VCS VALIDATION REPORT

"NORTH PIKOUNDA REDD+ PROJECT" IN REPUBLIC OF CONGO

REPORT N°2013-9261

REVISION NO. 01

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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 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 a validation of the project activity "North Pikounda REDD+ Project" in Republic of Congo to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. The validation was performed on the basis of VCSA requirements for the VCS project, as well as criteria given to provide for consistent project operations, monitoring and reporting.

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

The project consists in conversion of an un-logged forest which is legally sanctioned and approved for logging operations to a protected forest. Hence, the project generated GHG emission reductions. The project has applied the VCS methodology 'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation', Version 1.0.

In summary, it is DNV's opinion that the project activity "North Pikounda REDD+ Project" as described in the VCS PD, dated 19 August 2013, meets all relevant VCSA requirements for the VCS project and correctly applies the VCS methodology "'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation'", Version 1.0. Hence, DNV recommends the registration of the project as a VCS project activity.

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1 INTRODUCTION

Olam International Ltd has commissioned DNV Climate Change Services AS (DNV) to perform a validation of the North Pikounda REDD+ Project in Republic of Congo (the project). This report summarizes the findings of the validation of the project, performed on the basis of VCSA criteria for the VCS project, as well as criteria given to provide for consistent project operations, monitoring and reporting. VCSA criteria refer to VCS program documents and policy announcements.

1.1 Objective

The purpose of a validation is to have an independent third party assess the project design. In particular, the project's baseline, monitoring plan, and compliance with relevant VCSA criteria are validated in order to confirm that the project design, as documented, is sound and reasonable and meets the identified criteria. Validation is a requirement for all VCS projects and is necessary to provide assurance to stakeholders of the quality of the project and its intended generation of the Verified Carbon Units (VCUs).

1.2 Scope and Criteria

The validation scope is defined as an independent and objective review of the VCS project document (VCS PD). The VCS PD /1/ is reviewed against the criteria stated in the VCS Standard Version 3.3 /31/ and the relevant documents and policy announcements made by the VCSA, including the VCS methodology "'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation'", Version 1.0 /29/.

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

1.3 Level of assurance

DNV provides reasonable assurance that the "North Pikounda REDD+ Project" meets VCSA criteria. To ensure complete transparency, a validation protocol check list is included in Appendix A. The validation protocol check list addresses all of the criteria that must be met for the VCS project. Any clarification or corrective actions raised have been included in the validation protocol.

In addition, DNV applies materiality of 5% per cent in accordance with the requirements in VCS Standard Version 3.3 /31/.

1.4 Summary Description of the Project

Project Proponents (Parties):	- 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	VM0011 Version 1.0

methodology	
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

2 VALIDATION PROCESS

2.1 Method and Criteria

2.1.1 *Method*

The validation was based on the recommendations in ISO 14064-3:2006 /35/, ISO 14065:2007 /36/ as required by VCS Standard Version 3.3. Were applicable the validation was also based on the recommendations in the Validation and Verification Standard Version 1.0 /38/.

The validation consisted of the following three phases:

I a desk review of the project design documents
II follow-up interviews with project stakeholders
III the resolution of outstanding issues
IV Internal quality control
V Issuance of the final validation report and opinion.

Validation team

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

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

2.1.2 *Criteria*

The VCS PD /1/ has been reviewed against the criteria stated in the VCS Standard Version 3.3 Requirements Document, and the approved baseline and monitoring methodology VM0011 (Version 1.0) /29/.

2.2 Document Review

The following tables list the documentation that was reviewed during the validation.

2.2.1 *Documentation provided by the project proponents*

Ref	Name of Document
/1/	Carbon Conservation Pte Ltd: *VCS-PD for project activity "North Pikounda REDD+ Project" in Republic of Congo, v*ersion 5.3 dated 24 April 2013 first version received from the project proponent and version 07 dated 19 August 2013
/2/	Carbon Conservation Pte Ltd: Non-Permanence risk assessment report, version 7, 26 June 2013
/3/	Congolaise Industrielle des Bois & TEREA : Plan d'Aménagement UFE Pikounda Nord (2012-2031), Version 2 dated February 2012 approved by the government and Version 1 dated December 2011
/4/	Carbon Conservation Pte Ltd: Spreasheet with ex-ante and ex-post GHG accounting, 19 August 2013
/5/	Congolaise Industrielle des Bois: ESRI Shapefiles of project boundary, carbon accounting area, roads, and planned timber extraction roads, year 2013
/6/	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
/7/	Carbon Conservation Pte Ltd: Leakage assessment for the North Pikounda REDD+ Project, including: -Spreadsheet: Leakage-Intensification – year 2012 -Spreadsheet: Leakage-Market-Effect – year 2012
/8/	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
/9/	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
/10/	Carbon Conservation Pte Ltd: Travel emission log showing emissions from the beginning of the project, year 2013
/11/	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
/12/	Astrium: Spot images of the project area:

Ref	Name of Document
	N°40963491010290905551I (Spot 4, 29/10/2010) N°50963481001080910082J (Spot 5, 08/01/2010) N°50953471101170919212J (Spot 5, 17/01/2011) N°50953481101170919302J (Spot 5, 17/01/2011) N°50963481101280907522J (Spot 5, 28/01/2011) N°50963491103260911352J (Spot 5, 26/03/2011) N°50973491101020908112J (Spot 5, 02/01/2011) N°40973481212070814081I (Spot 4, 07/12/2012) N°50963481204240908402J (Spot 5, 24/04/2012) N°50963491204240908492J (Spot 5, 24/04/2012) N°50953471301040856232J (Spot 5, 04/01/2013) N°50953481301040856322J (Spot 5, 04/01/2013)
/13/	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
/14/	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
/15/	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
/16/	Gaspard LEMBE, Ingénieur en chef des Eaux et Forêts, SIG – Télédétection – SGBD. Stratification of the forests of the North Pikounda UFE. September 2012.
/17/	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
/18/	Congolaise Industrielle des Bois: Standard Operating Procedure (SOP) for the control of PSPs. Version 2, 20 February 2013
/19/	Congolaise Industrielle des Bois: Standard Operating Procedure (SOP) for the installation of PSPs. Version 2, 20 February 2013
/20/	Congolaise Industrielle des Bois: Standard Operating Procedure (SOP) for the monitoring of PSPs. Version 2, 20 February 2013
/21/	JF Gillet: Protocole n°2 : Conception et application d'une technique d'enrichissement dans les forêts dégradées - Volet dynamique forestière, September 2007
/22/	JF Gillet: Protocole n°2 : Rapport final d'activité 2005 – 2007 - Volet dynamique forestière, January 2008
/23/	Congolaise Industrielle des Bois: Video showing the local stakeholder consultation meeting held in Molanda, 2012
/24/	Congolaise Industrielle des Bois: Reports from the internal timber supply system regarding: -Commercialization of logs and sawnwood in year 2012

Ref	Name of Document
	-Production per species from each concession in the period 2008-2012 -Exportation operations from Pokola and from LDG -Production and consumption in Loundougou saw mill -Production and consumption in Pokola saw mill
/25/	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
/26/	Congolaise Industrielle des Bois: Evidences of local stakeholder consultations conducted regarding the Pikounda REDD+ project. Checked during the site visit.
/27/	Congolaise Industrielle des Bois & Carbon Conservation Pte Ltd: Financial models for the project activity and the baseline scenario, year 2012
/28/	Congolaise Industrielle des Bois: -Forest Management Plan for the Kabo Concession (2005-2034), June 2006 -Forest Management Plan for the Loundoungou Concession (2010-2044), June 2010

The main changes between the VCS PD version 5.3 of 24 April 2013 assessed during the desk review and the VCS PD version 07 of 19 August 2013 submitted to registration are the following:

- Changes consequence of CARs and CLs.

2.2.2 *Methodologies, tools and other guidance by VCSA*

Ref	Name of Document
/29/	Carbon Planet Limited: *Methodology* VM0011 'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation', Version 1.0
/30/	VCSA: VT0001 – "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU project activities" (Version 3.0), 1 February 2012
/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
/37/	CDM Executive Board: 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1), Annex 19, EB35
/38/	VCSA: *Validation and Verification Manual*. Version 1.0

2.2.3 *Documentation used by DNV to validate / cross-check the information provided by the project proponents*

Ref	Name of Document
/39/	Republic of Congo: Décret n° 2013-79 portant approbation du plan d'aménagement de l'unité forestière d'exploitation Pikounda-Nord, située dans la zone II Sangha du secteur forestier Nord – Approval of forest management plan, 28 December 2012 *This same decree includes the approval of the The Ntokou-Pikounda NP
/40/	Republic of Congo: ministerial decree n°8233/MEF/CAB determining the delineation of the limits of the UFE Pikounda-Nord, 5 October 2006
/41/	Republic of Congo: Code forestier Loi n°16-2000 du 20 novembre 2000 – Forestry Code : Law 16-2000 of 20 November 2000
/42/	Olstrom: Geological map of the Republic of Congo, 1969
/43/	World Resources Institute: Status of Forest Concessions in the Republic of Congo
/44/	ESRI : Change matters – On-line visor showing NDVI change between 1975 and 2000, http://changematters.esri.com/compare
/45/	Pearson, T., Brown, S., Parveen, A and Moore, N. 2005. Use of Aerial Digital Imagery to Measure the Impact of Selective Logging on Carbon Stocks of Tropical Forests in the Republic of Congo
/46/	Sandra Brown, Timothy Pearson, Nathan Moore, Aziza Parveen, Stephen Ambagis and David Shoch. 2005. Impact of selective logging on thecarbon stocks of tropical forests:Republic of Congo as a case study
/47/	Nicolas PICARD and Sylvie GOURLET-FLEURY. 2011. PROJET D'AMENAGEMENT DES PETITS PERMIS FORESTIERS GABONAIS - OPTIMISATION DES HYPOTHESES ET PARAMETRES D'AMENAGEMENT. Réf : RT 1106 NP&SGF
/48/	Chambers, J. Q., Higuchi, N., Schimel, J.P., Ferreira, L.V. and Melack, J.M. 1999. Decomposition and carbon cycling of dead trees in tropical forests of the central Amazon. Oecologia (2000) 122:380–388
/49/	Jerome Chave, Richard Condit, Salomon Aguilar, Andres Hernandez, Suzanne Lao and Rolando Perez. 2004. Error propagation and scaling for tropical forest biomass estimates. Phil. Trans. R. Soc. Lond. B (2004) 359, 409–420
/50/	J. Chave, C. Andalo, S. Brown, M. A. Cairns, J. Q. Chambers, D. Eamus, H. Folster, F. Fromard, N. Higuchi, T. Kira, J.-P. Lescure, B. W. Nelson, H. Ogawa, H. Puig, B. Riéra, T. Yamakura. 2005. Tree allometry and improved estimation of carbon stocks and balance in tropical forests. Oecologia (2005) 145: 87–99
/51/	Feldpausch *et al.* 2012. Tree height integrated into pan-tropical forest biomass estimates. Biogeosciences Discuss., 9, 2567–2622, 2012
/52/	Feldpausch *et al.* 2011. Height-diameter allometry of tropical forest trees. Biogeosciences, 8, 1081–1106, 2011
/53/	M. Henry, A. Besnard, W.A. Asante, J. Eshun, S. Adu-Bredu, R. Valentini, M. Bernoux, L. Saint-André. 2010. Wood density, phytomass variations within and among trees, and allometric equations in a tropical rainforest of Africa. Forest Ecology and Management 260 (2010) 1375–1388
/54/	Henry, M., Picard, N., Trotta, C., Manlay, R.J., Valentini, R., Bernoux, M. & Saint-André, L. 2011.

Ref	Name of Document
	Estimating tree biomass of sub-Saharan African forests: a review of available allometric equations. Silva Fennica 45(3B): 477–569.
/55/	Timothy Pearson, Sarah Walker and Sandra Brown. 2005. Sourcebook for Land Use, Land-Use Change and Forestry Projects.
/56/	Nicolas Picard et Sylvie Gourlet-Fleury. 2008. Manuel de référence pour l'installation de dispositifs permanents en forêt de production dans le Bassin du Congo. cirad-00339816, version 1 - 19 Nov 2008
/57/	Nicolas Picard, Sylvie Gourlet-Fleury and Éric Forni. 2012. Stock recovery rates are not the panacea to assess timber yield sustainability: Evidence from managed Central African forests. Forest Ecology and Management 281 (2012) 12–22
/58/	Sunil K. Sharma, Marnie Telfer, Samuel T.G. Phua & Helen Chandler (2012): A pragmatic method for estimating greenhouse gas emissions from leakage for Improved Forest Management projects under the Verified Carbon Standard, Greenhouse Gas Measurement and Management, DOI:10.1080/20430779.2012.696237
/59/	Ghislain Vieilledent, Romuald Vaudry, Samuelson F. D. Andriamanohisoa O. Sarobidy Rakotonarivo, H. Zafyson Randrianasolo, Hasina N. Razafindrabe, C´ecile Bidaud Rakotoarivony, Johannes Ebeling, and Maminiaina Rasamoelina. 2011. Allometric models, from scaling theory to improved biomass and carbon stock estimates in tropical forests
/60/	Zanne, A.E., Lopez-Gonzalez, G.*, Coomes, D.A., Ilic, J., Jansen, S., Lewis, S.L., Miller, R.B., Swenson, N.G., Wiemann, M.C., and Chave, J. 2009. Global wood density database. Dryad. Identifier: http://hdl.handle.net/10255/dryad.235.
/61/	André Nzogang. 2009. Tropical forest dynamics after logging - natural regeneration and growth of commercial tree species - in southeast Cameroon, Thesis submitted in partial fulfillment of the requirements of the degree Doctor rer. nat. of the Faculty of Forest and Environmental Sciences, Albert-Ludwigs-Universität Freiburg im Breisgau, Germany
/62/	LILIAN BLANC, MARION ECHARD, BRUNO HERAULT, DAMIEN BONAL, ERIC MARCON, JE´ ROME CHAVE, AND CHRISTOPHER BARALOTO. 2009. Dynamics of aboveground carbon stocks in a selectively logged tropical forest Ecological Applications, 19(6), 2009, pp. 1397–1404
/63/	IPCC, 2003: *Good Practice Guidance for Land Use, Land-Use Change and Forestry*, prepared by the National Greenhouse Gas Inventories Programme, Jim Penman, Michael Gytarsky, Taka Hiraishi, Thelma Krug, Dina Kruger, Riitta Pipatti, Leandro Buendia, Kyoko Miwa, Todd Ngara (eds). Published: IGES, Japan. URL: http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf.html
/64/	Department of Energy and Climate Change (DECC) and the Department for Environment, Food and Rural Affairs (Defra) of the United Kingdom: 2012 Guidelines to Defra / DECC's GHG Conversion Factors for Company Reporting, Status: Final, Version: 1.0, Updated: 28 may 2012
/65/	Forest Carbon Partnership Facility: http://www.forestcarbonpartnership.org/fcp/
/66/	UN-REDD programme: http://www.un-redd.org/
/67/	*Gil Shepherd:* "*The Ecosystem Approach – Learning from Experience".* IUCN Report, *Year* 2010
/68/	The World Bank: *REDD Reference Levels and Drivers of Deforestation in Congo Basin Countries*, available at http://www.comifac.org/Members/tvtchuante/technical-note-on-redd-

Ref	Name of Document
	reference-levels-and-drivers-of-deforestation-in-congo-basin-countries, 18 November 2009
/69/	Congo-Site: Vers la renaissance de la filière du palmier à huile en République du Congo, 31 May 2013, http://www.congo-site.com/Vers-la-renaissance-de-la-filiere-du-palmier-a-huile-en-Republique-du-Congo_a15174.html
/70/	Palm Oil in Africa: Republique du Congo, http://oilpalminafrica.wordpress.com/2010/08/19/congo-r/
/71/	DURRIEU DE MADRON, L; FONTEZ, B and DIPAPOUNDJI, B. 2000. DÉGÂTS D'EXPLOITATION ET DE DÉBARDAGE EN FONCTION DE L'INTENSITÉ D'EXPLOITATION EN FORÊT DENSE HUMIDE D'AFRIQUE CENTRALE. BOIS ET FORÊTS DES TROPIQUES, 2000, N° 264 (2)

2.3 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.

Ref.	Date	Name	Organization	Topic
/72/	29 April 2013	Luc Ondembou (Cartographer)	Congolaise Industrielle des Bois:	- GIS - Concession area
/73/	29-30 April 2013	Mercier Mayinga (Responsible RIL)	Congolaise Industrielle des Bois:	- Baseline scenario - Forest inventory - QA/QC procedures
/74/	30 April 2013	Denis Dechenaud (CIB Directeur Exploitation) Patrick Leromellec (Chief Statistics) Mickael Felder (Production Chief) Lagare Gackosso (Statistics) Edouard Madingw (Joint Chief Statistics)	Congolaise Industrielle des Bois:	- Statistics production of concessions and sawmills - Logistics and operations of CIB - Chain of Custody system
/75/	1 May 2013	J.F. Gillet (Responsible project DYNAFFOR)	DYNNAFOR	- Regeneration in the project area and justification of the method for the estimation of the regrowth factor
/76/	3 May 2013	G. C. Boundzanga	REDD national coordination –	- Laws and regulations regarding forest

Ref.	Date	Name	Organization	Topic
		(REDD coordinator) Arnaud Kiesse (Chief Juridical issues REDD initative) Théophile Msiakoulou Louledo (Chief project actions)	Republic of Congo	management - Confirmation of right of use and approval of FMP - Alternative scenarios - Additionality and common practice
/77/	28 April – 3 May 2013	Rémi Duval (Senior Forest Engineer) Ralph Strebel (VP of REDD+)	Carbon Conservation	- VCS-PD - GHG accounting - Forest inventory implementation
/78/	28 April – 3 May 2013	Jean-Dominique Bescond (Responsible project development)	Congolaise Industrielle des Bois / OLAM	- Forest implementation - Right of use - Local stakeholder consultations

2.4 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.
- ✓ Confirmation that no logging has occurred.
- ✓ Confirmation of the applicability of the methodology.
- ✓ Assessment of the project boundaries and the stand information using a Pocket PC with the geographic information uploaded and connected to a GPS receiver.
- ✓ Assessment of the monitoring provisions by checking the chain of custody systems, the monitoring controls and re-visiting 2 sampling plots;

2.5 Resolution of Any Material Discrepancy

The objective of this phase of the validation is to resolve any outstanding issues which need be clarified prior to DNV's positive conclusion on the project design. In order to ensure transparency a validation protocol was customised for the project. The protocol shows in a transparent manner the criteria (requirements), means of verification and the results from validating the identified criteria. The validation protocol serves the following purposes:

- It organises, details and clarifies the requirements a VCS project is expected to meet;
- It ensures a transparent validation process where the validator will document how a particular requirement has been validated and the result of the validation.

