, and whether the calculations assuming that it is a simple random sampling are correct"</i>.</p> <p>Considering that it is very complicated to compare the results of the actual sampling design with all possible sampling designs, we will explain in the present document why we consider that the inventory design chosen doesn't present biases for biomass estimation.</p> <p>One of the commonly used sampling designs for large extent areas to be monitored is to (1) randomly select representative's area and (2) use of a systematic approach to inventory those areas.</p> <p>Dr Richard Brazier, Associate Professor of Earth Surface Processes at the Geography Department of the University of Exeter, kindly provided evidences that this approach is used at different scales and for different purposes, including for measurement of carbon stocks.</p> <p>Source of bias can be diverse and we have listed the most</p>	

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents						
		<p>common ones in the table below, to demonstrate that they have been considered in the sampling strategy: climate, vegetation types, topography, soils, road and river network</p> <table border="1" data-bbox="748 491 1473 1436"> <thead> <tr> <th data-bbox="748 491 972 533">Source of bias</th> <th data-bbox="972 491 1473 533">Answer</th> </tr> </thead> <tbody> <tr> <td data-bbox="748 533 972 687">Climate</td> <td data-bbox="972 533 1473 687">The project area is entirely comprised in the same climatic area, which cannot be a source of bias for the estimation of the mean AGB</td> </tr> <tr> <td data-bbox="748 687 972 1436">Forest type</td> <td data-bbox="972 687 1473 1436"> <p>Several stratifications have been undertaken (FMP; Lembe, 2012) and show that only two strata can be considered for the project area:</p> <ul style="list-style-type: none"> - Wetland that are excluded of the crediting area under the baseline scenario - Dryland mixed forests typical of Northern Congo forests formations which can be included in the tropical semi-evergreen forests. These forests would have been harvested under the baseline scenario and that the ones that have been inventoried for this project <p>No monospecific Limbali (<i>Gilbertiodendron dewevrii</i>) forests have been identified, neither secondary</p> </td> </tr> </tbody> </table>	Source of bias	Answer	Climate	The project area is entirely comprised in the same climatic area, which cannot be a source of bias for the estimation of the mean AGB	Forest type	<p>Several stratifications have been undertaken (FMP; Lembe, 2012) and show that only two strata can be considered for the project area:</p> <ul style="list-style-type: none"> - Wetland that are excluded of the crediting area under the baseline scenario - Dryland mixed forests typical of Northern Congo forests formations which can be included in the tropical semi-evergreen forests. These forests would have been harvested under the baseline scenario and that the ones that have been inventoried for this project <p>No monospecific Limbali (<i>Gilbertiodendron dewevrii</i>) forests have been identified, neither secondary</p>	
Source of bias	Answer								
Climate	The project area is entirely comprised in the same climatic area, which cannot be a source of bias for the estimation of the mean AGB								
Forest type	<p>Several stratifications have been undertaken (FMP; Lembe, 2012) and show that only two strata can be considered for the project area:</p> <ul style="list-style-type: none"> - Wetland that are excluded of the crediting area under the baseline scenario - Dryland mixed forests typical of Northern Congo forests formations which can be included in the tropical semi-evergreen forests. These forests would have been harvested under the baseline scenario and that the ones that have been inventoried for this project <p>No monospecific Limbali (<i>Gilbertiodendron dewevrii</i>) forests have been identified, neither secondary</p>								

CL ID	Clarification request	Response by project proponents		DNV's assessment of response by project proponents
			<p>forests, nor other vegetation types such as savannahs, croplands, etc.</p> <p>All the samplings have been undertaken in the same forest/vegetation types which is greatly reducing the biases possible.</p>	
		Vegetation structure	<p>The vegetation structure and in particular the canopy opening is presenting variations in the forests of the project area. This variable has been considered in the design of the project area. The % of dense/light/open canopy has been calculated for the whole area. Then, we have verified that the 3 randomly selected blocks were representing the same proportion of dense/light/open canopy than the whole project area.</p> <p>This approach that quantify one additional parameter which could have impact on the biomass allow us to again reduce the biases on biomass quantification</p>	
		Topography	<p>The project area elevation is comprised between 350 and 325 m above sea level. This variable cannot influence in any case the sampling design (see §1.9.3 of VCS-PD)</p>	
		Soils	<p>The soils are similar for all of the</p>	