The validation protocol consists of four tables. The different columns in these tables are described in the figure below. The completed validation protocol for the project activity “North Pikounda REDD+ Project” in Republic of Congo is enclosed in Appendix A to this report.

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

(a) The project participants have made mistakes that will influence the ability of the project activity to achieve real, measurable additional emission reductions;
(b) The VCS requirements have not been met;
(c) There is a risk that emission reductions cannot be monitored or calculated.

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

A forward action request (FAR) is raised during validation to highlight issues related to project implementation that require review during the first verification of the project activity. FARs shall not relate to the VCS requirements for registration.

Validation Protocol Table 1: Requirement Checklist				
Checklist question	***Reference***	***Means of verification (MoV)***	***Assessment by DNV***	***Draft and/or Final Conclusion***
The various requirements in Table 1 are linked to checklist questions the project should meet. The checklist is organised in different sections, following the logic of the VCS-PD	*Gives reference to documents where the answer to the checklist question or item is found.*	*Means of verification (MoV) are **document review (DR)**, **interview (I)** or any other follow-up actions (e.g., on site visit and telephone or email interviews) and **cross-checking (CC)** with available information relating to projects or technologies similar to the proposed VCS project activity under validation.*	*The discussion on how the conclusion is arrived at and the conclusion on the compliance with the checklist question so far.*	*OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements. A c**orrective action request (CAR)** is raised when project participants have made mistakes, the VCS requirements have not been met or there is a risk that emission reductions cannot be monitored or calculated. A **clarification request (CL)** is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met. A **forward action request (FAR)** during validation is raised to highlight issues related to project implementation that require review during the first verification of the project activity.*

Validation Protocol Table 2: Non-permanence risk assessment checklist			
Checklist question	***Value report***	***Assessment by DNV***	***Draft and/or Final Conclusion***
The various requirements in Table 2 are linked to checklist questions the project's risk should be assessed against.	*Gives the value provided in the non-permanence risk report*	*The discussion on how the conclusion is arrived at and the conclusion on the compliance with the checklist question so far.*	*OK is used if the information and evidence provided is adequate to demonstrate compliance with CDM requirements. A c**orrective action request (CAR)** is raised when project participants have made mistakes, the VCS requirements have not been met or there is a risk that emission reductions cannot be monitored or calculated. A **clarification request (CL)** is raised if information is insufficient or not clear enough to determine whether the applicable VCS requirements have been met. A **forward action request (FAR)** during validation is raised to highlight issues related to project implementation that require review during the first verification of the project activity.*

Validation Protocol Table 3: Resolution of Corrective Action and Clarification Requests			
Corrective action and/ or clarification requests	***Ref. to checklist question in table 2***	***Response by project participants***	***Validation conclusion***
*The **CARs** and/ or **CLs** raised in Table 2 are repeated here.*	*Reference to the checklist question number in Table 2 where the CAR or CL is explained.*	*The responses given by the project participants to address the CARs and/or CLs.*	*The validation team's assessment and final conclusions of the CARs and/or CLs.*

Validation Protocol Table 4: Forward Action Requests		
Forward action request	***Ref. to checklist question in table 2***	***Response by project participants***
The FARs raised in Table 2 are repeated here.	*Reference to the checklist question number in Table 2 where the FAR is explained.*	*Response by project participants on how forward action request will be addressed prior to first verification.*

Figure 1: Validation protocol tables

3 VALIDATION FINDINGS

3.1 Project Design

3.1.1 *Project proponent*

The project proponent is Congolaise Industrielle des Bois (CIB). This was the degradation agent which was going to log the UFE following the provisions of the approved Forest Management Plan (FMP) and has the concession for 30 years for the implementation of the LtPF project.

Olam International Limited is the mother company of CIB and provides the necessary finance and back-up to the project. Another entity would be Carbon Conservation Pte Ltd, which is in charge of the technical lead of the project development.

The VC-PD /1/ includes full contact details of these entities.

3.1.2 *Project Activity and Eligibility of the Project*

- ***Project activities***

The proposed project activity consists in avoiding the planned logging of 55 950 ha of the North Pikounda UFE ("Unité Forestière d'Exploitation"). Hence the project will involve the complete cessation of selective logging or any other harvesting activities in the entire North Pikounda UFE for the duration of the project lifespan, that is 30 years.

Previously to the implementation of the IFM project, the land was designated for forestry production as per Agreement of Development and Processing ("Convention d'aménagement et transformation" in French) signed between CIB and the government of Republic of Congo on 13 November 2002 /15/ and the project proponent was given a 15 year-renewable concession for managing the UFE. The project proponent prepared a FMP as required by the agreement which followed the prescriptions of the government regarding the allocation of management Series, i.e. protected areas, production areas, etc. Such FMP and agreement established as protected area, all wetlands located in the border of the concession and which surround the production areas, which are located in dry lands (i.e. "terre ferme") /3/. Such agreement and the subsequent FMP state clearly the following areas:

- ✓ Dry land mixed Forest (Production Area): 55 950 ha (60.5%)
- ✓ Wetlands areas (Protection Area): 36 570 ha (39.5%)

As part of the validation, DNV was able to confirm that the information and considerations reported in the VCS PD are complete and accurate.

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

The PD clearly states the Sectoral scope and project type. The project is eligible and it has been classified in accordance with the VCS requirements.

- Sectoral Scope: AFOLU, 14
- Category type: Improved Forest Management (IFM)
- Project activity: Logged to Protected Forest (LtPF)
- The project is not a grouped project.

- ***Project location***

The proposed IFM activity is located entirely in the UFE of North Pikounda (i.e. “Pikounda-Nord” in French) in the north of the Republic of Congo, Sangha region.

As confirmed by DNV, the limits of North Pikounda UFE are defined by ministerial decree n°8233/MEF/CAB approved 5 October 2006 /40/ and are as follows

- ✓ On the West: from the 0°33’42’’ N parallel, the limit follows the flooded forests of the Kandeko river, then the Ebangapélé river up to the 1° N parallel;
- ✓ From North to North-Est and Est: the limit correspond to the 1°N parallel till the Ebangui river. There, it follows the Ebangui river flooded forests until the 16°25’07’’E meridian;
- ✓ From South-East to West: the limit follows 0°44’13’’N parallel between meridian 16°25’07’’E and meridian 16°18’35’’E. Then it follows the later meridian to the South until crossing the 0°41’56’’N parallel, then this parallel straight to the West until it crosses the meridian 16°12’38’’E. There, it follows a line oriented at 186° until the points of geographic coordinates 0°33’42’’N – 16°12’03’’E. From there, the limit follows the 0°33’42’’N parallel until it crosses the Kandeko river.

Logging operations would occur out of the wetlands (i.e. dryland or “terre ferme”) which is the production Series. The correct delineation of these limits were confirmed against the Forest Management Plan (FMP) /3/, and with the ESRI Shapefiles of the project area /5/ against satellite imagery /12/.

DNV checked the VCS PD and confirms that the VCS PD includes the following information:

- ✓ The proposed project activity is located in the Pikounda-Nord UFE. DNV confirms that this is correct.
- ✓ Maps of the project area, of the areas eligible as VCS project, and of the polygons that are part of the project boundary are included in the VCS-PD.
- ✓ The project proponent has provided a map of each polygon that constitutes the project area.
- ✓ The total size of the project area is 93 970 ha, according to ministerial decree, yet in fact the GIS corrected area is 92 530 hectares /5/. Logging operations would occur only in 55 950 ha which is the carbon accounting area; the remaining area are wetlands which cannot be harvested and which are designed as conservation areas according to the FMP.
- ✓ -The project proponent includes information on the details of ownership.

DNV confirmed that the VCS PD provides a complete project location description which is in compliance with paragraph 3.4.1 of AFOLU requirements: VCS Version 3.3.

- ***Project start date***

The project start date is 1 January 2012, which is the date in which logging operations would commence according to the management plan /3/. Although the forest management plan was not approved until 28 December 2012 /39/, DNV confirmed that a concessionaire can commence to log at most 2 years before the approval of the forest management plan /76/. Hence, CIB could have legally commenced to implement the forest management plan without an official approval from the authority. This was further confirmed by DNV’s local expert who confirmed the legality and reasonability of this date.

DNV confirmed that the project start date is in accordance with VCS requirements.

3.1.3 *Project Scale and Crediting Period*

- ***Project scale and estimated GHG emission reductions or removals***

The project is classified as per §3.9.1 of VCS Standard Version 3.3 as a 'project' as the estimated annual GHG emission removals amount to 112 659 tCO_2e, which are less than 300 000 tCO_2e.

- ***Project crediting period***

The project crediting start date is equal to the start date of the project activity, i.e. the date on which activities that lead to the generation of GHG emission reductions or removals are implemented. The chosen crediting period is of 30 years /1/ which is in accordance with the VCS Standard Version 3.3 /31/ which sets a minimum of 20 years up to a maximum 100 years for AFOLU projects.

The project proponent has in place a robust operating plan in order to manage the project for the whole crediting period /3/. The project has in fact a steering committee composed by the project proponent, national authority and other stakeholders which would meet twice a year in order to control the implementation of the proposed project activity /76/. This was confirmed during the interview held with the REDD national coordinator, during which it was confirmed the robustness of the operating plan /76/.

DNV confirmed during the site visit that these plans are in place.

3.1.4 *Project compliance with applicable laws, statutes and other regulatory frameworks*

The applicable local laws and regulations related to the project are listed in the VCS PD. Those that are relevant are discussed:

1. Law No. 16-2000 of 20 November 2000 Forest Code /41/
2. Law No. 003-91 of 23 April 1991 on environmental protection /3/;
3. Law No. 37-2008 of 28 November 2008 on wildlife and protected areas /3/;
4. Law No. 10-2004 of 26 March 2004 laying down general principles applicable to a plan Land Law, including the rights of individuals and legal entities on land /3/.

The FMP /3/ was designed following the previsions of the above laws and consequently it was approved in February 2012 by the Congolese government /39/. DNV confirmed during the interview held with the national REDD coordinator /76/ that the list of relevant local laws and regulations is complete and that the baseline scenario and the proposed project activity are in compliance with the local laws and regulations. This was further confirmed by DNV's local expert involved in the validation who has experience in the preparation of FMPs in the country.

The FMP /3/ was designed following the previsions of the above laws and consequently it was approved in February 2012 by the Congolese government /39/.

3.1.5 *Ownership and other programs*

- ***Right of use***

The Congolese forestry domain consists of the state forest estate and the private forest estate /41/. The State forest estate is divided between the non-permanent forest estate and the permanent forest estate /41/. The permanent forest estate includes land allocated for forests and wildlife habitat and also includes private state forest estates, municipal, local community or territorial forest estates and forest estates owned by legal entities /41/. Forests in the private domain of the State include gazetted forests for protection, natural forest conservation, recreational forests, experimental forests and production forests /41/.

Previously to the implementation of the IFM project, the land was designated for forestry production as per Agreement of Development and Processing ("Convention d'aménagement et transformation" in French) signed between CIB and the government of Republic of Congo signed 13 November 2002 /15/ and the project proponent was given a 15 year-renewable concession for managing the UFE. As confirmed by DNV during the site visit, usually these concessions are renewed unless a very critical issue or mismanagement is identified. The proposed project activity is located in the UFE of North-Pikounda whose limits are defined as per ministerial decree n°8233/MEF/CAB approved 5 October 2006 /40/. In accordance with the forestry code of the Republic of Congo /41/ this UFE along with forested areas are of public property. This was effectively confirmed during the interview held with the REDD country coordinator /76/.

As part of the implementation of the project activity, a new specific agreement was signed 24 May 2012 between CIB and the government for the deviation of the FMP, in order to implement a LtPF project and the government gave a 30 year concession of the UFE in order to operate the IFM project /14/, granting an extension of the licence until the end of the project. The validity of all this information were confirmed during the meeting held with the REDD country coordinator /76/.

Therefore, the project proponent would have a right of use arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use) as defined in the VCS Standard Version 3.3 requirements /31/.

- ***Emissions trading programs and other binding limits***

The proposed project activity is an IFM project activity, and it is located in a non-Annex I country. Therefore, the GHG removals generated would not be part of an emission trading Program, nor it is located in a jurisdiction or sector with binding limits.

- ***Participation under other GHG programs***

The proposed project activity does not participate in any other GHG program which involves issuance of carbon credits. As DNV was able to confirm, the project proponent has the intention to validate the proposed project activity against the Climate, Community and Biodiversity Standards; this GHG programme does not involve issuance of carbon credits.

- ***Other forms of environmental credit sought or received***

The proposed project activity does not generate another form of environmental credit.

The validity of all this information was confirmed during the meeting held with the REDD country coordinator /76/.

- ***Rejection by other GHG programs***

The proposed project activity has not been rejected in any other GHG program.

3.1.6 *Additional information relevant to the project*

- ***Leakage management for AFOLU projects***

No leakage management activities are in place as no leakage mitigation activities are feasible, i.e. leakage emissions are related to market leakage and leakage due to displacement of planned degradation.

3.2 Application of Methodology

3.2.1 *Title and Reference*

The proposed project activity applies the VCS methodology VM0011 Version 1.0 'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation' /29/.

3.2.2 *Applicability*

The applied baseline methodology is justified as it has been demonstrated that the project activity ensures that:

Applicability conditions of VM0011 Version 1.0	**Rationale**
"Project type: Improved Forest Management - Logged to Protected Forest; with no removals (e.g. harvesting, planned biomass burning) occurring in the Project Area upon implementation of the actual project (with the exception of felling sample trees for validating or deriving project-specific parameters presented in Section 7.2.4)."	The proposed project activity consists in the implementation of an IFM – LtPF project, which consists in the complete cessation of logging operations within the project boundary. This is effectively described in the VCS PD and it is described in the MOU signed between the government of RoC and the project proponent /14/.
"Condition of the forest: *Intact forest or previously logged forest (also known as forest degraded due to logging) Land within the Project Area must have qualified as forest at least 10 years before the project start date.*"	The project area is an intact forest where no logging has never occurred. This is clearly described in the FMP /3/ and in the CAT ("Convention d'aménagement et transformation" in French) that gave initially the concession to CIB for its management for timber production /15/. This was further confirmed during the interview held with the REDD national coordinator /76/.
"Type of forest: Tropical forests including evergreen tropical rainforests, moist deciduous forests, tropical dry forests and tropical upland forests (see Appendix A for definition), except peat swamp forests."	The FMP provides a clear description of the type of forest /3/, i.e. tropical evergreen mixt moist forest. Swamp forest occurs within the concession area, but it would not be subject to logging in the baseline scenario /3/ and it is not part of the accounting area /5/. This was effectively confirmed during the on-site assessment.

Applicability conditions of VM0011 Version 1.0	Rationale
"Forest Product Type: Harvested wood products i.e., sawlog, pulplog and commercially harvested fuelwood (See Appendices A and B.9)."	The only harvested wood products would be logs in order to be transformed locally or exported in order to be transformed abroad. No fuelwood or pulplog is foreseen as confirmed by the FMP /3/.
"Driver of Degradation: Legally sanctioned logging (timber and commercially harvested fuelwood) undertaken in accordance with the relevant laws, regulations and codes of practice of the country in which the Methodology is being applied."	The driver of degradation is legally sanctioned and approved logging undertaken respecting the existing laws and regulations, and in line with the management common practices of the degradation agent. DNV confirmed that the area is legally sanctioned for timber production as it is defined as a production area by the CAT ("Convention d'aménagement et transformation" in French) signed with the government /15/. Logging is planned as confirmed by the FMP approved by the government which is a complete FMP which has followed national regulations and common practices /3/ in forest management and which has been prepared in order to implement RIL systems and ensure the species regeneration beyond the legal requriements. As DNV confirmed during the site visit and through review of such FMP /3/, the prescribed management goes beyond the existing regulations as it is intended to implement a Reduced Impact Logging (RIL) system and reduce logging of species in order to guarantee the sustainability of timber production (i.e. the minimum diameter of harvesting is significantly higher to that defined in local regulations). This is in line with other similar concessions which belong to the project proponent which are FSC certified.
"Baseline Activities to be Displaced: Legally sanctioned selective logging for specific forest product types presented above."	As validated above, the baseline activity that would be displaced would be legally sanctioned selective logging for harvesting of high value timber species.
"Project Area: Must be designated, sanctioned or approved by the relevant authority in the host country for the selective logging"	DNV confirmed that the area is legally sanctioned for timber production as it is defined as a production area by the CAT ("Convention d'aménagement et transformation" in French) signed with the government /15/. Logging is planned as confirmed by the FMP approved by the government which is a complete FMP which has

Applicability conditions of VM0011 Version 1.0	Rationale
	followed national regulations and common practices /3/ in forest management. This FMP would have been implemented already in year 2012. This was effectively confirmed during the interview held with the REDD national coordinator.
"Carbon Pools: Carbon Pools considered: • Aboveground biomass (AGB) of all trees as defined by the relevant authority in the host country • Harvested wood products (HWPs) based on domestic production not domestic consumption • Deadwood (DW). Carbon Pools not considered: • Aboveground biomass (non-trees) • Belowground biomass • Soil • Litter."	As indicated in the VCS PD /1/ and in the GHG accounting spreadsheet /25/, the only carbon pools which have been considered are AGB, HWP and DW. This is in line with the applicable methodology.

The assessment of the project's compliance with the applicability criteria of VM0011 (Version 1.0) /29/ are documented in detail in section 2.2 of Table 1 in the validation protocol in Appendix A to this report.

3.2.3 *Project Boundary*

The project boundary has been defined as those areas that are eligible under VCS Standard Version 3.3 /31/.

- ***Project area and land eligibility***

The total size of the project area is 93 970 ha, according to ministerial decree /40/, yet in fact the GIS corrected area is 92 530 hectares /5/, which is the area considered in the FMP. Logging operations would occur only in 55 950 ha which are considered within the carbon accounting area /3/. DNV checked the ESRI shapefile with the project and GHG accounting boundaries /5/ against recent SPOT 5 imagery /12/ and confirmed that the project area is fully stocked and that it was forested at the time of the start date. Since it is a primary forest /3/ it is reasonable to assume that 100% of the land was forested in the previous 10 years.