CL ID	Clarification request	Response by project proponents		DNV's assessment of response by project proponents
			drylands of the project area. This variable cannot influence in any case the sampling design (see §1.9.4 of VCS-PD)	
		River network	River network, and access to water can have an impact on vegetation composition. In order to avoid any biases, the inventory has been designed to have the transects, on which PSPs are positioned, perpendicular to the river network, as best practices recommend it	
		Road network	No road are present in the project area, thus no biases such as laying out PSPs along road is possible	
		<p>All those precautions in defining the sampling plan ensure that no biases are possible due to the actual inventory design.</p> <p>Another argument the Proponent would like to bring to the attention to the DNV is that the distance between PSPs within each block has been defined to be important enough in order to avoid spatial correlation. Indeed there is 400 m between two consecutive PSPs on the same transect, and 1000 m between two transects in the same block.</p> <p>Finally, in order to demonstrate that our design is statistically sound and that it follows the requirements of VM0011 we</p>		

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents																								
		<p>have done two tests:</p> <p>1. comparing the value estimated with our design and the values that would have been estimated considering a cluster of 3 plots (each plots being the actual Blocks and the actual PSPs being sub-plots of the cluster). While this approach is not statistically correct (it would be necessary to have more "clusters" to test them) it will help us characterize trends in the modelling of AGB using different designs. The results are summarized in the following table:</p> <table border="1" data-bbox="748 756 1473 970"> <thead> <tr> <th></th> <th>Cluster design</th> <th>Project design</th> </tr> </thead> <tbody> <tr> <td>Mean AGB</td> <td>150,6</td> <td>149,05</td> </tr> <tr> <td>Standard deviation</td> <td>12,6</td> <td>46,54</td> </tr> <tr> <td>CI95%</td> <td>14,3</td> <td>12,08</td> </tr> </tbody> </table> <p>This test shows that the sampling design chosen for the project is not statistically over-estimating AGB and remains conservative compared to cluster design.</p> <p>2. in order to test the effect of Blocks and Canopy on the AGB variance distribution, we have proceeded to a two factor ANOVA. The results are summarized in the table below (modelling under "R" software)</p> <table border="1" data-bbox="748 1353 1473 1436"> <thead> <tr> <th></th> <th>Df</th> <th>Sum sq</th> <th>Mean sq</th> <th>F value</th> <th>Pr > F</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Cluster design	Project design	Mean AGB	150,6	149,05	Standard deviation	12,6	46,54	CI95%	14,3	12,08		Df	Sum sq	Mean sq	F value	Pr > F							
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CL ID	Clarification request	Response by project proponents						DNV's assessment of response by project proponents						
		Block	2	46398927	23199463	2.598	0.0849							
		Canopy	2	11666450	5833225	0.653	0.5250							
		Block + Canopy	4	11028613	2757153	0.309	0.8707							
		Residuals	48	428664602	8930513									
		<p>In the fifth column, “Pr > F”, all results are superior to 0,05 (Confidence interval of 95%), which means that the variance distribution is not impact by the factor “Block” or “Canopy” or by the conjunction of these two factors.</p> <p>In addition, we have also tested the homoscedasticity (or homogeneity) of variances through the three blocks and the whole population with Bartlett's test (modelling under “R” software). Results are given in the table below:</p> <table border="1" data-bbox="748 970 1245 1061"> <thead> <tr> <th data-bbox="748 970 1032 1013">Bartlett's K-squared</th> <th data-bbox="1032 970 1106 1013">Df</th> <th data-bbox="1106 970 1245 1013">P value</th> </tr> </thead> <tbody> <tr> <td data-bbox="748 1013 1032 1061">0,285</td> <td data-bbox="1032 1013 1106 1061">2</td> <td data-bbox="1106 1013 1245 1061">0,8672</td> </tr> </tbody> </table> <p>The P value is far superior to the 0,05 thresholds, which means that the hypothesis that all variances between the 3 different blocks are similar is true.</p> <p>In conclusion: the actual sampling design chosen for the estimation of AGB under the baseline scenario is correct according to the methodology VM001; Has been designed taking into account all the potential biases that could have impacted AGB estimation;</p>						Bartlett's K-squared	Df	P value	0,285	2	0,8672	
Bartlett's K-squared	Df	P value												
0,285	2	0,8672												

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
		<p>Is conservative compared to cluster sampling with similar data;</p> <p>Furthermore, statistical tests demonstrate the AGB variance is similar between the 3 Blocks, which means that those blocks are representatives of the whole variability of AGB throughout the project area.</p> <p>The sampling design performed for the North Pikounda REDD+ project is precise, accurate, does not produce bias and remains conservative.</p>	
CL2	<p><u>Evidence and clarification</u></p> <p>a) The project proponent is requested to provide evidence in order to demonstrate that the project has secured 80% or more funding needed to cover the total cash out before the project reaches break even.</p> <p>b) The project proponent is requested to provide evidence in order to demonstrate that the project has callable financial resources for at least 50% of total cash out before the project reaches breakeven.</p>	<p>CL 2.a)</p> <p>The Project Proponent, Olam International Limited, is a leading global integrated supply chain manager and processor of agricultural products and food ingredients and reported SGD\$ 17.1 billion of revenues in 2012 in its 2012 Annual Report. CIB is a wholly owned subsidiary of Olam International.</p> <p>In the same 2012 Annual Report, Olam reports total available liquidity of SGD\$10.5 billion, made up of cash and other short-term deposits while also having debt facilities of SGD \$11.8 billion at the end of FY2012. The project</p> <p>Proponent Olam International has secured cash assets far in excess of 80% of the funding needed to cover the total cash</p>	<p>a) The VCS PD has been modified – OK.</p> <p>b) Evidence has been provided and it is deemed acceptable. DNV checked the 2012 Annual Report, and confirmed that Olam's total available liquidity of SGD\$10.5 billion, made up of cash and other short-term deposits while also having debt facilities of SGD \$11.8 billion at the end of FY2012. Hence it can be confirmed that the project proponent has enough callable financial resources – OK.</p> <p>CL2 is closed.</p>

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
		<p>out prior to reaching the project break even point.</p> <p>The Project Documents have been updated to reflect this information.</p> <p>CL 2.b)</p> <p>The Project Proponent for its 2012 Annual report indicated that it had callable cash and short deposit reserves of SGD \$1.11 billion, secured receivables of SGD \$1.26 billion, SGD \$11.8 billion of available debt facilities and available liquidity in the amount of SGD \$10.5 billion.</p> <p>Proponent Olam International has adequate callable financial resources to cover more than 50% of the total cash outlay needed for the Project prior to it reaching a breakeven point.</p> <p>The Project Documents have been updated to reflect this information.</p>	
CL3	<p><u>Evidence and clarification</u></p> <p>a) The project proponent is requested to clarify why the log and sawn timber volumes of the financial analysis provided are not consistent with the GHG accounting spreadsheets.</p> <p>b) The project proponent is</p>	<p>a) The calculations have been updated.</p> <p>b) Evidence has been provided.</p>	<p>DNV confirmed that the volumes have been corrected. Furthermore, DNV confirms that the values used are reasonable and reflects the expected cash-flows from the commercialisation of timber.</p> <p>It is worth noting that the risk has been set to the maximum (i.e. 8) so there is no risk of material misstatement linked to the information used for</p>

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
	requested to provide evidence for the values of PU € Logs, Cost Log/m3, PU € Sawn T, Cost Sawn/m3.		the establishment of the opportunity risk. CL3 is closed.