- ***Stratification***

Stratification of the project area has been done in accordance with the FMP:

- ✓ Dry land mixed Forest (Production Area): 55 950 ha (60.5%)
- ✓ Wetlands areas (Protection Area): 36 570 ha (39.5%)

This stratification is reasonable as the GHG accounting is concentrated only in the Production Area, so the Wetlands Area have not been included in the GHG accounting. Further stratification is not deemed reasonable as the project area is homogenous and it is constituted of a continuous of very small stands of

open, closed and regular forest which alternate through space /16/; hence, further stratification is not feasible and it can be confirmed that the stratification provided in the FMP is correct.

- ***Leakage area***

The leakage area constitutes the area where the baseline activities would be probably displaced. These would be displaced to project areas under the control of the project proponents (i.e. other concessions) or to the rest of the country (i.e. market leakage). DNV confirmed through third party evidence that CIB has four /43/ other concessions in the country: In Sangha department, it has a concession in Pokola and Kabo and in Likouala department it has a concession in Toukoulaka and Loundoungou. These areas will be subject of the leakage assessment in order to identify any leakage from intensification of operations.

From the leakage market point of view, only the concessions in the north of Congo have been considered as these are similar from the natural point of view, market access point of view, species and also type of concessionaire (i.e. local companies are present in the South, while in the North international companies are predominant). Furthermore, the southern forests present different dominant species (e.g. Longhi, Doussie, etc.) and historically the southern forests have been logged a number of times while northern forests are mainly first time concessions due to the distance to market and the difficulty to bring logs to exporting points (e.g. to Pointe Noire it would be required River and Train, or Douala - Cameroon).This is reasonable in view of the concession distribution and its ownership /43/ and the soundness was confirmed by the REDD national coordinator during the meeting held /76/ and through DNV's local expertise.

- ***Temporal boundaries***

In line with VCS requirements the baseline will be re-assessed every 10 years. Leakage assessment is based on pre-project information of the previous 5 years to the starting date as per the applicable methodology.

Therefore, DNV concluded that the proposed project activity complies with the definition of the project boundary stated in VM0011 (Version 1.0) /29/.

- ***Carbon pools***

The carbon pools included in or excluded from accounting of the project scenario:

Project carbon pool	Accounted for	Rationale
Above-ground tree biomass	Yes	- Accounted as required by the methodology VM0011 (Version 1.0).
Above-ground non-tree biomass	No	- Not accounted as required by the methodology VM0011 (Version 1.0).
Below-ground biomass	No	- Not accounted as required by the methodology VM0011 (Version 1.0).
Dead wood	No	- Not accounted as required by the methodology VM0011 (Version 1.0).
Litter	No	- Not accounted as required by the methodology VM0011 (Version 1.0).
Soil organic carbon (SOC)	No	- Not accounted as required by the methodology VM0011 (Version 1.0).

Project carbon pool	Accounted for	Rationale
Harvested Wood Products	Yes	- Accounted as required by the methodology VM0011 (Version 1.0).

DNV confirmed that the selection of carbon pools complies with the applicable methodology 'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation' VM0011 (Version 1.0) /29/.

- ***Selection of Sources and Sinks***

The system boundaries are presented in the following table:

Source / Sink	GHGs involved	Description
Baseline emissions and removals	CO_2	The following GHG sources, sinks and reservoirs are identified as per the applicable methodology: - Forest Degradation - Fossil Fuel use in Machinery - Electricity Consumption - Commercially harvested fuelwood: Not applicable since no fuelwood is harvested - Harvested Wood Product - Deadwood - Regrowth, Embodied carbon in AGB (CS)
	CH_4	- Fossil Fuel use in Machinery - Electricity Consumption: - Biomass burning in the course of land use conversion. Not applicable.
	N_2O	- Fossil Fuel use in Machinery - Electricity Consumption: - Biomass burning in the course of land use conversion. Not applicable.
Project emissions and removals	CO_2	The following GHG sources, sinks and reservoirs are identified as per the applicable methodology: - Travel (flights, ground travel). These have been demonstrated to be insignificant as confirmed by DNV /10/. Neglecting of these emissions are in line with AFOLU requirements: VCS Version 3.3 /34/, which recommends this emission source to be neglected. - Natural disturbances. CO_2 - These will be monitored. - Illegal logging/agriculture CO_2 - These will be monitored.

Source / Sink	GHGs involved	Description
Leakage emissions	CO_2	- Leakage due to activity displacement - Market leakage

The identified boundary and selected sources and gases are justified for the project activity. The validation of the project activity did not reveal other greenhouse gas emissions or removals occurring within the proposed project activity boundary as a result of the implementation of the proposed project activity which are expected to contribute more than 5% of total decreases in carbon pools and increases in emissions, or more than 5% of net anthropogenic removals by sinks, which are not addressed by VM0011 Version 1.0 /29/.

3.2.4 *Baseline Scenario*

Following the provisions of VM0011 Version 1.0 /29/, the project proponent has identified the baseline scenario through the application of the step-wise approach provided in the methodology which is based on the 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1).

DNV was able to confirm that the approved baseline methodology has been correctly applied to identify a complete list of realistic and credible baseline land-uses, and the identified baseline land-use most reasonably represents what would occur in the absence of the proposed project activity.

The identified baseline scenario is the continuation of the pre-project scenario, i.e. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting

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

Following the provisions of the 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1) /37/ the project participant has identified plausible alternative land-use scenarios:

Alternative land use scenario	Rationale
1. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting.	This is a credible scenario as evidenced by the fact that it is the scenario present in all CIB's concessions in the North of Congo and it is the scenario present in IFO's concession which shares boundaries with the project area /43/.
2. No Harvesting and/or Protection but without being registered under the VCS as an IFM-LtPF project.	As required by the baseline identification step-wise procedure, this alternative scenario has been identified as a plausible and realistic scenario.
3. Conversion to Oil Palm Plantation.	This is a credible scenario as confirmed during the site visit; DNV had the opportunity to see in its way from Brazzaville to Pokola that forested areas were converted to palm oil plantations. As confirmed through DNV's local expertise, these forested areas belonged to the UFA Ngombé which were formerly attributed to IFO but they were declassed

Alternative land use scenario	Rationale
	in favor of ATAMA Plantations, who is in the process of converting the land. Furthermore, it is estimated that the proportion of Congo Basin forests at risk of deforestation is 92% in the Republic of Congo (percentage representing the share of land potentially capable of supporting cultivation, both in biophysical terms and in terms of economic profitability, excluding protected areas) /68/, which would confirm the plausibility of this scenario. Hence, this is a credible alternative scenario.

Therefore the only land-use scenarios that are in compliance with mandatory legislation and regulations taking into account the enforcement in the region and EB tool's requirements on national and/or sectoral policies and regulations would be the following:

1. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting.
2. No Harvesting and/or Protection but without being registered under the VCS as an IFM-LtPF project.
3. Oil Palm Plantation.

STEP 2. Determine alternative baseline scenarios

Following the provisions of the methodology it has been identified that the alternative "3. No Harvesting and/or Protection but without being registered under the VCS as an IFM-LtPF project" faces the following barriers:

- Institutional barrier;
- Prevailing-practice barrier;
- Infrastructure barrier;

As stated in section Barrier analysis3.2.5.2 the only alternative that would not face any barrier would be the alternative land-use scenario "1. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting". The Palm oil plantation would face infrastructure barriers, hence it is deemed that it is not a feasible and plausible scenario; yet it is worth noting that alternative 1 would be conservative if compared with a palm oil plantation, which involves a total conversion involving deforestation and massive loss of carbon stocks.

The baseline scenario identified would be consistent with the near history of other concessions which are under the control of the project proponent and with the fact that an approved Forest Management Plan (FMP) which proposes RIL systems and reduced logging rates is in place. As DNV was able to confirm, this FMP was produced in order to ensure the regeneration of all species by defining minimum diameters of harvesting for each species, based on the minimum diameters of fructification of those species and also based on the amount of regeneration present per species, which go beyond the legal minimum diameters required by the legal requirements in the country. This would confirm that alternative 1 is the most realistic and alternative land-use scenario and it is therefore defined as the baseline scenario.

It was further confirmed that it is a feasible baseline as confirmed by logistical advantages of the concession and the density and richness of commercial species (i.e. Pikounda Nord has an average density of commercial species >DME of 5.59 stems/ha while Kabo has a density of 4.7 stems/ha; the

commercial volume of 17 m^3/ha of commercial species, while Kabo has 15.9 m^3/ha of commercial species). The specific analysis on the economic feasibility of the baseline is provided in section 3.2.5.3.Investment analysis.

All the assumption and data used by the project proponents are listed in the VCS PD /1/ and/or supporting documents. All documentation relevant for establishing the baseline land-use are correctly quoted and interpreted in the VCS PD /1/. Assumptions and data used in the identification of the baseline land-use are justified appropriately supported by evidence and can be deemed reasonable. Relevant national and/or sectoral policies and circumstances are considered and listed in the VCS PD /1/.

3.2.5 Additionality

The additionality of the project is demonstrated following the "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU project activities" (Version 3.0) /30/.

3.2.5.1 Identification of alternatives to the project activity

Alternative land-use scenarios have been identified as per the methodology and the selection of the plausible baseline scenario has been demonstrated, as detailed in section 3.2.4 Baseline identification of the validation report, in line with the "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU project activities" (Version 3.0) /30/. The identified alternative baseline scenarios are:

1. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting.
2. No Harvesting and/or Protection but without being registered under the VCS as an IFM-LtPF project.
3. Oil Palm Plantation.

DNV considers the list of realistic and credible alternatives to be complete and accurate.

3.2.5.2 Barrier analysis

The project additionality has been demonstrated following the provisions of the "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU project activities" (Version 3.0) /30/.

DNV deems that the existence of barriers is real considering the institutional barriers and the prevailing practice barriers linked to the implementation of a project which is the first of its kind in a country where no specific regulations exist for this kind of activity. The existence of the infrastructure barriers to the implementation of the alternative Oil Palm plantation is also reasonable. The barriers are presented hereunder:

Institutional barriers

The identified institutional barrier is related to the lack of legislation or regulations in Congo-Brazzaville regarding the protection of an area legally sanctioned and approved to be logged. As DNV was able to confirm during the interview held with the REDD national coordinator /76/, the Republic of Congo does not have any specific regulation for changing the status of a concession classified for forest production and the only possibility provided in the forestry code is if it is demonstrated to be of public interest (i.e. Article 25 of the forestry code) /41/; furthermore, the not implementation of a forest management plan /39/ approved by the government /41/ would be considered as lack of compliance with the law which would

activate a mechanism of warning that if not addressed it could potentially lead to the retirement of the concession to the project proponent in order to reassign it to another developer. As confirmed by the REDD coordinator: a) it is in the interest of the government to establish the management plans as otherwise it would not receive any revenue from the timber which would be extracted from the concession /76/, and b) these concessions are a way for the government to develop the region and improve the infrastructure and the accessibility to the region (e.g. the presence of CIB's sawmill in Pokola has brought business and services and as a result a new municipality independent of CIB has been created). Hence, the concessionaire is required to implement the forest management plan as required by the law. This lack of regulation in the country for this kind of project activity and the reluctance of the government to change it is a risk to the implementation. The lack of existence of regulations in this sense it is substantiated by the documentation submitted by the Republic of Congo to UN-REDD /66/ and to the FCPF /65/ where it is confirmed that no regulation exists for the implementation of pilot projects.

The existence of this barrier would be confirmed by the fact that no similar projects exist in the country as confirmed in the next barrier assessment (c.f. prevailing practice barrier).

The carbon incentives would alleviate this barrier through the specific support from the government to the implementation of the project through the creation of the necessary regulatory framework and solve uncertainties linked. As confirmed during the interview held with the REDD+ coordinator /76/ this project is seen by the country as a demonstration project which serve to increase the visibility of Republic of Congo in the negotiation arena. Hence, the interest in the project by the national authority has resulted in the mitigation of the policy uncertainty through the signature of a MOU signed 24 May 2012 between CIB and the government. As part of the MOU, the government accepts the deviation of the FMP, in order to implement a LtPF project and the government gives a 30 year concession of the UFE in order to operate the IFM project /14/, granting an extension of the licence until the end of the project. This gave the necessary regulatory framework and security for the establishment of the proposed project activity. Furthermore, thanks to carbon incentives the project will pay for the timber harvesting fee which the government will stop receiving due to the suspension of the logging operations; DNV confirmed that this payment is budgeted in the financial analysis and that this is stated clearly in the MOU signed between the project proponent and the government /14//27/ .

This barrier would not be faced by the alternative land-use scenarios as FSC RIL logging and Palm Oil Plantations have a clear regulatory framework for the operation of private companies /41/ and these two land-uses have been historically present in the Republic of Congo. Regarding the former, there are various logging concessions in the North and South of Republic of Congo, being 5 of them (4 from CIB and IFO's) with FMP which contemplate the use of RIL methods and which follow sustainable harvesting principles. Regarding the latter, oil palm plantations have been present in Congo since colonial times /70/, and currently new plantations are being implemented such as the 180 000 ha the Cuvette region (i.e. Atama plantation) and they have been implemented in the past in North Congo /69/ which would confirm that there are no institutional barriers. The presence of palm-oil plantations was effectively confirmed during the site visit

Prevailing-practice-barriers

The identified prevailing-practice barrier is related to the inherent risks related to the implementation of a project activity for the first time in a country, i.e. first-of-its-kind. As DNV was able to confirm during the interview held with the REDD national coordinator /76/, no similar project activities have been implemented in the Republic of Congo, never a logging concession legally sanctioned and approved by the government has been protected. This was further confirmed by DNV through the documentation

submitted by the Republic of Congo to UN-REDD /66/ and to the FCPF /65/ which confirms that North-Pikounda is the first project of its kind.

Furthermore, in order to confirm whether a similar activity occurred in the Republic of Congo DNV checked other third party evidence /40//67/ and confirmed that no similar projects have occurred:

- Goualougo Triangle in the CIB concession of Kabo. This is the case in which an area which was initially legally sanctioned for harvesting was converted to a protected area /67/. The region in question is a 25 600 ha area which is limited in the south by wetlands which have limited any human penetration. Due to this factor and by the fact that it borders with Nouabale-Ndoki National Park (NP) created in 1993, the Wildlife Conservation Society (WCS) requested to CIB to declare that region as protected area within the forest concession /67/. In the year 2000, CIB and WCS conducted a detailed inventory of fauna after which it was decided to classify the Goualougo Triangle as protected area within the concession /28/. This was formalized by the government in agreement with CIB by extracting this from the concession area and integrating it in the Nouabale-Ndoki NP through decree n°2632 /MEFPRH/DGEF/DF-SIAF of 2002 as mentioned in the forest management plan /28/. DNV deems that this case would not be comparable to the proposed project as the decision to define it as protected area within the concession was made at the time of the development of the forest management plan, which is common in the preparation phase of FMPs. As DNV confirmed, the Kabo forest management plan /28/ has other protected areas defined within the concession areas which cannot be logged due to its conservation values and which have been defined in consultation with local communities, the WCS or other organizations, similarly to the Goualougo Triangle.
- Ntokou-Pikounda NP. At the beginning of the 2000s North Pikounda belonged to a larger UFA of 427 000 ha called Ntokou-Pikounda UFA which was offered to CIB as concession /77/. Such UFA was constituted of wetland forest in the southern 3/4 of the UFA and a richer, denser, forest on dry land in the 1/4 located in the north /3/. The former had a very high concentration of conservation values. In view of this and the fact that the revenues from the southern 3/4 from a hypothetical logging would be reduced, the government decided to excise the southern part from the UFA /3/. As confirmed by DNV only North-Pikounda appears as part of the UFA /15//40//43//67/. The southern part was later declared as the Ntokou-Pikounda National Park /39/. DNV deems that this cannot be considered as similar to the project as it was not legally approved for harvesting and probably it would not have ever be harvested as most of the lands are occupied by wetlands which cannot be harvested.

Hence, DNV is able to confirm that the proposed project activity is the first-of-its-kind in the country.

The carbon incentives would alleviate this barrier through the specific support from the government to the implementation of the project which in turn would reduce the uncertainties of a first-of-its-kind project activity. As confirmed during the interview held with the REDD+ coordinator /76/ this project is seen by the country as a demonstration project which serve to increase the visibility of Republic of Congo in the negotiation area.

This barrier would not be faced by the alternative land-use scenarios as FSC RIL logging and palm oil plantations have a clear regulatory framework for the operation of private companies /41/ and these land-uses are already present in the country. Regarding the former, there are various logging concessions in the North and South of Republic of Congo, being 5 of them (4 from CIB and IFO's) with FMP which contemplate the use of RIL methods and which follow sustainable harvesting principles. Regarding the latter, oil palm plantations have been present in Congo since colonial times /70/, and currently new plantations are being implemented such as the 180 000 ha the Cuvette region (i.e. Atama plantation) and

they have been implemented in the past in North Congo /69/ which would confirm that there are no institutional barriers. The presence of palm-oil plantations was effectively confirmed during the site visit.

Infrastructure barriers

The identified infrastructure barrier is related to the remote and distant location of the project area from the transport links and processing facilities, which would make the Oil Palm alternative unfeasible, as it require the building of substantial infrastructure in the North Pikounda area /1/. As DNV was able to confirm, palm oil plantations in Congo are located very close to primary roads (e.g. Sangha palm and Atama have direct access to the Ouesso-Brazaville road) while North Pikounda is located in a remote area more than 200 km away from the primary road. The existence of this barrier would be substantiated by the fact that an existing palm oil plantation in the Sangha region (i.e. where the project is located) stopped their operations in 1997 and in 2008 the government seeked to resume operations but without success, while the palm oil 180 000 ha Atama plantation is currently being implemented but in the Cuvette region which is much more closer to Brazzaville. Hence, it seems that the infrastructure barriers are critical to this alternative.

The proposed project activity or the FSC-RIL logging alternative would not face this barrier as the former it is a do-nothing alternative which does not involve an investment or require infrastructure, and the latter does not face infrastructure barriers as substantiated by the fact that other CIB's (or non-CIB's concessions) which are located in the same region and farer from the saw mill are currently being logged.

3.2.5.3 Investment analysis

As there is actually only one alternative scenario, that of Selective Harvesting, VM0011 Version 1.0 /29/ does not require that an "investment analysis" be conducted as per Step 3. of the *Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities* /37/.