Forward action requests from previous verification

FAR ID	Forward action request	Response by project proponents	DNV's assessment of response by project proponents
FAR1	As this is the first verification, no Forward Action Requests were identified from the previous verification process.	Not applicable.	Not applicable.

Forward action requests from this verification

FAR ID	Forward action request	Response by project proponents	DNV's assessment of response by project proponents
FAR1	Not applicable.	Not applicable.	Not applicable.
FAR2	Not applicable.	Not applicable.	Not applicable.
FAR3	Not applicable.	Not applicable.	Not applicable.

APPENDIX C

ASSESSMENT OF COMPLIANCE OF MONITORING WITH THE MONITORING PLAN

Parameters measured for the determination of net actual net GHG removals by sinks

Data / Parameter:	1 - DBH_{n,i,s,t} - Diameter at Breast Height (1.30 m)
Measuring frequency/ Reporting frequency:	Annual
How this parameter is monitored?	<p>The measurement of “Tree diameter at the breast height (1.3 m)” is done following the applicable SOP for forest inventory. This is measured using a diameter tape. According to the SOP of forestry inventory /21/ all diameters are measured and a marking in each tree is made (i.e. line) in order to show the 1.3 m height from the tree base. This data is introduced in a paper data sheet. This activity was performed by CIB’s personnel who works regularly in forest inventory operations.</p> <p>DNV confirmed during the site visit through direct supervision, through interviews with the project entity that the above monitoring procedure is in place.</p>
Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting of emission reductions	<p>Following the provisions of the applicable methodology, the project participant has Standard Operating Procedures (SOP) /21/ in place for the monitoring of “Tree diameter at the breast height (1.3 m)”. Following the SOP /21/ the data management would consist in the following flow from collection to reporting:</p> <ol style="list-style-type: none"> a) <u>Data collection</u>: In the monitoring period data has been collected using metering tape or relascope (in the case it is not possible to do the measurement) and entering the data manually in a paper data sheet in which the measurement is linked to a unique tree ID number. b) <u>Data Transfer and processing</u>: The plot information which is named with a unique code is transferred manually to a desktop computer. c) <u>Archiving</u>: The project participant archive all the information in a database which enables the identification of the DBH for every tree, which has a unique ID which enables its identification. d) <u>Reporting</u>: The information of the database is provided to the CDM consultant in order to make the necessary calculations and reporting. <p>DNV confirmed that there is a SOP in place which rules the data management of the information related to the project management and that all the process is electronically based so the likelihood of a transfer error is reduced to the minimum.</p>

Data / Parameter:	1 - $DBH_{n,i,s,t}$ - Diameter at Breast Height (1.30 m)
Are necessary QA/QC processes in place?	<p>Furthermore, DNV confirmed that the project entity has QA/QC measures in place:</p> <ul style="list-style-type: none"> a) <u>Data collection</u>: CIB has SOPs in place in order to reduce systematic errors to the minimum /21/and it ensures that all inventory team has as team leader with the necessary qualifications and which conducts a QC at the time of each measurement. Furthermore, at least 10% of all plots are revisited by the project responsible /19/ in order to confirm if there is a major misstatement in the sampling plot measurements. As part of this control, the project entity re-measures the plots in order to confirm the plot dimensions/19/. DNV confirmed that this QA measure is in place. b) <u>Data transfer</u>: At least 10% of the data is checked by the project responsible. c) <u>Data processing</u>: A full consistency check is conducted by the CDM consultant who is a third party. d) <u>Reporting</u>: All data is checked by personnel of the project proponent who is not involved in the actual monitoring; this is indicated in the MR /1/. This would ensure a correct reporting of the information. <p>As DNV was able to confirm, the data management and the QA/QC in place assure the correct transfer of data and reporting of GHG removals.</p>
How were the values in the monitoring report verified?	<p>In order to verify the monitored values, DNV conducted the following actions:</p> <ul style="list-style-type: none"> a) <u>Data collection</u>: DNV re-visited the location of 2 randomly selected inventory plots and re-measured all trees in order to identify any major misstatement or the existence of systematic errors in the measurement. After comparing the two readings for each tree the bias resulted to be -0.99% with an RMSE of 2 %, which indicates that: 1) the readings of the project participant are lower which is expected due to the growth from the date of the inventory to the date of the site visit; 2) a low RMSE which indicate that measurement has been precise. b) <u>Data Transfer, processing and archiving</u>: DNV checked the GHG removal's spreadsheet and confirmed that the raw data provided in the calculations are consistent with the raw data coming from the data collector /5/. c) <u>Reporting</u>: DNV checked the GHG removal's spreadsheet and confirmed that the raw data provided in the calculations are consistent with the raw data coming from the data collector /5/. <p>Therefore, DNV was able to verify the values reported in the monitoring report /1/.</p>

Data / Parameter:	2 - $DBH_{tree_nd,n,i,snd,j,t}$- Diameter at breast height for individual tree n, of species i, in sample plot in the naturally disturbed area snd, of stratum j, in year t
Measuring frequency/ Reporting frequency:	Annual

Data / Parameter:	2 - $DBH_{tree_nd,n,i,snd,j,t}$- Diameter at breast height for individual tree n, of species i, in sample plot in the naturally disturbed area snd, of stratum j, in year t
How this parameter is monitored?	Procedures will be similar to the previous parameter.
Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting of emission reductions	Procedures will be similar to the previous parameter.
Are necessary QA/QC processes in place?	Procedures will be similar to the previous parameter.
How were the values in the monitoring report verified?	This value was reported as zero in the current period. This was confirmed by DNV during the site visit.

Data / Parameter:	3 - $A_{nd,j,t}$ - Area of natural disturbance nd, in stratum j in year t
Measuring frequency/ Reporting frequency:	Annual
How this parameter is monitored?	The project
Does the data management (from monitoring equipment to removal calculation) ensure	No emissions were reported.

Data / Parameter:	3 - $A_{nd,j,t}$ - Area of natural disturbance nd, in stratum j in year t
correct transfer of data and reporting of emission reductions	
Are necessary QA/QC processes in place?	No emissions were reported.
How were the values in the monitoring report verified?	This value was reported as zero in the current period. This was confirmed by DNV during the site visit.

Data / Parameter:	4 - $f_{natdisturb,j,t}$ - Fraction of the forest naturally damaged in stratum j, in year t
Measuring frequency/ Reporting frequency:	Annual
How this parameter is monitored?	No emissions were reported.
Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting of emission reductions	No emissions were reported.
Are necessary QA/QC processes in place?	No emissions were reported.
How were the values in the monitoring report verified?	This value was reported as zero in the current period. This was confirmed by DNV during the site visit.

Data / Parameter:	5 - $V_{illegal_harvest,t}$ - Volume of wood sold as determined from field surveys in year t,
Measuring frequency/ Reporting frequency:	Annual
How this parameter is monitored?	No emissions were reported.
Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting of emission reductions	No emissions were reported.
Are necessary QA/QC processes in place?	No emissions were reported.
How were the values in the monitoring report verified?	This value was reported as zero in the current period. This was confirmed by DNV during the site visit.

Data / Parameter:	6 - $A_{illegal_harvest,j,t}$ - Area of illegal harvest in stratum j, in year t
Measuring frequency/ Reporting frequency:	Annual
How this parameter is monitored?	No emissions were reported.
Does the data management (from	No emissions were reported.

Data / Parameter:	6 - $A_{illegal_harvest,j,t}$ - Area of illegal harvest in stratum j, in year t
monitoring equipment to removal calculation) ensure correct transfer of data and reporting of emission reductions	
Are necessary QA/QC processes in place?	No emissions were reported.
How were the values in the monitoring report verified?	This value was reported as zero in the current period. This was confirmed by DNV during the site visit.