However, based on its local and sectoral competence, DNV deems that not conducting this analysis would be conservative as the proposed LtPF activity does not involve any economical benefit apart of the than the carbon credits. DNV confirmed that there would be no avoided cost linked to the implementation of the project activity as substantiated by the financials of the project /27/ and the approved forest management plan /3/. As confirmed by DNV's team local expertise, logging in Pikounda-North concession would be feasible based on three aspects:

1. Quality and dimension of trees present: North-Pikounda is a primary tropical forest which has not been ever logged. Hence, by definition the dimensions and quality of trees present in the concession will be higher compared to already logged forests which would see a general decrease in dimensions /57/;
2. Stocking density and spatial concentration of volumes: Furthermore, DNV confirmed that the % of commercial species, its distribution and the stocking volumes do not differ from other concessions held by CIB /3//28/. In fact, DNV confirms that the North Pikounda concession has a high standing volume of objective species (i.e. 20 m^3/ha) which is in the upper bound of the standing volume density observed in the north of Congo (i.e. 6-27 m^3/ha), mainly linked to the high volumes of Sapelli in the area. It is worth noting that demand on these objective species such as Sipo or Sapelli is constant and even if only these species are considered (i.e. represent 40% of the total volume), logging would be profitable. Furthermore, DNV confirmed through the FMPs of the different concessions that the North Pikounda UFE has a larger basal area and tree density of

trees above 80 cm in comparison to other concessions, which would confirm its interest from a timber extraction point of view as the quality of trees would be higher and the cost of extraction per unit of volume would be expected to be lower due to the size of the trees and the density per unit of area.

CIB's Concessions		**Diameter class**		
		20 – 40 cm	**40 – 80 cm**	**> 80 cm**
POKOLA	Density (tree/ha)	72.7	37.0	6.3
	Basal area (m^2/ha)	4.8	8.9	5.2
KABO	Density (tree/ha)	81.2	39.4	8.1
	Basal area (m^2/ha)	5.4	9.5	6.8
LOUNDOUNGOU * * intact forests	Density (tree/ha)	70.3	42.3	8.5
	Basal area (m^2/ha)	4.8	10.3	7.3
PIKOUNDA* * intact forests	Density (tree/ha)	58.5	36.9	10.4
	Basal area (m^2/ha)	3.9	9.3	9.3

3. Proximity to processing plant (i.e. saw mill): The North-Pikounda concession is located less than 70 km from the sawmill where the timber would be processed (i.e. current areas harvested in Kabo are located 120 km away) and the access to the production area of the concession is not limited by physiographic condition or any area of wetland /5//12/, and its exploitation would not cause any additional investment as the access road to the concession is already built, any additional roads within the concession would occur as normal operations of a concession and would be part of the harvesting costs, timber would be transported to the saw mill and all the personnel would come from Pokola which is where the saw mill is located.

Hence, it would be confirmed that North-Pikounda UFE would be equally or more interesting to be logged from a cost-benefit perspective than other concessions as: a) as a primary forest it has interesting volumes in terms of quality an dimension; b) the cost of harvesting per unit of volume would be lower due to the larger standing commercial volume and the North Pikounda concession has a very high volume of commercial species which would make economical feasible the harvesting c) it has logistical advantages due to its position from the saw mill. Hence, the project proponent would not have any avoided cost from not harvesting in Pikounda-North, and in fact it seems that not harvesting it means an economical loss.

In fact, DNV deems that it is expected that harvesting in North-Pikounda would be even more profitable considering its richness of promotion species which will become more harvested as: a) CIB has implemented a project for the production of pieces for mountable houses for the local market using exclusively promotion species /74/; b) commercial operations with promotion species are expected to increase due to the co-generation project to be implemented in the saw mill which will enable to increase the competitiveness of CIB and will increase the attractiveness of many species which were not economically feasible /74/.

DNV further confirmed that the current and potential production are still below the production capacity of the sawmill which would confirm that this would not represent a constraint to processing additional timber volumes coming from North-Pikounda concession /24//25/.

Hence, it can be confirmed that the project scenario (i.e. do-nothing alternative) without carbon incentives would be less profitable than the baseline scenario (i.e. RIL FSC logging), i.e. the former alternative does not have any additional revenue apart of the carbon incentives, and the latter would have revenues from the timber commercialisation with an expected profit.

3.2.5.4 Common practice analysis

Since the project is the first-of-its-kind it would be confirmed that the project is not a common practice in Republic of Congo.

From above discussion, it is concluded that the proposed project activity faces an institutional barrier and a prevailing-practice-barrier and is not common practice and thus is additional.

3.2.6 Quantification of GHG Emission Reductions and Removals

The algorithms and formulae used to determine emission reductions are provided in this section. Values of each parameter applied for ex-ante estimations are described in §3.2.8.1.Data and parameters available at validation and §3.2.8.13.2.8.2.Data and parameters monitored.

3.2.6.1 Quantification of baseline emissions

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:

$$C'_{degradation,t} = (C_{DW_{decay},t} + C_{ltHWP_{oxidation},t} + C_{growth\_forgone,t} - C_{regrowth,t}) \times \frac{44}{12}$$

$C_{DWdecay,t}$ - Annual carbon leaving the deadwood pool due to the decay of deadwood in year t.

Following the provisions of VM0011 Version 1.0, the annual carbon leaving the deadwood pool due to the decay of deadwood in year t would be calculated as follows:

$$C_{DW_{decay},t} = \sum_{t=1}^{t^*}\left((1 - e^{-k_{decay}*t}) \times C_{DWin,t}\right) - \sum_{t=1}^{t-1^*}\left((1 - e^{-k_{decay}*t}) \times C_{DWin,t}\right)$$

$$C_{DWin,t} = f_{total\_damages} \times V_{merch,t}$$

Where:

- k_{decay} - Rate of decay of the deadwood pool.
- $f_{damages}$ - Factor combining Branch-Trim factor and Residual Stand Damage factor.
- $V_{merch,t}$ - Merchantable volume harvested in year t.

-$C_{ltHWPoxidation,t}$ - Annual carbon due to the combined delayed oxidation of long-term harvested wood products and immediate oxidation of long-term harvested wood products residues in year t

Following the provisions of VM0011 Version 1.0, the Annual carbon due to the combined delayed oxidation of long-term harvested wood products and immediate oxidation of long-term harvested wood products residues would be calculated as follows:

$$C_{ltHWP_{oxidation},t} = C_{ltHWP_{residues},t} + C_{ltHWP_{net\_out},t}$$

Where:

- $C_{ltHWPresidues\ ,t}$ - Annual carbon due to the immediate oxidation of long-term harvested wood products residues in year t. This is calculated as follows:

$$C_{ltHWP_{residues},t} = \bar{C}_{merch,t=0} \times (1 - f_{lumber\_recovery}) \times A_{NHA\_annual,t}$$

$$\bar{C}_{merch,t=0} = \frac{\sum_{j=1}^{J}(D \times CF_{wood} \times \bar{V}_{merch,j,t=0} \times A_{project,j,t=0})}{A_{project,t=0}}$$

Where:

- $\bar{C}_{merch,t=0}$ – average carbon in merchantable timber. This has been estimated out from the Merchantable volume harvested in year t ($\bar{V}_{merch,j,t=0}$)
- $f_{lumber\_recovery}$ – rate of lumber recovery Proportion of merchantable log converted to HWP.
- $A_{NHA\_annual,t}$ – Annual harvested area.
- D - Wood specific gravity
- CF_{wood} - Carbon Fraction in the Merchantable
- $A_{project,t=0}$ - Project Area

- $C_{ltHWPnet\_out\ ,t}$ - Annual net carbon due to the delayed oxidation of the long-term harvested wood products, leaving the long-term harvested wood products pool in year t. This is calculated as follows:

$$C_{ltHWP_{net\_out},t} = \sum_{t=1}^{t^*}\left((1 - e^{-k_{ltHWP\_ox}*t}) \times C_{ltHWPin,t}\right) - \sum_{t=1}^{t-1^*}\left((1 - e^{-k_{ltHWP\_ox}*t}) \times C_{ltHWPin,t}\right)$$

$$C_{ltHWPin,t} = \bar{C}_{merch,t=0} \times f_{lumber\_recovery} \times A_{NHA\_annual,t}$$

$$\bar{C}_{merch,t=0} = \frac{\sum_{j=1}^{J}(D \times CF_{wood} \times \bar{V}_{merch,j,t=0} \times A_{project,j,t=0})}{A_{project,t=0}}$$

$$C_{merch,t} = \bar{C}_{merch,t=0} \times A_{NHA\_annual,t}$$

Where:

- k_{ltHWP_ox} - Rate of oxidation for ltHWP
- $\bar{C}_{merch,t=0}$ – average carbon in merchantable timber. This has been estimated out from the Merchantable volume harvested in year t ($\bar{V}_{merch,j,t=0}$)
- $f_{lumber\_recovery}$ – rate of lumber recovery Proportion of merchantable log converted to HWP.

- $A_{NHA\_annual,t}$ – Annual harvested area.
- D - Wood specific gravity
- CF_{wood} - Carbon Fraction in the Merchantable
- $A_{project,t=0}$ - Project Area

-$C_{growth\ foregone,t}$ - Annual carbon lost due to growth foregone in the aboveground biomass in the Project Area in year t

Following the provisions of VM0011 Version 1.0, the Annual carbon lost due to growth foregone in the aboveground biomass in the Project Area would be calculated as follows:

$$C_{growth\_foregone,t} = CF_{AGB} \times \bar{G}_{growth\_foregone,t} \times \sum_{t=1}^{t^*} A_{NHA\_annual,t}$$

$$\bar{G}_{growth\_foregone,t} = \frac{B_{AGB\_merch,m2} - B_{AGB\_merch,m2}}{\Delta m}$$

Where:

- CF_{AGB} - Carbon Fraction in the AGB
- $B_{AGB\_merch,m}$ – biomass in merchantable timber in time m will be estimated ex-post through the monitoring of $DBH_{n,i,s,t}$ - Diameter at Breast Height (1.30 m). For ex-ante it has been estimated based on the measurements of the first verification and through the application of $f_B(DBH_{n,i,s,\ j,t=0}, H_{n,s,i,\ j,t=0}, D_i)$.
- $A_{NHA\_annual,t}$ – Annual harvested area.

--$C_{regrowth,t}$ - Annual carbon increase in the biomass due to regrowth following logging in year t:

Following the provisions of VM0011 Version 1.0 and the methodology deviations, the Annual carbon increase in the biomass due to regrowth following logging would be calculated as follows:

$$C_{regrowth,t} = \bar{G}_{regrowth,t} \times \sum_{t=1}^{t^*} A_{NHA\_annual,t}$$

DNV review the calculations provided /4/ and confirmed that the emissions from degradation were correctly calculated.

Baseline emissions due to logging operations

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

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

Where:

-$E_{harvest\_onsiteprep,t}$ - Annual emissions due to harvesting and on-site operations in year t

Following the provisions of VM0011 Version 1.0, the Annual carbon increase in the biomass due to regrowth following logging would be calculated as follows:

$$E_{harvest\_onsiteprep,t} = FC_{harvest\_onsiteprep,t} \times EF_{fuel} \times V_{merch,t}$$

Where:

- $FC_{harvest+onsiteprep}$ - Fuel consumptions of equipment used for harvesting and trimming per m^3 of merchantable log produced.
- EF_{fuel} - Fuel emission factor
- $V_{merch,t}$ - Merchantable volume harvested in year t.

-$E_{hauling,t}$ - Annual emissions due to log hauling in year

Following the provisions of VM0011 Version 1.0, the Annual emissions due to log hauling would be calculated as follows:

$$E_{hauling,t} = FC_{hauling,t} \times EF_{fuel} \times V_{merch,t}$$

Where:

- $FC_{hauling}$ - Fuel consumptions of equipment used for hauling per m^3 of merchantable log produced.
- EF_{fuel} - Fuel emission factor
- $V_{merch,t}$ - Merchantable volume harvested in year t.

-$E_{transport,t}$ - Annual emissions due to log transport from collection depot to processing plant in year t

Following the provisions of VM0011 Version 1.0, the Annual emissions due to log hauling would be calculated as follows:

$$E_{transport,t} = FC_{transport,t} \times EF_{fuel} \times KM_{transport\_total,t}$$

$$KM_{transport\_total,t} = KM_{transport,t} \times N_{trucks\_transport,t} \times 2$$

$$N_{trucks\_transport,t} = \frac{V_{merch,t}}{Cap_{truck}}$$

Where:

- $FC_{transport}$ - Truck fuel consumption.
- EF_{fuel} - Fuel emission factor
- $KM_{transport,t}$ - Annual log transport distance from collection depot to processing plant.
- $V_{merch,t}$ - Merchantable volume harvested in year t.
- Cap_{truck} - Truck load capacity.

-$E_{processing,t}$ - Annual emissions due to electricity consumption in sawmill in year t,

Following the provisions of VM0011 Version 1.0, the Annual emissions due to electricity consumption in sawmill would be calculated as follows:

$$E_{processing,t} = FC_{generators} \times EF_{fuel} \times V_{sawn\_timber,t}$$

$$V_{sawn_{timber},t} = V_{merch,t} \times f_{export/sawn}$$

Where:

- $FC_{generators}$ - Generators fuel consumption per m^3 of timber entering the sawmill.
- EF_{fuel} - Fuel emission factor
- $KM_{transport,t}$ - Annual log transport distance from collection depot to processing plant.
- $V_{sawn\_timber,t}$ - Volume of merchantable logs reserved for the sawmill in year t.
- $V_{merch,t}$ - Merchantable volume harvested in year t.
- $f_{export/sawn}$ - Ratio of total merchantable volume reserved for the sawmill.

$E_{distribution,t}$ - Annual emissions due to transport of the sawn product from the mill to the wharf for export or to the depot for local usage in year t

Following the provisions of VM0011 Version 1.0, the Annual emissions due to transport of the sawn product from the mill to the wharf for export or to the depot for local usage would be calculated as follows:

$$E_{distribution,t} = \left(E_{distribution_{road},t} + E_{distribution_{river},t} + E_{distribution_{rail},t}\right)_{Congo} + \left(E_{distribution_{road},t} + E_{distribution_{rail},t}\right)_{Cameroon}$$

$$E_{distribution,vehicle,destination,t} = FC_{distribution,vehicle,destination,t} \times EF_{fuel} \times KM_{distribution\_total,vehicel,destination,t}$$

$$KM_{distribution\_total,vehicle,destination,t,t} = KM_{distrib,destination,t} \times N_{vehicle\_transport,t} \times 2$$

$$N_{trucks\_transport,t} = \frac{V_{merch,vehicle,t}}{Cap_{vehicle}}$$

Where:

- $FC_{generators}$ - Generators fuel consumption per m^3 of timber entering the sawmill.
- EF_{fuel} - Fuel emission factor
- EF_{rail} - Rail freight emission factor
- $KM_{distrib,destination,t}$ - Distance between Pokola and export point.
- $V_{merch,vehicle,destination,t}$ - Volume of merchantable logs/sawn timber transported to destination d, by vehicle v, in year t.
- $Cap_{vehicle}$ - Truck load capacity.

DNV review the calculations provided /4/ and confirmed that the emissions from logging operations were correctly calculated.

3.2.6.2 Quantification of project emissions

Following the provisions of VM0011 Version 1.0 /29/, the project emissions would be estimated through the following equation:

$$C'_{actual,t} = E_{projplan,t} + E_{design,t} + E_{monitoring,t} + \left[\left(C_{natdisturb,t} + C_{illegal\_harvest,t}\right) \times \frac{44}{12}\right]$$

DNV confirmed that emissions due to the project planning and design are negligible /10/ as they represent less that 5% of the emission reductions. Regarding the emissions for the project monitoring these are negligible as they will consist in the transport of 120 km annually to the project area (i.e. the project proponent will drive to the project area only once a year for the monitoring; this is because the risk of illegal logging is very low as there is no population in the concession and the only access road has two check points which prohibit the access to unauthorised vehicles).

Hence, the 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, so no ex-ante estimate is available.

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

Project emissions will be estimated ex-post, and ex-ante they have been estimated as zero as it is not possible to forecast what will be the level of emissions.

3.2.6.3 Quantification of leakage

According to the applicable methodology VM0011 Version 1.0 /29/ 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:

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

-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:

$$C_{activityshifting,t} = C_{IH\_activityshifting,t} + C_{SH\_actuvutyshifting,t}$$

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)
- $C_{SH\_actuvutyshifting,t}$: Annual total carbon losses from activity shifting due to shifting of harvest volume in year t (tC)

The ex-ante calculations are based on the values obtained in the first verification. DNV checked the leakage calculations /7/ against available evidence /24/ and confirmed that the information of the 5 previous years which serves as historical reference to determine whether intensification has occurred is accurate. DNV confirmed that based on this no leakage from intensification of operations has occurred. Leakage emissions will be estimated ex-post.

DNV deems that the estimation of this leakage would be conservative as this intensification would not occur for some of the objective species which have a very stable demand and where almost 100% of the standing volume is harvested. For these species, harvesting is limited by availability of timber and not by the demand, so there would be no displacement of logging operations as the operator cannot harvest more timber than it is available.

-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

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

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

The ex-ante calculations are based on the values obtained in the first verification. DNV checked the leakage calculations /7/ against available evidence /24/ and confirmed that no market leakage has occurred. Leakage emissions will be estimated ex-post.

3.2.6.4 Uncertainty deduction

No uncertainty discount has been considered for ex-ante purposes. DNV checked the uncertainty only for the estimates of the first monitoring period and confirmed that this was calculated correctly following the provisions of the methodology, being this equal to 6% /4/. Hence, no uncertainty discount would be applicable as the overall uncertainty is <10%.

3.2.6.5 Buffer credits - Non-permanence risk assessment

Following the provisions of paragraph 3.19.2 of the VCS Standard Version 3.3 /31/, the project proponent has conducted a non-permanence risk assessment following the provisions of the AFOLU Non-Permanence Risk tool: VCS Version 3.2 /32/. According to this assessment 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 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 = 1 347 546 x 21% = 282 985 tCO_2e in the 10 year period.

3.2.6.6 Summary of GHG emission reductions or removals

DNV has confirmed that the calculations are in accordance to the methodology VM0011 Version 1.0 /29/, and that the GHG removals calculations are correct.

Based on the calculations and results presented in the sections above the implementation of the project activity will result in an average *ex-ante* estimation of net GHG emission reductions (i.e. GHG benefits) of 1 409 572 tCO_2e in total for the 10 year period (before baseline update). Considering the risk rating of the proposed project activity (i.e. 21%), the total buffer credits would be equal to 282 985 tCO2e. This would give a total of 1 126 587 VCUs issued in the 10 year period until baseline renewal.

Baseline Emissions	1 409 572
Project Emissions	0
Leakage emissions	0
Net GHG benefits	1 409 572 tCO_2e
Uncertainty deduction: 0%	0
GHG credits issued	1 409 572 tCO_2e
Buffer credits -Non-permanence risk rating: 21%	282 985 tCO2e
VCUs in first 10 years of crediting period	**1 126 587 tCO_2e**

All assumptions and data used by the project proponents are listed in the VCS PD /1/ and/or supporting documents, including their references and sources. All documentation used by the project proponents as the basis for assumptions and source of data is correctly quoted and interpreted in the VCS PD /1/. All values used in the VCS PD are considered reasonable in the context of the proposed project activity. The baseline methodology has been applied correctly to calculate project emissions and removals, baseline removals, leakage emissions and GHG benefits. All estimates of the baseline removals, project removals and leakage emissions can be replicated using the data and parameter values provided in the VCS PD /1/.

3.2.6.7 Uncertainties associated with the calculation of emissions

All uncertainties in the ex-ante calculations /4//8/have been considered following the requirements of VM0011 Version 1.0 /29/. DNV confirmed that the uncertainties of all factors involved have been correctly calculated or that conservative values have been used (lower or upper bound of the confidence interval), and that the propagation of errors has been done following IPCC LULUCF GPG /63/.

For ex-post purposes, the uncertainties are related to data that is collected ex-post, such as the volume of illegal logging, area affected by natural disturbances, or the market or activity displacement leakage.

3.2.7 *Methodology Deviations*

DNV has identified the following methodology deviations as part of the project validation which are acceptable deviations as they increase the accuracy of the GHG accounting in many cases or at least they do not impact the conservativeness of the net emission reductions estimations:

Nº	Methodology	Deviation and assessment
1	§3.1. Estimation of Emissions from Degradation: According to the applicable methodology "Ex ante estimations of $C'_{degradation,t}$ will be made using data from Forest Inventory Report (FIR) or an equivalent document, or measured data using the sequence of equations in Section 3.2."	The applicable methodology establishes that the volumes of timber harvested in the baseline scenario has to be sourced from a Forest Inventory Report (FIR) or an equivalent document (if the data is validated as per procedures in Section 3.2) or through measured data if the FIR or equivalent document does not provide precise estimations. The project proponent has deviated from this requirement, by not exactly applying the volumes provided in the Forest Management Plan /3/. The reason of this is that the Forest Management Plan includes an uncertainty derived from the Harvesting factors and commercial factors applied (i.e. timber might be of higher quality than expected), and that it does not consider the international demand into account. As DNV was able to confirm through the Forest Management Plan for the Loundoungou Concession (2010-2044) /28/ and the real harvesting figures for the period 2010-2012 /25/, actual harvesting of promotion species tends to be well below the potential provided in the FMP due to the lack of demand for those species in the market along with other logistical problems (i.e. impossibility of stocking sawn volumes). Furthermore, harvested volumes of objective species can be higher than those specified in the FMP. Since the consideration of the volumes of the FMP /3/ would lead to imprecise estimates of harvested volumes, and it would lead to an overestimation of baseline emissions, the project proponent has applied a correction factor to the volumes provided in the FMP. This correction factor would be the harvesting intensity ratio (HI_x) which is estimated for each species based on the ratio between the merchantable volumes actually harvested in the past in all CIBs concessions (i.e. $\overline{V_{merch,x}}$), by the merchantable volumes forecasted in the FMP for all

Nº	Methodology	Deviation and assessment
		CIBs concessions (i.e.$\overline{V_{merchFMP,x}}$). In order to adapt some of these ratios to the specific situation of North-Pikounda (i.e. quality of species, logistical aspects), these ratios are affected by a correction factor (i.e. *corr*) which is based on subjective estimations based on the volumes harvested in a similar concession which is not under control of CIB (i.e. IFO concession). This Harvesting Intensity Ratio is expressed as follows: $$HI_x = \frac{\overline{V_{merch,x}}}{V_{merchFMP,x}} + corr$$ DNV deems that this would be an acceptable deviation as the same methodology specifies in section 2.1.2 that "in order to establish this baseline, the Project Proponent must provide the following information: (i) documented history of the operator (e.g., operator shall have five to 10 years of management records to show normal historical practices) (ii) legal requirements for forest management and land use in the area; and (iii) proof that operators environmental practices equal or exceed those commonly considered a minimum standard among similar landowners in the area". Furthermore, it states "The established baseline must represent what would have most likely occurred in the absence of the IFM-LtPF project". Although the methodology does not specifically provide a procedure on how to handle this situation, DNV understands that section 2.1.2 requires that the baseline must be precise and that for this the documented history of the operator has to be taken into consideration. Furthermore, DNV deems that this deviation would be in compliance of the VCS requirements as this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent or more conservative options or improvement in the accuracy of the estimates.
2	§3.2.1.1 Validation of existing forest inventory data: According to the applicable	Hence, the methodology includes this requirement as an older data would not be precise enough, and

Nº	Methodology	Deviation and assessment
	methodology, "The Existing Inventory Data pathway applies where an existing legally approved FIR or an equivalent document, presents inventory data not more than five years old" Then the methodology provides the rationale for this requirement "According to Pearson et al. (2005), carbon in the aboveground biomass (AGB) is likely to change at a much faster rate than the carbon stock in the soil. It is thus appropriate that monitoring of the AGB in the forest be carried out at five yearly intervals"	could affect: a) the estimation of baseline emissions b) the estimation of the growth forgone. The approved FMP applies data from a forest inventory conducted in 2003-2006 which is older than 5 years. However, in the context of the proposed project activity the use of the data provided in the FMP would not affect the above: a) Estimation of baseline emissions: Since the proposed project activity takes place in an intact forest where no logging or natural disturbances have occurred, the application of the data of the "old" FMP is conservative as the carbon stocks at that time were lower than at the start of the project activity. This is confirmed by comparing the biomass estimate obtained in commercial species from the FMP with the biomass estimate in commercial species obtained through the forest inventory conducted in PSPs end of 2012 /6/. The former shows a significantly lower value than the latter. Hence the use of the former value is conservative as it will provide less emissions. b) The estimation of the growth forgone: The use of the data of the "old" FMP for estimating the growth forgone in the first monitoring period could cause an overestimation of the growth forgone as the initial carbon stocks at the beginning of the project would be lower than at the start date of the project activity. However, as specified in the Monitoring Report of the first monitoring period, the growth forgone for the first monitoring period will be obtained through the use of annual diameter increments from the literature substracted to measurements obtained in the forest inventory conducted at the end of the first monitoring period (i.e. December 2012). In fact, DNV deems that this approach would lead to more precise estimates than conducting the calculations with an inventory which is 4-5 years old. Hence, DNV deems that this deviation would be in compliance of the VCS requirements as this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent or more conservative options or improvement in the

Nº	Methodology	Deviation and assessment
		accuracy of the estimates.
3	§3.3.1 Net Carbon from the Dead Wood Pool	CIB has site specific data sourced from Brown et al. and Pearson et al. (2005) /45//46/ for both Residual Stand Damage factor (f_{RSD}) and the branches and trimming factor (f_{Branch_Trim}), but that the results are aggregated without possibility of differentiation between f_{RSD} and f_{Branch_Trim}. Therefore these two factors will be merged in one called $f_{damages}$ and the following equation will replace equations 3.18, 3.19 and 3.20: $C_{DWin,t} = f_{damages} \times V_{merch,t}$ Where: - $f_{damages} = f_{FSD} + f_{branch\_trim}$ where $f_{damages}$ is expressed in tC / m^3 harvested. Hence, DNV deems that this deviation would be in compliance of the VCS requirements as this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent and improvement in the accuracy of the estimates since local data is being used.
4	§3.3.5 Carbon in the Regrowth after Selective Logging:	Since no data was available for estimating the regrowth /75/, the project proponent has proposed an alternative approach to calculate the factor $G_{regrowth,t}$, through a growth model based on the results of the monitoring of PSPs. This will be estimated as the difference of growth between two monitoring events for all timber species in the PSPs which had 5-20 cm of diameter at the commencement of the project plus the new trees that will appear throughout the crediting period. This has been considered to correspond to the carbon stored in the regrowth that would have occurred in the gaps following logging under the baseline scenario. Although this model assumes that the boosted growth is zero, available literature /57/ confirms that this assumption is reasonable as the boosted growth of existing trees is cancelled by the increased mortality caused by the logging operations. Furthermore, the boosted regeneration would be impeded by the existence of a very dense

Nº	Methodology	Deviation and assessment
		understorey of *Maranthaceae* which limits the settlement of new regeneration. Furthermore, DNV deems that it is conservative as the trees which are currently 5-20 cm of diameter will be monitored along with new regeneration throughout the crediting period; as confirmed by J.F. Gillet (Responsible project DYNAFFOR) /75/ who is researching on regeneration in the area, the area of Pikounda has problems with regeneration due to the presence of a very dense understorey of *Maranthaceae* which limits the settlement of new regeneration. This model allows to estimate the growth between two monitoring events for every tree (taking into account each specific WSG), $G_{regrowth,t}$ is therefore expressed in $tC.ha^{-1}.yr^{-1}$ instead of $(t\ d.m.).ha^{-1}.yr^{-1}$. Equation 3-38 is therefore replaced by the following equation: $$C_{regrowth,t} = \bar{G}_{regrowth,t} \times \sum_{t=1}^{t^*} A_{NHA\_annual,t}$$ This modeling will give after a number of periodical measurements a model of regeneration per year which will be applied to the different cutting units that would have been harvested in the baseline. Hence, DNV deems that this deviation would be in compliance of the VCS requirements as this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent and improvement in the accuracy of the estimates as it serves to represent the specific local conditions.
5	§3.3.5 Carbon in the Regrowth after Selective Logging. The methodology applies a conservative approach "by considering that the entire annual harvest area would permit regrowth each year",	In the case of the project activity, a specific study is available for logging operations of CIB which indicates that logging operations affect only 12.4% of the harvesting area /13/. This is higher than the estimate of Brown which indicates that this value is below 5% /45//46/ and is also higher than the area affected estimated by Durrieu de Madron *et al*. (2000) /71/ for a similar area. In view of this, the application of the methodology would not be accurate, so the project deviates in order to consider the real affected area estimated. Thus only 12.4% of the annual harvesting area will allow regrowth. This percentage will be applied to the

Nº	Methodology	Deviation and assessment
		parameter $A_{NHA\_annual,t}$ in the regrowth calculation. Hence, DNV deems that this deviation would be in compliance of the VCS requirements as this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent and improvement in the accuracy of the estimates since local data is being used.
6	§3.4.1 - 3.4.2 Emissions Due to Harvesting and On-Site Preparation Operations: According to the applicable methodology fuel used for the harvesting operations (i.e., logging, on-site preparation, hauling, etc.) is accounted into two categories: "mixed petrol" (petrol + oil) used for chainsaw and "Gas Oil" used for heavy machinery (skidders, bulldozers, loading machine, etc).	As DNV was able to confirm, in the proposed project activity it is not possible to differentiate between the mixed petrol used for a chainsaw that has been used to cut a tree or to prepare it /73//74/, hence these will be combined into one category combining fossil fuels used in harvesting and on-site preparation. Equations 3.40 (p.61) will therefore be replaced by the following equation: $E_{harvest+onsiteprep,t} = FC_{harvest+onsiteprep} \times EF_{fuel} \times V_{merch,t}$ Where: - $FC_{harvest+onsiteprep}$ is the fuel consumption of chainsaws employed for felling, snagging and trimming per m^3 of harvested material.
7	§3.4.4 Emissions due to log transport:	In equation 3-46, trucks Fuel Consumption ($FC_{transport,t}$, in $l.km^{-1}$) has been used instead of trucks fuel efficiency ($Eff_{vehicle}$, in $km.kl^{-1}$). DNV confirmed that this would not impact the results as it is just using the same terms in a different way.
8	§3.4.5 Emissions Due to Timber Processing:	As DNV was able to confirm during the site visit /74/, electricity used in the saw mill is generated by 6 generators that have different power rating (4x1250 KVA, 1x1275 KVA, 1x1375 KVA) and different load capacity. Since the consumption of each generator fuel consumption is monitored too, the emissions from saw mill fuel consumption have been estimated through the monitoring of fuel consumption. DNV confirmed during the site visit that the project proponent monitors the fuel consumption of those generators, and that those generators only serve the sawmilling process. The following equations are replacing equations used to estimate $E_{processing}$ in chap. 3.4.5 of VM0011:

Nº	Methodology	Deviation and assessment
		$E_{processing,t} = FC_{generators} \times EF_{fuel} \times V_{sawn\_timber,t}$ Hence, DNV deems that this deviation would be in compliance of the VCS requirements as this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent and improvement in the accuracy of the estimates since the quantification methods are adapted for the sake of accuracy.
9	§3.4.6 Emissions due to log distribution:	VM0011 only considers distribution of logs/sawn timber by road while, in the baseline scenario. However, in the case of the proposed project activity some timber products are transported by river/train, hence, additional Fuel Consumption and Fuel Emissions factors have been considered in the calculation of $E_{distribution,t}$. As a result, two new emission factors have been included for vessel and train transport, respectively $EF_{distriboat}$ and $EF_{distrirail}$. In the case of distribution by road, it has been used the Fuel Consumption instead of the Fuel efficiency for the calculations. Furthermore, two specific truck capacity have also been calculated, one for truck travelling to Cameroon ($CAP_{cameroon}$) where there is a legal limit for truck capacity and one for trucks travelling to Congo (CAP_{congo}). DNV confirmed during the site visit and through other information that this is correct, these logistic lines exist. Hence, DNV deems that this deviation would be in compliance of the VCS requirements as this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent and improvement in the accuracy of the estimates since the quantification methods are adapted for the sake of accuracy.

DNV concludes that this deviation does not negatively impact the conservativeness of the quantification of GHG emission reductions or removals as they represent or more conservative options or improvement in the accuracy of the estimates.

3.2.8 *Monitoring Plan*

The project monitoring plan is in compliance with the monitoring methodology VM0011 (Version 1.0) /29/. The monitoring plan will give opportunity for real measurements of achieved net anthropogenic removals by sources. All data recorded and collected will be archived electronically till two years after the crediting period is over.It is DNV's opinion, that the project proponents are able to implement the monitoring plan.

3.2.8.1 Data and parameters available at validation

The following parameters are determined *ex-ante* and verified by DNV:

- $A_{project,t=0}$ - Project Area. The total size of the project area is 93 970 ha, according to ministerial decree, yet in fact the GIS corrected area is 92 530 hectares /5/. Logging operations would occur only in 55 950 ha which is out of the project area.
- $A_{NHA\_annual,t}$ – Annual harvested area. The annual harvested area would be $1/5^{th}$ of the area of each UFP as indicated in the FMP /3/, i.e. 2 384 ha/year in 2012-2017, 2 584 ha/year in 2017-2021, 3 566 ha/year in 2022-2026, and 2 658 ha/year in 2027-2031.
- CF_{AGB} - Carbon Fraction in the AGB and CF_{wood} - Carbon Fraction in the Merchantable. The project proponent has applied respectively a value of 0.47 and 0.49 as per the 2006 IPCC GPG /63/.
- D - Wood specific gravity and D_i – wood specific gravity per species. The values of basic density used are sourced from Zanne et al. (2009) /60/ and are specific for species in Tropical Africa. A value of 0.58 is given to species that are not in this database which is reasonable for tropical Africa.
- $f_B(DBH_{n,i,s,\ j,t\ =0}, H_{n,s,i,\ j,t\ =0}, D_i)$ - Biomass allometric equation as a function of diameter at breast height and height; t=0. The project proponent has chosen as allometric equations :
    - DBH in the range 5-156 cm: 2005 Chave Allometric model for tropical moist areas with three entry parameters that are the tree DBH, tree Height and density /50/. DNV confirmed that this model would be more precise than other models available /53//54//59/ as it includes height and basic density as entry parameter and in general it provides lower estimates in comparison with other available models. Since obtaining heights of all trees is extremely costly the project proponent has adjusted a hypsometry model based on Feldpausch (2012) /51/ with local data in order to estimate the heights of each tree. This equation was adjusted with a R^2 of 0.98.
    - DBH>156 cm: For trees that have a diameter above to 156 cm, the project proponent has applied the 2004 pan-tropical Chave model /49/, which gives very conservative results as DNV was able to confirm.
- $DBH_{n,i,s,t=0}$ - Diameter at Breast Height (1.30 m). DNV conducted a spot-check of 2 sampling plots and required to the project proponent to re-measure these sampling plots. DNV did not identify any tree with an error of more than 3 mm and that there was no transfer error. Hence, the information is accurate.
- $V_{merch,t}$ - Merchantable volume harvested in year t. DNV checked the information provided in the VCS PD /1/ and the GHG accounting spreadsheet /4/ against the information provided by the FMP/3/, and confirmed that the values of merchantable volume harvested per year is consistent for all species. In order to establish the expected actual harvested volumes, the project proponent has multiplied the volumes reported in the FMP by the harvesting intensity ratios described below.

- HI_x - Harvesting Intensity ratio for species x: annual percentage of V_{merch} estimated in the FMP that will be really harvested. DNV confirmed that these values were estimated through the equation proposed in the methodology deviation 1 and confirmed that this was estimated through data on historical harvest per concession in the reference period 2007-2012 /24//25/ and the values provided in the FMP plans of other concessions /28/. DNV checked the correction factors proposed and confirmed that they were correct.
- k_{decay} - Rate of decay of the deadwood pool. The rate of decay of the deadwood pool applied by the project proponent is sourced from Chambers et al. (1999) /48/ based on measurements taken in the Amazonia. According to this study the decay rate would be 0.19 yr^{-1}. The project proponent has applied the lower bound of the confidence level, i.e. 0.186 yr^{-1}. DNV deems that this value is applicable to the project conditions as it is based on a region which has similar temperature conditions as the project area, and this is one of the main factors that explain decay rates /48/.
- $f_{damages}$ - Factor combining Branch-Trim factor and Residual Stand Damage factor. The project proponent has applied a damage factor of 0.6989 $tC.m^{-3}$, sourced from Brown et al. and Pearson et al. (2005) /45//46/.
- $f_{lumber\_recovery}$ – rate of lumber recovery Proportion of merchantable log converted to HWP. The rate of lumber recovery is sourced from historical numbers form CIB in their sawmill of Pokola /24//25/.
- k_{ltHWP_ox} - Rate of oxidation for ltHWP. The rate of oxidation for ltHWP is equal to 0.023, sourced from the applicable methodology /29/.
- $FC_{harvest+onsiteprep}$ - Fuel consumptions of equipment used for harvesting and trimming per m^3 of merchantable log produced. This is equal to 0.0899 l m^{-3} and it has been based on historical data from CIB concessions /24//25/.
- $FC_{hauling}$ - Fuel consumptions of equipment used for hauling per m^3 of merchantable log produced. This is equal to 4.7097 l m^{-3} and it has been based on historical data from CIB concessions /24//25/.
- $FC_{transport}$ - Truck fuel consumption. This is equal to 0.6014 l km^{-1} and it has been based on historical data from CIB's operations /24//25/.
- Cap_{truck} - Truck load capacity. This is equal to 56.32 m^{-3} and it has been based on historical data from CIB's operations /24//25/.
- $KM_{transport,t}$ - Annual log transport distance from collection depot to processing plant. This is based on transport distances within the Pikounda UFE provided by the FMP and the actual distance by road from Pokola's sawmill to the Pikounda UFE. The distances have been estimated using a GIS /5/, and DNV confirmed that they were correct
- $FC_{generators}$ - Generators fuel consumption per m^3 of timber entering the sawmill. This is equal to 11.87 l m^{-3} and it has been based on historical data from the saw mill of Pokola /24//25/.
- $V_{sawn\_timber,t}$ - Volume of merchantable logs reserved for the sawmill in year t. This is sourced from historical numbers from CIB in their sawmills /24//25/.
- $f_{export/sawn}$ - Ratio of total merchantable volume reserved for the sawmill. This is sourced from historical numbers from CIB in their global operations per species /24//25/.
- $V_{merch,vehicle,destination,t}$ - Volume of merchantable logs/sawn timber transported to destination d, by vehicle v, in year t. This is sourced from historical numbers from CIB in their global operations per species /24//25/.
- $Cap_{vehicle}$ - Truck load capacity. This is sourced from historical numbers from CIB in their global operations per species /24//25/.