Data / Parameter:	7 - $V_{actual_harvest,l,t}$ - Annual actual volume of harvest for land l that is owned and/or operated by the Project Proponent or the forest with comparable situations and condition in local or regional or nation level in year t
Measuring frequency/ Reporting frequency:	Annual
How this parameter is monitored?	The project proponent has its CoC FSC certified. Hence it has in place standard operating procedures for ensuring that the volume harvested and transported is accurate. DNV checked the systems /70/ in place and confirmed that they are accurate.
Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting of emission reductions	The project proponent has its CoC FSC certified. Hence it has in place standard operating procedures for ensuring that the volume harvested and transported is accurate. DNV checked the systems /70/ in place and confirmed that they are accurate.
Are necessary QA/QC	The project proponent has its CoC FSC certified. Hence it has in place standard operating procedures for ensuring that

Data / Parameter:	7 - $V_{actual_harvest,t}$ - Annual actual volume of harvest for land I that is owned and/or operated by the Project Proponent or the forest with comparable situations and condition in local or regional or nation level in year t
processes in place?	the volume harvested and transported is accurate. DNV checked the systems /70/ in place and confirmed that they are accurate.
How were the values in the monitoring report verified?	The project proponent has its CoC FSC certified. Hence it has in place standard operating procedures for ensuring that the volume harvested and transported is accurate. DNV checked the systems /70/ in place and confirmed that they are accurate.

Data / Parameter:	8 - $V_{marketleakage, M}$ - Average annual volume of timber production after the implementation of an IFM-LtPF project from the same forest types or tree species composition and in the same climatic region within the host country, for the monitoring period, M
Measuring frequency/ Reporting frequency:	Annual
How this parameter is monitored?	Harvesting data for industrial operators in Sangha and Likouala departments are collected through MDDEFE.
Does the data management (from monitoring equipment to removal calculation) ensure correct transfer of data and reporting of emission reductions	This is official data obtained from the government.
Are necessary QA/QC processes in place?	This is official data obtained from the government.
How were the values in the monitoring report verified?	DNV confirmed the accuracy of the values during the interview held with the REDD+ coordinator /72/.

APPENDIX D

CURRICULA VITAE OF THE VERIFICATION TEAM MEMBERS

Andrés Espejo

Mr. Espejo is a DNV Natural Resource Engineer with 8 years' work experience in Europe (UK, Spain and Portugal), South America (Brazil, Guatemala, Chile, Colombia, Argentina) and Africa (Republic of Congo, Uganda, South Africa, Mali, Senegal, Mozambique, Morocco, Kenya). He has extensive and direct experience in managing teams involved with forestry, natural resource valuations, forest inventory and cruising, logistics, biomass valuation and projects & domestic CO2 offset projects.

Mr. Espejo has worked as a forestry engineer for local operations in Galicia - Spain (Forest to Mill and Biomass procurement), operations in Congo Brazzaville, and maritime logistics: Forestry Inventory, valuation and appraisal of forest resources, Forest management, silvicultural systems, Silvicultural operations (afforestation, fertilization, liming, soil improvement,), harvesting planning, and ship fixing. Mr. Espejo also provided a FSC controlled wood audit reports of Eucalyptus Fibre Congo made for Portucel Soporcel Group. Mr. Espejo developed a Forest Management plan of HUNOSA's rural land (2.500 ha) and proposal for the creation of a CO2 DOP project.