- $KM_{distrib,destination,t}$ - Distance between Pokola and export point. This is equal to 0.6014 l km^{-1} and it has been based on historical data from CIB's operations /24//25/.
- EF_{fuel} - Fuel emission factor. The emission factors applied are 2.7782 $kgCO_2e$ l^{-1} and 3.6028 $kgCO_2e$ l^{-1} respectively for petrol and fuel oil and 0.03634 $kgCO_2e/t/km$ for rail transportation. These are sourced from the Department of Energy and Climate Change (DECC) of the United Kingdom /64/, so it would be conservative for the project conditions.
- EF_{rail} - Rail freight emission factor
- $V'_{historical\_harvest,l,k}$ – Volume harvested historically. The historical harvest per concession in the reference period 2007-2011 is of 64 001 m^3/year in Pokola, 61 594 m^3/year in Kabo, 41 154 m^3/year in Toukoulaka, and 74 012 m^3/year in Loundoungou as sourced from the CIB's historical data /24//25/.
- $\overline{V}_{before,\,C,\,M}$ - Average annual volume of timber production before the implementation of an IFM-LtPF project. This is based on historical data provided by the government /24//25/.

DNV confirms that the use of the default data stated above avoids any overestimation of the net anthropogenic GHG removals by sinks.

3.2.8.2 Data and parameters monitored

The following data and parameters will be monitored in accordance with VM0011 (Version 1.0) /29/:

- $DBH_{n,i,s,t}$ - Diameter at Breast Height (1.30 m)
- $B_{AGBmerch,t}$ - Average aboveground biomass of the merchantable trees in the project area in year t.
- $C_{growth\_foregone,t}$ - Annual carbon lost due to the growth foregone in the above ground biomass in the project area in year t.
- $B_{AGB\_regrowth,t}$ - Average aboveground biomass of trees in the regrowth estimated from the growth of trees in the regeneration sub-plot of the PSPs. This parameter is monitored for the estimation of regrowth through modelling as explained in section 3.2.7 Methodology Deviations.
- $G_{regrowth,t}$ - Average regrowth per hectare per year of the AGB after logging in year t.
- $C_{regrowth,t}$ - Average regrowth of the AGB in gaps after selective logging
- $A_{nd,\,j\,,t}$ - Area of natural disturbance nd, in stratum j in year t
- $f_{natdisturb,j,t}$ - Fraction of the forest naturally damaged in stratum j, in year t
- $DBH_{tree\_nd,n,i,snd,j,t}$,- 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
- $A_{illegal\_harvest,j,t}$ - Area of illegal harvest in stratum j, in year *t*
- $V_{illegal\_harvest,t}$ - Volume of wood sold as determined from field surveys in year t
- $V_{actual\_harvest,l,t}$ -, 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
- $V_{marketleakage,\,M}$ - 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

3.2.8.3 Applicability and eligibility of monitoring equipment and procedures

DNV confirmed that there are specific procedures defined indicating clearly the frequency, responsibility and the scope of each action. Furthermore, there are 3 SOPs integrated in the management system of the project proponent which rule the monitoring of the PSPs /18//19//20/. The project proponent has defined the QA/QC procedures to be applied at:

- SOPs for field measurements: Persons involved in the measurements shall be trained and shall adhere to the SOPs.
- Data collection. 10-20% of plots will be re-measured.
- Data entry and analysis. Data will be reviewed.
- Data maintenance and archiving. All data will be archived in durable media and stored in multiple locations.

Detailed information has been properly addressed in the VCS-PD /1/. During the site visit, DNV was able to verify that necessary procedures related to data handling, quality assurance, and training of operating and monitoring personnel have been appropriately implemented.

In conclusion, the application of the monitoring methodology is transparent and DNV considers that the project participants are able to implement the monitoring plan.

3.3 Socio-Economic and Environmental Impacts

The proposed project activity does not require any EIA according to the applicable legislation as it is a "do-nothing" option. This was effectively confirmed during the interview held with the national REDD coordinator /76/ who confirmed this.

A very short summary is provided in the VCS PD /1/, however, this is not required as per the applicable legislation or regulation. DNV was able to confirm that the outcome of the impact assessment has been summarized in the VCS-PD and a description of the planned monitoring and remedial measures to address the negative impacts has been included in the VCS-PD.

DNV is able to confirm that the project documentation does not raise any issues that could result in any negative impacts.

3.4 Comments by stakeholders

No local communities or indigenous communities/persons live within the Pikounda-Nord UFE as confirmed through the FMP /3/ and as confirmed by other stakeholders /73//74//75//76/. The closest village is Molenda which is located more than 20 km away from the project area, and from that village the project area is almost inaccessible due to the presence of wetlands.

However, the project proponent has conducted various stakeholder consultations at a governmental level and also at a local level, involving local authorities and in particular the people of Molenda.

- ✓ October 2011: REDD+ Technical Meeting with RoC / MDDEFE / CIB-Olam - Singapore.
- ✓ November 2011: North Pikounda Awareness Workshop - Ouesso, Dept. Sangah, Republic of Congo
- ✓ October 2012: Molanda Mission - Molanda, Dept. Sangah, Republic of Congo
- ✓ September 2012: REDD+ PILOT Project Steering Committee - Pokola, Republic of Congo

The veracity of this meetings and its content was confirmed against available evidence /26/ and during the meeting held with the national REDD coordinator /76/.

Furthermore, as confirmed by DNV there is in place a continuous stakeholder consultation whereby a steering committee will meet in a yearly basis and the project proponent will continue with continuous stakeholder consultations with the local communities /76//78/.

DNV is able to confirm that the local stakeholder consultation has been carried-out adequately.

4 VALIDATION CONCLUSION

DNV Climate Change Services AS (DNV) has performed a validation of the project activity "North Pikounda REDD+ Project" in Republic of Congo. The validation was performed on the basis of VCSA criteria for the VCS project as well as criteria given to provide for consistent project operations, monitoring and reporting.

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

The project correctly applies the methodology "'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation'", Version 1.0.

The project consists in conversion of an un-logged forest which is legally sanctioned and approved for logging operations to a protected forest. Hence, the project generated GHG emission reductions. As a result, the project results in net anthropogenic GHG removals by sinks which are real, measurable and give long-term benefits to the mitigation of climate change. It is demonstrated that the project is not a likely baseline scenario. Emission reductions attributable to the project are hence additional to any that would occur in the absence of the project activity.

The total VCUs from the project in the first 10 years are expected to be 1 126 587 tCO_2e. The emission reduction forecast has been checked and it is deemed likely that the stated amount is achieved given that the underlying assumptions do not change.

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

In summary, it is DNV's opinion that the project activity "North Pikounda REDD+ Project" in Republic of Congo, as described in the VCS PD, *version* 07 *dated* 19 August 2013, meets all relevant VCSA requirements for the VCS project and correctly applies the CDM methodology "'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation'", Version 1.0. Hence, DNV recommends the registration of the project as a VCS project activity.

Venice and Oslo, 26 August 2013

Andres Espejo
VCS Validator
DNV Italia, Venice

Edwin Aalders
Approver
DNV Climate Change Services AS

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APPENDIX A

VCS VALIDATION PROTOCOL AND VCS RISK ASSESSMENT

Table 1 VCS Requirements checklist

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
1 Project details					
1.1 Summary Description of Project					
1.1.1 Is the summary description of the project clear?	/1/	DR	Yes, the summary description of the project is clear. The proposed project activity consist in avoiding the planned logging of 55 950 ha of the North Pikounda UFE ("Unité Forestière d'Exploitation"). Hence the project will involve the complete cessation of selective logging or any other harvesting activities in the entire North Pikounda UFE for the duration of the project lifespan, that is 30 years.		OK
1.1.2 Does the VCS PD include a clearly identifiable project title, version number of the VCS PD and date of the VCS PD?	/1/	DR	☒ Clearly identifiable title of the project activity ☒ Version number of the VCS PD is included ☒ Date of the VCS PD is included.		OK
1.2 Sectoral Scope and Project Type					
1.2.1 Is the project category clearly described? Is the project category part of a GHG program that has been approved by the VCS Board? Is it clearly stated that it is a Grouped project?	/1/	DR I	Yes, the PD clearly states the Sectoral scope and project type. This is: - Sectoral Scope: AFOLU, 14 - Category type: Improved Forest Management (IFM) - Project activity: Logged to Protected Forest (LtPF) - The project is not a grouped project.		OK

MoV = Means of Verification, DR= Document Review, I= Interview, CC= Cross-Checking

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
1.3 Project Proponent					
1.3.1 The contact information and roles/responsibilities for the project proponent(s) are clearly identified and described?	/1/	DR I	The project proponent is Congolaise Industrielle des Bois (CIB). This was the degradation agent which was going to log the UFE following the provisions of the approved Forest Management Plan (FMP) and has the concession for 30 years for the implementation of the LtPF project. The VCS-PD includes full contact details of the project proponents.		OK
1.4 Other Entities Involved in the Project					
1.4.1 The contact information and roles/responsibilities for any other the project participant(s) are clearly identified and described?	/1/	DR I	Olam International Limited which is the mother company of CIB and provides the necessary finance and back-up to the project. Another entity would be Carbon Conservation Pte Ltd, which is in charge of the technical lead of the project development. The VCS-PD includes full contact details of the project proponents.		OK
1.5 Project start date					
1.5.1 What is the project start date? Is the date correctly defined with support evidence?	/1/	DR I	According to the VCS PD, the project start date is 1 February 2012. **CL1** Evidence and clarification request The VCS PD states that the starting date of the project activity as 1 February 2012. Clarification is sought on the reasonableness of the chosen start date considering that: a) the forest management plan foresaw to commence with	~~CL1~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			harvesting operations since 1 January 2012 and doing so before receiving the approval is not illegal according to the local authorities /76/ and that CIB has done already this in the past in other similar concessions, i.e. commencing operations before receiving the formal approval; b) Before receiving the formal approval, it was already decided to suspend the application of the forest management plan as part of the proposed project, so the date in which the activities that lead to the generation of GHG emissions reductions are implemented would be before 1 February 2012.		
1.5.2 Is the starting date complying with the following conditions? (VCS Standard Version 3.3; §3.7.3-3.7.4) ✓ Non-AFOLU projects shall complete validation within two years of the project start date. ✓ AFOLU projects with a project start date on or after 8 March 2008 shall complete validation within five years of the project start date. ✓ AFOLU projects with a project start date on or after 1 January 2002 and before 8 March 2008 shall complete validation before 8 March 2013.	/1/	DR I	The starting date of the project activity would be in any case after 8 March 2013. In the case of a successful validation it is expected that this will occur within 5 years of the starting date.		OK
1.5.3 Is the starting date the date on which activities that lead to the generation of GHG emission reductions or removals are implemented? (AFOLU requirements: VCS Version 3.3; §3.2.1)	/1/	DR I	See above CL1.	~~CL1~~	OK
1.6 Project crediting period					
1.6.1 What is the crediting period start date? Is the date determined appropriately? What is the selected crediting	/1/	DR I	The project crediting start date is equal to the start date of the project activity, i.e. the date on	~~CL1~~	OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
period? Is it in compliance with the following? (VCS Standard Version 3.3; §3.8.1) ✓ For non-AFOLU projects and ALM projects focusing exclusively on reducing N2O, CH4 and/or fossil-derived CO2 emissions, the project crediting period shall be a maximum of ten years which may be renewed at most twice. ✓ For all other AFOLU projects other than such ALM projects, the project crediting period shall be a minimum of 20 years up to a maximum of 100 years, which may be renewed at most four times with a total project crediting period not to exceed 100 years.			which activities that lead to the generation of GHG emission reductions or removals are implemented. The chosen crediting period is of 30 years /1/ which is in accordance with the VCS Standard Version 3.3 which sets a minimum of 20 years up to a maximum 100 years for AFOLU projects. See above CL1.		
1.6.2 The project has a credible and robust operating plan covering the project crediting period? (AFOLU requirements: VCS Version 3.3; §3.3.1)	/1/ /3/	DR I	The project proponent has in place a robust operating plan in order to manage the project for the whole crediting period /3/. The project has in fact a steering committee composed by the project proponent, national authority and other stakeholders which would meet twice a year in order to control the implementation of the proposed project activity /76/. This was confirmed during the interview held with the REDD national coordinator, during which it was confirmed the robustness of the operating plan /76/. DNV confirmed during the site visit that these plans are in place.		OK
1.6.3 The length of the project crediting period is set to include at least one complete rotation cycle that includes harvesting? (AFOLU requirements: VCS Version 3.3; §3.3.2) Only for ARR/IFM with harvesting.	/1/ /3/	DR I	Not applicable since there is no harvesting in the project scenario.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
1.7 Project Scale and Estimated GHG Emission Reductions of Removals					
1.7.1 How many tonnes CO_2 equivalent emissions reductions per year will be generated? Is the project size correctly defined?	/1/ /31/	DR	The project is classified as a 'project' as the estimated annual GHG emission removals is less than or equal to 300 000 tCO_2e. **CAR1** Requirement §3.9.1 of VCS Standard Version 3.3 Evidence and failure The definition of the scale of the project provided in the VCS PD is not in accordance with the VCS Standard.	~~CAR1~~	OK
1.8 Description of Project Activity					
1.8.1 Is the description of the project clear? What activities and facility are included in the project?	/1/	DR I	Yes, the project description is clear and is correct. This was effectively confirmed during the site visit.		OK
1.9 Project Location					
1.9.1 For AFOLU projects: Is a delineation of the geographic boundary of each project specified using geodetic polygons to delineate the geographic area of each AFOLU project activity and provided in a KML file?	/1/ /40/	DR I CC	The proposed IFM activity is located entirely in the UFE of Pikounda-Nord in the north of the Republic of Congo, Sangha region. As confirmed by DNV, the limits of North Pikounda UFE are defined by ministerial decree n°8233/MEF/CAB approved 5 October 2006 /40/ and are as follows ✓ On the West: from the 0°33'42'' N parallel, the limit follows the flooded forests of the Kandeko river, then the Ebangapélé river		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			up to the 1° N parallel; ✓ From North to North-Est and Est: the limit correspond to the 1°N parallel till the Ebangui river. There, it follows the Ebangui river flooded forests until the 16°25'07''E meridian; ✓ From South-East to West: the limit follows 0°44'13''N parallel between meridian 16°25'07''E and meridian 16°18'35''E. Then it follows the later meridian to the South until crossing the 0°41'56''N parallel, then this parallel straight to the West until it crosses the meridian 16°12'38''E. There, it follows a line oriented at 186° until the points of geographic coordinates 0°33'42''N – 16°12'03''E. From there, the limit follows the 0°33'42''N parallel until it crosses the Kandeko river. Logging operations would occur out of the wetlands (i.e. dryland or "terre ferme") which is the production Series. The correct delineation of these limits were confirmed against the Forest Management Plan (FMP) /3/, and with the ESRI Shapefiles of the project area /5/ against satellite imagery /12/. These limits have been provided in a KLM file to be uploaded.		
1.9.2 Is the project location specified in the PD in terms of its project area? The spatial extend of the project shall be	/1/	DR I	The project description specified in the VCS-PD is in terms of its project area. The project	~~CAR1~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
clearly specified to facilitate accurate monitoring, reporting and verification, and to demonstrate that the project meets the eligibility criteria. (AFOLU requirements: VCS Version 3.3; paragraph 3.4.1)			proponent provides in the VCS PD maps with the exact location of all polygons.		
1.9.3 Does the project location description include the following information? (AFOLU requirements: VCS Version 3.3; paragraph 3.4.1) - Name of the project area (eg, compartment number, allotment number and local name). - Maps of the project area. - Geographic coordinates of the project area boundary, provided in the format specified in the VCS Standard. - Total size of the project area. - Details of ownership.	/1/	DR I	DNV checked the VCS PD and confirms that the VCS PD includes the following information: -The proposed project activity is located in the Pikounda-Nord UFE. DNV confirms that this is correct. -Maps of the project area, of the areas eligible as VCS project, and of the polygons that are part of the project boundary are included in the VCS-PD. -The project proponent has provided a map of each polygon that constitutes the project area. -The total size of the project area is 93 970 ha, according to ministerial decree, yet in fact the GIS corrected area is 92 530 hectares /5/. Logging operations would occur only in 55 950 ha which is out of the project area. -The project proponent includes information on the details of ownership. The project proponent holds two licenses that cover the entire project area as DNV was able to confirm. **CL2:** a) The project proponent is requested to clarify in the VCS-PD §1.9 details of the ownership as required by AFOLU requirements: VCS Version 3.3; paragraph 3.4.1.	~~CL2~~	OK
1.9.4 Where the project area is comprised of multiple	/1/	DR	Not applicable, since the project area consists of		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
polygons (parcels), has the project location details of each polygon/parcel been included in the project description? (AFOLU requirements: VCS Version 3.3; paragraph 3.4.1)			a unique continuous polygon.		
1.9.5 Is the entire project area under the control of the project proponent at time of validation? Is this demonstrated with proof of title as specified in VCS Standard Version 3.3? (AFOLU requirements: VCS Version 3.3; paragraph 3.4.2)	/1/ /40/ /41/ /76/	DR I CC	The proposed project activity is located in the UFE of Pikounda-Nord whose limits are defined as per ministerial decree n°8233/MEF/CAB approved 5 October 2006 /40/. In accordance with the forestry code of the Republic of Congo /41/ this UFE along with forested areas are of public property. This was effectively confirmed during the interview held with the REDD country coordinator /76/. Previously to the implementation of the IFM project, the land was designated for forestry production as per Agreement of Development and Processing ("Convention d'aménagement et transformation" in French) signed between CIB and the government of Republic of Congo signed 13 November 2002 /15/ and the project proponent was given a 15 year-renewable concession for managing the UFE. As part of the implementation of the project activity, a new specific agreement was signed to the government for the deviation of the FMP, in order to implement a LtPF project and the government gave a 30 year concession of the UFE in order to operate the IFM project /14/. The validity of all this information were confirmed during the meeting held with the REDD country coordinator /76/.	~~CL2~~	OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			CL2: b) The project proponent is requested to clarify in the VCS-PD §1.9 how it has established control over the project area as required by AFOLU requirements: VCS Version 3.3; paragraph 3.4.2.		
1.10 Conditions prior to project initiation					
1.10.1 Are the conditions prior to project initiation clearly described in the VCS PD with support evidence?	/1/ /15/ /3/	DR	The VCS PD provides clear information on the conditions prior to project initiation. Previously to the implementation of the IFM project, the land was designated for forestry production as per Agreement of Development and Processing ("Convention d'aménagement et transformation" in French) signed between CIB and the government of Republic of Congo signed 13 November 2002 /15/ and the project proponent was given a 15 year-renewable concession for managing the UFE. The project proponent prepared a FMP as required by the agreement which followed the prescriptions of the government regarding the allocation of management Series, i.e. protected areas, production areas, etc. Such FMP and agreement established as protected area, all wetlands located in the border of the concession and which surround the production areas, which are located in dry lands (i.e. "terre ferme") /3/. Such agreement and the subsequent FMP state clearly the following areas: ✓ Dry land mixed Forest (Production Area):		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			55 950 ha (60.5%) ✓ Wetlands areas (Protection Area): 36 570 ha (39.5%)		
1.10.2 What are the main events over the project initiation stage?	/1/	DR I	**CL3:** a) The project proponent is requested to specify in §1.10 of the VCS PD a chronological list of the main events/milestones of the project activity from the CAT ("Convention d'aménagement et transformation" in French) signature until the starting date passing by the project inception as required by the VCS-PD template. .	~~CL3~~	OK
1.10.3 Does the VCS PD contains a demonstration that the project area was not cleared of native ecosystems within the ten year period prior to the proposed project start date? (AFOLU requirements: VCS Version 3.3; paragraph 3.1.6)	/1/	DR I	Not applicable since the proposed project activity is an IFM consisting on avoiding degradation.		OK
1.11 Compliance with Laws, Statutes and Other Regulatory Frameworks					
1.11.1 What relevant local laws and regulations related to the project are identified? What appropriate approaches are taken to ensure complete identification?	/1/ /41/ /3/ /76/	DR I	The applicable local laws and regulations related to the project are listed in the VCS PD. Those that are relevant are discussed: 5. Law No. 16-2000 of 20 November 2000 Forest Code /41/ 6. Law No. 003-91 of 23 April 1991 on environmental protection /3/; 7. Law No. 37-2008 of 28 November 2008 on wildlife and protected areas /3/; 8. Law No. 10-2004 of 26 March 2004 laying		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			down general principles applicable to a plan Land Law, including the rights of individuals and legal entities on land /3/. The FMP /3/ was designed following the previsions of the above laws and consequently it was approved in February 2012 by the Congolese government /39/. DNV confirmed during the interview held with the national REDD coordinator /76/ that the list of relevant local laws and regulations is complete and that the baseline scenario and the proposed project activity are in compliance with the local laws and regulations.		
1.11.2 Is the project in compliance with all the relevant local laws and regulations? How is this demonstrated?	/1/ /41/ /3/ /76/	DR I	The FMP /3/ was designed following the previsions of the above laws and consequently it was approved in February 2012 by the Congolese government /39/. DNV confirmed during the interview held with the national REDD coordinator /76/ that the list of relevant local laws and regulations is complete and that the baseline scenario and the proposed project activity are in compliance with the local laws and regulations.		OK
1.12 Ownership and Other Programs					
1.12.1 Right of Use					
1.12.1.a The project description shall be accompanied by proof of title in respect of one or more of the following rights of use accorded to the project proponent: 1) A right of use arising or granted under statute,	/1/ /41/	DR I	The Congolese forestry domain consists of the state forest estate and the private forest estate /41/. The State forest estate is divided between		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
regulation or decree by a competent authority. 2) A right of use arising under law. 3) A right of use arising by virtue of a statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use). 4) A right of use arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use). 5) An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the plant, equipment or process that generates GHG emission reductions and/or removals which vests the right of use in the project proponent. 6) An enforceable and irrevocable agreement with the holder of the statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions or removals which vests the right of use in the project proponent. 7) A right of use arising from the implementation or enforcement of laws, statutes or regulatory frameworks that require activities be undertaken or incentivize activities that generate GHG emission reductions or removals.			the non-permanent forest estate and the permanent forest estate /41/. The permanent forest estate includes land allocated for forests and wildlife habitat and also includes private state forest estates, municipal, local community or territorial forest estates and forest estates owned by legal entities /41/. Forests in the private domain of the State include gazetted forests for protection, natural forest conservation, recreational forests, experimental forests and production forests /41/. Previously to the implementation of the IFM project, the land was designated for forestry production as per Agreement of Development and Processing (“Convention d’aménagement et transformation” in French) signed between CIB and the government of Republic of Congo signed 13 November 2002 /15/ and the project proponent was given a 15 year-renewable concession for managing the UFE. As confirmed by DNV during the site visit, usually these concessions are renewed unless a very critical issue or mismanagement is identified. As part of the implementation of the project activity, a new specific agreement was signed 24 May 2012 between CIB and the government for the deviation of the FMP, in order to implement a LtPF project and the government gave a 30 year concession of the UFE in order to operate the		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			IFM project /14/, granting an extension of the licence until the end of the project. The validity of all this information were confirmed during the meeting held with the REDD country coordinator /76/. Therefore, the project proponent would have a right of use arising by virtue of a statutory, property or contractual right in the land, vegetation or conservational or management process that generates GHG emission reductions and/or removals (where such right includes the right of use of such reductions or removals and the project proponent has not been divested of such right of use).VCS Standard Version 3.3 requirements.		
1.12.2 Emissions Trading Programs and Other Binding Limits					
1.12.2.a The project reduces GHG emissions from activities that: - Are included in an emissions trading Program; or - Take place in a jurisdiction or sector in which binding limits are established on GHG emissions;	/1/	DR	The proposed project activity is an IFM project activity, and it is located in a non-Annex I country. Therefore, the GHG removals generated would not be part of an emission trading Program, nor it is located in a jurisdiction or sector with binding limits.		OK
1.12.2.b Have the project proponents provide evidence that the reductions or removals generated by the project have or will not be used in the Program or jurisdiction for the purpose of demonstrating compliance?	/1/	DR	Not applicable as stated above.		OK
1.12.3 Participation Under Other GHG Programs					
1.12.3.a Has the project has been registered, or is seeking registration under any other GHG programs?	/1/	DR I	The proposed project activity does not participate in any other GHG program.		OK

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1.12.3.b Where the project has been registered under any other GHG program, provide the registration number and details.	/1/	DR	Not applicable.		OK
1.12.4 Other Forms of Environmental Credit					
1.12.4.a If the project has created another form of environmental credit, has the proponent provided a letter from the program operator that the credit has not been used and has been cancelled from the relevant program?	/1/	DR I	The proposed project activity does not generate another form of environmental credit. The validity of all this information were confirmed during the meeting held with the REDD country coordinator /76/.		OK
1.12.4.b If it is stated that the project has not created another form of environmental credit, how has this statement properly demonstrated?	/1/	DR I	The proposed project activity does not generate another form of environmental credit. The validity of all this information were confirmed during the meeting held with the REDD country coordinator /76/.		OK
1.12.5 Project Rejected by Other GHG Programs					
1.12.5.a Has the project been rejected by other GHG programs?	/1/	DR	The proposed project activity has not been rejected in any other GHG program.		OK
1.12.5.b If the project has been rejected by other GHG programs has the proponent clearly stated in the VCS PD the reason of rejection? And have the actual rejection documents including explanation been provided by the proponent?	/1/	DR	Not applicable.		OK
1.13 Additional Information Relevant to the Project					
1.13.1 Eligibility criteria (Grouped projects)					
1.13.1.a Are the eligibility criteria for the inclusion of new instances clearly identified? Do they ensure that the new instances comply with:	/1/	DR	Not applicable as this is not a grouped project.		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
- applicability conditions set out in the methodology applied to the project; - Use the technologies or measures defined in the project description; - Apply the technologies or measures in the same manner as defined in the project description; - Are consistent with the rationale applied to the demonstration and assessment of additionality set out in the project description?					
1.13.2 Leakage management					
1.13.2.a The potential for leakage shall be identified and projects shall consider including leakage management zones (leakage belts) as part of the overall project design (AFOLU requirements: VCS Version 3.3; paragraph 3.5.1)	/1/	DR I	**CL4:** a) The project proponent is requested to clarify in the VCS PD what are the provisions to manage leakage.	~~CL4~~	OK
1.13.3 Commercially Sensitive Information					
1.13.3.a Has any commercially sensitive information been excluded from the public version of the VCS PD that will be displayed on the VCS Project Database? If yes, can the excluded information be justified as being commercially sensitive?	/1/	DR	Not applicable.		OK
1.13.4 Further Information:					
1.13.4.a Is the information included complete?	/1/	DR	The project proponent has included information on ecology, soils and past land use. Information is complete and correct.		OK
1.13.4.b If it is a project with tree harvesting, does the VCS-PD include a demonstration that the permanence of their carbon stock is maintained and that management systems are in place to ensure the carbon against which VCUs are issued is not lost during a final cut with no subsequent replanting or regeneration? (AFOLU requirements: VCS Version 3.3; paragraph 3.7.1)	/1/	DR	Not applicable since no harvesting occurs in the project scenario.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
2 Application of Methodology					
2.1 Title and Reference of Methodology					
2.1.1 Does the project apply a VCS program approved methodology and the correct version thereof?	/1/ /29/	DR	The proposed project activity applies the CDM methodology VM0011 Version 1.0 'Methodology for Improved Forest Management – Logged to Protected Forest: Calculating GHG Benefits from Preventing Planned Degradation'.		OK
2.1.2 Has any methodology revision been applied? If yes, has the revision been approved through double-approval process?	/1/	DR	The project proponent does not apply any revision of the methodology.		OK
2.2 Applicability of Methodology					
2.2.1 How was it validated that project complies with the following applicability criteria: "Project type: *Improved Forest Management - Logged to Protected Forest; with no removals (e.g. harvesting, planned biomass burning) occurring in the Project Area upon implementation of the actual project (with the exception of felling sample trees for validating or deriving project-specific parameters presented in Section 7.2.4).*";	/1/ /29/ /14/	DR I	The proposed project activity consists in the implementation of an IFM – LtPF project, which consists in the complete cessation of logging operations within the project boundary. This is effectively described in the VCS PD and it is described in the MOU signed between the government of RoC and the project proponent /14/.		OK
2.2.2 How was it validated that project complies with the following applicability criteria: "Condition of the forest: *Intact forest or previously logged forest (also known as forest degraded due to logging) Land within the Project Area must have qualified as forest at least 10 years before the project start date.*";	/1/ /29/ /3/	DR I	The project area is an intact forest where no logging has ever occurred. This is clearly described in the FMP /3/ and in the CAT ("Convention d'aménagement et transformation" in French) that gave initially the concession to CIB for its management for timber production /15/. This was further confirmed during the interview		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			held with the REDD national coordinator /76/.		
2.2.3 How was it validated that project complies with the following applicability criteria: *"Type of forest: Tropical forests including evergreen tropical rainforests, moist deciduous forests, tropical dry forests and tropical upland forests (see Appendix A for definition), except peat swamp forests."*	/1/ /29/	DR I	The FMP provides a clear description of the type of forest /3/, i.e. tropical evergreen mixt moist forest. Swamp forest occurs within the concession area, but it would not be subject to logging in the baseline scenario /3/ and it is not part of the accounting area /5/. This was effectively confirmed during the on-site assessment.		OK
2.2.4 How was it validated that project complies with the following applicability criteria: *"Forest Product Type: Harvested wood products i.e., sawlog, pulplog and commercially harvested fuelwood (See Appendices A and B.9)."*	/1/ /29/	DR I	The only harvested wood products would be logs in order to be transformed locally or exported in order to be transformed abroad. No fuelwood or pulplog is foreseen as confirmed by the FMP /3/.		OK
2.2.5 How was it validated that project complies with the following applicability criteria: *"Driver of Degradation: Legally sanctioned logging (timber and commercially harvested fuelwood) undertaken in accordance with the relevant laws, regulations and codes of practice of the country in which the Methodology is being applied."*	/1/ /29/	DR I	The driver of degradation is legally sanctioned and approved logging undertaken respected the existing laws and regulations, and in line with the management common practices of the degradation agent. DNV confirmed that the area is legally sanctioned for timber production as it is defined as a production area by the CAT ("Convention d'aménagement et transformation" in French) signed with the government /15/. Logging is planned as confirmed by the FMP approved by the government which is a complete FMP which has followed national regulations and common practices /3/ in forest management. As DNV confirmed during the site visit and through review of such FMP /3/, the prescribed management goes beyond the existing		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			regulations as it is intended to implement a Reduced Impact Logging (RIL) system and reduce logging of species in order to guarantee the sustainability of timber production (i.e. the minimum diameter of harvesting is significantly higher to that defined in local regulations). This is in line with other similar concessions which belong to the project proponent which are FSC certified.		
2.2.6 How was it validated that project complies with the following applicability criteria: *"Baseline Activities to be Displaced: Legally sanctioned selective logging for specific forest product types presented above."*	/1/ /29/	DR I	As validated above, the baseline activity that would be displaced would be legally sanctioned selective logging for harvesting of high value timber species.		OK
2.2.7 How was it validated that project complies with the following applicability criteria: *"Project Area: Must be designated, sanctioned or approved by the relevant authority in the host country for the selective logging*"	/1/ /29/	DR I	DNV confirmed that the area is legally sanctioned for timber production as it is defined as a production area by the CAT ("Convention d'aménagement et transformation" in French) signed with the government /15/. Logging is planned as confirmed by the FMP approved by the government which is a complete FMP which has followed national regulations and common practices /3/ in forest management. This FMP would have been implemented already in year 2012. This was effectively confirmed during the interview held with the REDD national coordinator.		OK
2.2.1 How was it validated that project complies with the following applicability criteria: *"Carbon Pools:*	/1/ /29/	DR I	As indicated in the VCS PD and in the GHG accounting, /25/, the only carbon pools which		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
Carbon Pools considered: *• Aboveground biomass (AGB) of all trees as defined by the relevant authority in the host country* *• Harvested wood products (HWPs) based on domestic production not domestic consumption* *• Deadwood (DW).* *Carbon Pools not considered:* *• Aboveground biomass (non-trees)* *• Belowground biomass* *• Soil* *• Litter.*"			have been considered are AGB, HWP and DW. This is in lined with the applicable methodology.		
2.2.2 Other applicability conditions (i.e. tools, etc.)	/1/	DR I	The only applied tool is "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU project activities" (Version 3.0). This tool has the following applicability criteria which are complied with: a) The Project is proposing similar AFOLU baselines to the proposed project activity and the credible baselines do not lead to a violation of any applicable laws even if the law is not enforced; and b) The Project has used the baseline methodology to provide for a stepwise approach in justifying the determination of the most plausible baseline scenario.		OK
2.3 Project Boundary					
2.3.1 What are the project's system boundaries (components and facilities used to mitigate GHGs)? Are they clearly defined and in accordance with the methodology?	/1/ /29/	DR I	The project boundary has been defined as those areas that are eligible under VCS Standard Version 3.3. Project area and land eligibility: The total size of		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			the project area is 93 970 ha, according to ministerial decree /40/, yet in fact the GIS corrected area is 92 530 hectares /5/. Logging operations would occur only in 55 950 ha which are considered within the carbon accounting area /3/. DNV checked the ESRI shapefile with the project and GHG accounting boundaries /5/ against recent SPOT 5 imagery /12/ and confirmed that the project area is fully stocked and that it was forested at the time of the start date. Stratification Stratification of the project area has been done in accordance with the FMP: ✓ Dry land mixed Forest (Production Area): 55 950 ha (60.5%) ✓ Wetlands areas (Protection Area): 36 570 ha (39.5%) This stratification is reasonable as the GHG accounting is concentrated only in the Production Area, so the Wetlands Area shall not be included in the GHG accounting. Further stratification is not deemed reasonable as the project area is constituted of a continuous of very small stands of open, closed and regular forest which alternate through space /16/; hence, further stratification is not feasible and it can be confirmed that the stratification provided in the FMP is correct. Leakage area		