Mr. Espejo is a senior CDM / VCS validator and verifier and has Technical Area competence in Forestry (Technical Area 14.1) and Agriculture (Technical Area 15.1) under the CDM. He has been involved in the management of more than 30 validations/verifications. Mr. Espejo has been following very closely the development of the different REDD initiatives and negotiations and has a profound knowledge of the main approved REDD/IFM methodologies, DNV has also followed closely the development of a system for the integration of REDD sub-national initiatives with a main REDD national initiative (i.e. nested approach) and has followed closely the development of the VCS Jurisdictional and Nested REDD+ requirements, and knows the requirements of the recently approved standard "Jurisdictional and Nested REDD+ (JNR) Requirements" (Version 3.0). Projects he has been involved with include:

- Verification of Interim REDD+ Performance indicators under the Guyana-Norway REDD+ partnership: Team Leader
- Pre-audit of regional SADC MRV system developed by GIZ
- Second periodical verification of REDD Kasigau project – Phase I (VCS N°562) and II (VCS N°612). Leader auditor of REDD project applying AM0009.
- First verification of CDM A/R project "Reforestation as Renewable Source of Wood Supplies for Industrial Use in Brazil" (CDM N°2569). Leader auditor of A/R project applying AR-AM0005.
- VCS validation and verification of Mali Jatropha Curcas Plantation Grouped project (VCS N°829). Leader auditor of A/R project applying AR-AMS0006.
- VCS validation and verification of Bukaleba Forest project (VCS N°799). Leader auditor of A/R project applying AR-ACM0001.

Nicolas Bayol

Mr Nicolas Bayol has more than 16 years of experience as Forestry Engineer in sustainable management of tropical forests, providing technical assistance to operations management of forest concessions and managing as Director private forest and institutional projects and conducting economic analysis of forestry projects. Mr Bayol has participated in the elaboration of many forest management plans in the Congo basin. Amongst some of the projects he has been involved:

- Congo, 2000-2007: Technical support for the sustainable development project in North UFA Ngombé Congo. IFO / Danzer Group.
- Congo, 2007-2008: Technical assistance in the preparation of technical studies, reports on the definition of the management series and Management Plans on UFA Lopola. Wood and veneer Lopola.

- Congo, 2007-2009: Technical support in the preparation of technical studies, reports on the definition of the management series and Management Plans on UFA-Mokabi Dzanga.
- DRC, 2013-2015: Technical assistance for the management of forest concessions granted companies and SIFORCO SEDAF
- DRC, 2011-2014: Technical assistance for the management of forest concessions allocated to society COTREFOR
- DRC, 2005-2013: Project Support to the management of forest concessions granted to the company SODEFOR SOFORMA, Forabola and CFT;

His qualification, industrial experience and experience demonstrate him sufficient sectoral competence in Forestry (Technical Area 14.1).

Edwin Aalders

Mr Aalders has 20 years of experience as an assessor in Environmental Auditing and Policy and Management and in particular related to Climate Change. Mr Aalders started his career in SGS in 1992 where he quickly became involved in the development of new environmental certification & control services from 1999 ran the Climate Change programme of SGS. In 2004 he became the Director of the International Emission Trading Association (IETA). He acted as the first CEO for the Verified Carbon Standard Association (VCSa) between November 2007 and October 2008 and after leaving IETA Mr Aalders in 2010, became a Partner with IDEAcarbon before joining DNV as at their Climate Change and Sustainable Development Department in 2011.

Mr Aalders has extensive experience with developing Climate Change strategies and International Climate Change negotiations, which saw him being involved in the development of earlier programmes such as the ERUPT, EU ETS, CDM/JI and the more recent NAMAs. During the implementation of the EU ETS Mr Aalders was lead author in the drafting group of the EA-06 developed for the EU ETS MRV system. As Director of IETA Mr Aalders authored numerous publications and position papers in relation to the different market based instruments. Since joining DNV Mr Aalders authored the various manuals on NAMA MRV and team member in the various climate change projects implemented under the different programmes i.e. CDM,JI,VCS, various ETS' and REDD+.

Mr Aalders is and has been an elected member of roster of experts for the Methodology & Accreditation Panel Expert of the CDM & JI, member of the JI Accreditation Panel, and is currently member of the VCSa AFOLU Steering Committee and the Pacific Carbon Trust Advisory Panel.