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			The leakage area constitutes the area where the baseline activities would be probably displaced. These would be displaced to project areas under the control of the project proponents (i.e. other concessions) or to the rest of the country (i.e. market leakage). DNV confirmed through third party evidence that CIB has 4 /43/ other concessions in the country: In Sangha department, it has a concession in Pokola and Kabo and in Likouala department it has a concession in Toukoulaka and Loundoungou. These areas will be subject of the leakage assessment in order to identify any leakage from intensification of operations. From the market point of view, only the concessions in the north of Congo have been considered as these are similar from the natural point of view, market access point of view, species and also type of concessionaire (i.e. local companies are present in the South, while in the North international companies are predominantly). This is reasonable in view of the concession distribution and its ownership /43/ and the soundness was confirmed by the REDD national coordinator during the meeting held /76/. Temporal boundaries: In line with VCS requirements the baseline will be re-assessed every 10 years. Leakage assessment is based on		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			pre-project information of the previous 5 years to the starting date as per the applicable methodology.		
2.3.2 Which GHG sources, sinks and reservoirs are identified for the baseline scenario? Is the identification complete?	/1/ /29/	DR I	The following GHG sources, sinks and reservoirs are identified as per the applicable methodology: ✓ Forest Degradation: CO2 ✓ Fossil Fuel use in Machinery: CO2; CH4; N2O ✓ Electricity Consumption: CO2; CH4; N2O ✓ Commercially harvested fuelwood: Not applicable since no fuelwood is harvested ✓ Harvested Wood Product: CO2 ✓ Deadwood: CO2 ✓ Biomass burning in the course of land use conversion **CL5** a) The project participant is requested to clarify in the VCS PD, i.e. the table of §2.3.5, the GHG sinks that would occur too, i.e. regrowth, Embodied carbon in AGB (CS) .	~~CL5~~	OK
2.3.3 Which GHG sources, sinks and reservoirs are identified for the project scenario? Is the identification complete?	/1/ /29/	DR I	The following GHG sources, sinks and reservoirs are identified as per the applicable methodology: ✓ Travel (flights, ground travel). These have been demonstrated to be		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			insignificant as confirmed by DNV /10/. Neglecting of these emissions are in line with AFOLU requirements: VCS Version 3.3 /34/. ✓ Natural disturbances. CO2 - These will be monitored. ✓ Illegal logging/agriculture CO2 - These will be monitored.		
2.3.4 Which GHG sources, sinks and reservoirs are identified for leakage? Is the identification complete?	/1/ /29/	DR I	**CL5** b) The project participant is requested to clarify in the VCS PD, i.e. the table of §2.3.5, GHG sources are identified for leakage.	~~CL5~~	OK
2.3.5 Are all relevant GHG sources and carbon pools identified and assessed for the project (including leakage) and baseline scenario? Is this in line with VCS AFOLU provisions? (AFOLU requirements: VCS Version 3.3; paragraph 3.5.1; paragraph 4.3.1)	/1/ /29/	DR I	Following the provisions of VM0011 the project proponent has considered the following carbon pools : - Aboveground Biomass (tree) - Deadwood - Harvested Wood Products (HWP)		OK
2.4 Baseline					
2.4.1 Is the extent of analysis at least the defined geographic boundary of the project? Is this clearly specified in the VCS PD? (Grouped)	/1/	DR	Not applicable as this is not a Grouped Project.		OK
2.4.2 Is the selected baseline one of the baseline(s) described in the methodology and this hence confirms the applicability of the methodology? What is the baseline scenario?	/1/ /37/	DR I	Following the provisions of VM0011, the project proponent has identified the baseline scenario through the application of the step-wise approach provided in the methodology which is based on		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			the 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1). The identified baseline scenario is the continuation of the pre-project scenario, i.e. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting		
2.4.3 Which baseline scenarios have been identified? Is the list of baseline scenarios complete?	/1/ /37/	DR	Step 1. Identify credible alternative baseline scenarios to the proposed VCS IFM-LtPF project activity Sub-step 1a. Identify all realistic and credible alternative baseline scenarios to the proposed VCS IFM-LtPF project activity The project proponent has identified the following alternative baseline scenarios: 1. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting. This is a credible scenario as evidence by the fact that it is the scenario present in all forest concessions in the North of Congo and in the concessions under control of the project proponent. 2. Conventional Selective Harvesting. This is a realistic baseline land use scenario as it the project proponent is not obliged to apply selective logging following a RIL scheme or in compliance with FSC certification. DNV confirms that in the south of RoC it is common to find concessions applying conventional selective logging. 3. No Harvesting and/or Protection but without	~~CAR2~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			being registered under the VCS as an IFM-LtPF project. As required by the baseline identification step-wise procedure, this alternative scenario has been identified as a plausible and realistic scenario. 4. Oil Palm Plantation. This is a credible scenario as confirmed during the site visit; DNV had the opportunity to see in its way from Brazzaville to Pokola that forested areas were converted to palm oil plantations. Hence, this is a credible alternative scenario. DNV confirmed that these are credible and realistic scenarios. **CAR2** Requirement According to the step-wise approach for identifying the baseline scenario, the project proponent identify credible alternative baseline scenarios to the proposed VCS IFM-LtPF project activity, and should consider amongst these alternatives the protection of the land within the Project Area without being registered under the VCS as an IFM-LtPF project activity. Evidence and failure a) As part of Step 1a the project proponent is stating that proposed project activity without the VCS is not a credible scenario due to financial and legal constraints, yet with a different standard		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			it could be credible. The project proponent has not followed the provisions of the methodology due to the following reasons 1) Step 1a is intended to identify possible alternatives, not to identify barriers or already exclude alternatives; 2) The step-wise approach requires by default to include the proposed project activity amongst the credible scenarios; 3) The alternative to be discussed is the proposed project activity without carbon incentives irrespective of the carbon standard used, so an alternative without VCS but with another standard is the same as the proposed project activity with VCS. Please reformulate the discussion of Alternative 3 in Step 1a of the baseline identification and the additionality assessment.		
2.4.4 How have the other baseline scenarios been eliminated in order to determine the baseline? Is the determination of the baseline scenario in accordance with the guidance in the methodology?	/1/ /37/	DR I CC	Sub-step 1b. Identify realistic and credible alternative baseline scenarios with "enforced mandatory legislation and regulations **CAR2** b) For the alternative baseline scenarios identified in Sub-step 1a, the Project Proponent must demonstrate in sub-step 1b that these alternatives comply with mandatory applicable legislation and regulations in the host country, i.e. are not illegal. Based on this, it has eliminated the alternative land-use "No Harvesting and/or Protection but without being registered under the VCS as an IFM-LtPF project". The project	~~CAR2~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			proponent has not followed the provisions of the methodology due to the following reasons 1) Step 1b is intended to explain whether any of the identified alternatives in step 1a is illegal (or if illegal, whether a systematic non-enforcement occurs), not to identify barriers or already exclude alternatives. This has to be done in Step 2/3; 2) The proposed project activity without carbon incentives could be deemed legal based on the same rationale as alternative 4, i.e. it would be possible to renegotiate with the government the change in the concession conditions and implement the proposed project activity without carbon incentives. Please reformulate Step 1b of the baseline identification and the additionality assessment. STEP 2. Determine Alternative Baseline Scenarios Sub-step 2a. Identify barriers that would prevent the implementation of at least one alternative baseline scenario - Alternative 4 “Oil Palm Plantation” would face an infrastructure barrier due to the remoteness of the North Pikounda UFE, and absence of nearby facilities to convert and add value to the Oil Palm fruit bunch. DNV confirmed that there is currently land conversion being taken place, but it is located		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			in the limit of the forested area, closer to Brazzaville. DNV deems that this is credible. **CAR2** c) Sub-step 2a shall include an identification of barriers which affect to the proposed project activity without carbon incentives. Note: You may refer to the additionality assessment just to avoid repeating the information. Sub-step 2b: Eliminate baseline scenarios that are prevented by the identified barriers The only alternative scenarios which are identified would be the following: - 1. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting. - 2. Conventional Selective Harvesting. No barriers would affect these alternative scenarios as confirmed by the fact that these represent the predominant land-use in forest concessions under the same conditions of the project area. Sub-step 2c: Determine the baseline scenario The project proponent has chosen Alternative 1. Continuation of the Pre Project Land Use - FSC RIL Selective Harvesting as the baseline scenario. Although the methodology states that if more than one scenarios are available that an investment analysis shall be conducted,		

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			according to the 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1) provides a different option, that is to choose the most conservative baseline alternative. Since RIL FSC harvesting will lead to less emissions, this is the most conservative alternative, hence it is the baseline land-use scenario. The FMP which is the main source for modelling the baseline scenario considers the application of RIL practices.		
2.4.5 Has the baseline scenario been determined using conservative assumptions where possible?	/1/ /37/	DR	Yes, it has been determined using conservative assumptions. The adopted baseline scenario is more conservative than conventional logging.		OK
2.4.6 Does the baseline scenario sufficiently take into account relevant national and/or sectoral policies, macro-economic trends and political aspirations?	/1/ /37/	DR	Yes, the baseline scenarios sufficiently take in to account relevant national and sectoral policies.		OK
2.4.7 Is the baseline scenario determination compatible with the available data and are all literature and sources clearly referenced?	/1/	DR I	Yes, the baseline determination is compatible with available data and information provided by relevant stakeholders such as the REDD national coordinator.		OK
2.4.8 Is the baseline determination adequately documented in the VCS PD? - All assumptions and data used by the project proponents are listed in the VCS PD. The data are properly referenced. - All documentation is relevant as well as correctly quoted and interpreted.	/1/ /37/	DR	DNV checked the VCS PD and confirmed that: - Assumptions and data used by the project proponents are listed. - All documentation is relevant. - Assumptions and data can be deemed reasonable.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
- Assumptions and data can be deemed reasonable - Relevant national and/or sectoral policies and circumstances are considered and listed in the VCS PD. - The methodology has been correctly applied to identify what would occurred in the absence of the proposed VCS project activity			- Relevant national and/or Sectoral policies are considered and listed in the VCS PD.		
2.5 Demonstration and Assessment of Additionality					
2.5.1 What approach does the project use to assess additionality? Is this in line with the methodology?	/1/ /29/	DR	Following the provisions of VM0011, the project proponent has applied the "Tool for the Demonstration and Assessment of Additionality in VCS AFOLU project activities" (Version 3.0) in order to demonstrate the project's additionality. Please refer to CAR2 regarding issues in the identification of alternative scenarios.	~~CAR2~~	OK
2.5.2 Have the regulatory requirements correctly been taken into account to evaluate the project activity and the alternatives?	/1/ /29/ /76/	DR I	The project proponent has considered the main national, local and Sectoral land-use policies and regulations that would be applicable to the project area.		OK
2.5.3 Is sufficient evidence provided to support the relevance of the arguments made?	/1/	DR I	Yes, the project proponent has supported any statement or argument with supporting evidence which is clearly verifiable.		OK
Investment analysis					
2.5.4 Does the project activity or any of the remaining alternatives generate revenues apart from VCUs? Is this reflected in the VCS PD?	/1/	DR	Not applicable.		OK
2.5.5 Do any of the alternatives to the project activity involve investment? Is this reflected in the VCS PD?	/1/	DR	Not applicable.		OK
2.5.6 Is the choice of benchmark analysis, investment comparison or simple cost analysis correct?	/1/	DR	Not applicable.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
2.5.7 Is the benchmark/discount rate the latest available at the time of decision?	/1/	DR	Not applicable.		OK
2.5.8 What is the financial indicator? Is it on equity/project basis? Before/after tax? Is the financial indicator in correspondence with the benchmark?	/1/	DR	Not applicable.		OK
2.5.9 Are the underlying assumptions appropriate, e.g. what is considered as waste in the baseline is considered to have zero value?	/1/	DR	Not applicable.		OK
2.5.10 Does the income tax calculation take depreciation into account? Is the depreciation year in accordance with normal accounting practice in the host country?	/1/	DR	Not applicable.		OK
2.5.11 Is the time period of the investment analysis and operating time of the project realistic? Has salvage value been taken into account? Is working capital returned in the last year of operation?	/1/	DR	Not applicable.		OK
2.5.12 When a feasibility study report or similar approved by the government is used as the basis for the investment analysis: Can it be confirmed that the values used in the VCS PD are fully consistent with the FSR and is the period of time between finalization of the FSR and the investment decision adequate?	/1/	DR	Not applicable.		OK
2.5.13 How was the amount of output (e.g. sales of electricity) assessed?	/1/	DR	Not applicable.		OK
2.5.14 How was the output price (e.g. electricity price) assessed? Were the data available and valid at the time of decision?	/1/	DR	Not applicable.		OK
2.5.15 How were the investment costs assessed? Were the data available and valid at the time of decision?	/1/	DR	Not applicable.		OK
2.5.16 How were the O&M costs assessed? Were the data available and valid at the time of decision?	/1/	DR	Not applicable.		OK
2.5.17 Describe the assessment of the other input parameters. Were the data available and valid at the time of decision?	/1/	DR	Not applicable.		OK

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2.5.18 Was the financial calculation spreadsheet verified and found to be correct?	/1/	DR	Not applicable.		OK
2.5.19 Sensitivity analysis: Have the key parameters contributing to more than 20% of the revenue/costs during operating or implementation been identified? Has possible correlation between the parameters been considered?	/1/	DR	Not applicable.		OK
2.5.20 Sensitivity analysis: Is the range of variations is reasonable in the project context?	/1/	DR	Not applicable.		OK
2.5.21 Have the key parameters been varied to reach the benchmark and the likelihood of this to happen been justified to be small?	/1/	DR	Not applicable.		OK
Barrier analysis					
2.5.22 Are the barriers identified complimentary to a potential investment analysis? Does the barrier have a clear impact on the financial returns so that it can be assessed in an investment analysis? Each barrier is discussed separately.	/1/	DR	No, the identified barriers are investment barriers, institutional barriers, technological barriers and prevailing practice barriers.		OK
2.5.23 How were the investment barriers assessed to be real? Are the investment barriers substantiated by a source independent of the project proponents?	/1/	DR	**CAR3** Evidence and failure a) The VCS PD identify barriers and demonstrate that these barriers affect the proposed project activity without carbon incentives and that it does not affect at least one of the alternatives. However, 1) it has only discussed how the barriers do not affect just one of the alternative land use scenarios (i.e. conventional logging and palm oil are missing): 2) In order to confirm the project's additionality it shall be explained how the carbon revenues help to overcome such barriers.	~~CAR3~~	OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			b) The investment barrier is substantiated as the lack of sources of finance available due to the perceived risks in the country, and it is also substantiated as other activities have been implemented only with the use of grants or non-commercial funding. However, a) other alternative land use scenarios would be affected in the same way by these barriers; b) it is not clear how carbon incentives would alleviate the lack of financing available..		
2.5.24 How the commercialisation of VCUs does alleviate investment barriers? Is the project activity prevented by the investment barriers and at least one of the possible alternatives to the project activity is feasible under the same circumstances?	/1/	DR	See above	~~CAR3~~	OK
2.5.25 How were the technological barriers assessed to be real? Are the technological barriers substantiated by a source independent of the project participants?	/1/	DR	**CAR4** Evidence and failure a) The VCS PD argues that the project is affected by a technological barrier due to the lack of capacity to implement the project and the lack of technical capacity in the country. DNV deems that this is not justified considering that the proposed project activity consists in a "do-nothing" option which does not require such a technical capacity, and the only capacities required are related to the carbon component required by the standard, which should not be considered as part of the "proposed project activity without carbon finance".	~~CAR4~~	OK

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2.5.26 How the commercialisation of VCUs does alleviate investment barriers? Is the project activity prevented by the investment barriers and at least one of the possible alternatives to the project activity is feasible under the same circumstances?	/1/	DR	**CAR4** b) The VCS PD does not provide an explanation on how the carbon incentives would alleviate a technological barrier.	~~CAR4~~	OK
2.5.27 How were Institutional Barriers assessed to be real? Are the other barriers substantiated by a source independent of the project participants?	/1/	DR	**CAR5** Evidence and failure a) The VCS PD is arguing the existence of an institutional barrier due to the lack of political instability. However, it is not clear how this barrier is real considering that other alternative land use scenarios are in the same way affected by this barrier due to political instability, i.e. a logging concession might also be affected.	~~CAR5~~	OK
2.5.28 How the commercialisation of VCUs does alleviate investment barriers? Is the project activity prevented by the investment barriers and at least one of the possible alternatives to the project	/1/	DR	b) The VCS PD does not provide an explanation on how the carbon incentives would alleviate an institutional barrier.	~~CAR5~~	OK
2.5.29 How were Barriers to prevailing practice assessed to be real? Are the other barriers substantiated by a source independent of the project participants?	/1/	DR	**CAR6** Evidence and failure a) The VCS PD is arguing the existence of a prevailing practice barrier as this is the first time such a carbon project is implemented. This is not correct since the alternative scenario to be discussed is the activity itself, i.e. LtPF, without carbon incentives. Hence the project proponent would have to analyse whether in the RoC logged areas or areas legally sanctioned for logging operations have been protected regardless of the	~~CAR6~~	OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			carbon finance, etc.		
2.5.30 How the commercialisation of VCUs does alleviate investment barriers? Is the project activity prevented by the investment barriers and at least one of the possible alternatives to the project	/1/	DR	b) The VCS PD does not provide an explanation on how the carbon incentives would alleviate prevailing practice barrier.	~~CAR6~~	OK
Common practice analysis					
2.5.31 What is the geographical scope of the common practice analysis? Is this justified?	/1/	DR	See above	~~CAR6~~	OK
2.5.32 What is the scope of technology and size (e.g. capacity of power plant) for the common practice analysis and how has this been justified?	/1/	DR	See above	~~CAR6~~	OK
2.5.33 What is the data source(s) used for the common practice analysis?	/1/	DR	See above	~~CAR6~~	OK
2.5.34 How many similar projects without carbon income exist in the region within the scope?	/1/	DR	See above	~~CAR6~~	OK
2.5.35 How were possible essential distinctions between the project activity and similar activities assessed?	/1/	DR	See above	~~CAR6~~	OK
2.5.36 What is the conclusion of the common practice analysis?	/1/	DR	See above	~~CAR6~~	OK
Conclusion					
2.5.37 What is the conclusion with regard to the additionality of the project activity?	/1/	DR	Se above.	~~CAR3~~ ~~CAR4~~ ~~CAR5~~ ~~CAR6~~	OK
2.6 Methodology Deviations					
2.6.1 If any deviations from the methodology are these clearly described in the VCS-PD?	/1/	DR I	The following methodology deviations have been identified:	~~CAR7~~	OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			1. §3.2.1.1 Validation of existing forest inventory data: According to the applicable methodology, "The Existing Inventory Data pathway applies where an existing legally approved FIR or an equivalent document, presents inventory data not more than five years old". Then the methodology provides the rationale for this requirement "According to Pearson et al. (2005), carbon in the aboveground biomass (AGB) is likely to change at a much faster rate than the carbon stock in the soil. It is thus appropriate that monitoring of the AGB in the forest be carried out at five yearly intervals". Hence, the methodology includes this requirement as an older data would not be precise enough, and could affect; i.e. the estimation of baseline emissions and probably to the estimation of the growth forgone. The approved FMP applies data from a forest inventory conducted in 2003-2006 which is older than 5 years. However, it is worth noting in the framework of the proposed project activity (i.e. it is an intact forest where no logging or natural disturbances have occurred) and the applicable methodology, the application of the data of the FMP is conservative as the carbon stocks at that time were lower than at the start of the project activity. This is		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			confirmed by comparing the biomass estimate obtained in commercial species from the FMP with the biomass estimate in commercial species obtained through the forest inventory conducted in PSPs end of 2012 /6/. The former shows a significantly lower value than the latter. Hence the use of the former value is conservative as it will provide less emissions. Another effect that this could cause is an overestimation of the growth forgone; however, the growth forgone will be obtained through the use of increments in the first monitoring period, so this risk would be reduced to the minimum. 2. §3.3.1 Net Carbon from the Dead Wood Pool: It appeared that this study provided CIB site specific data for both Residual Stand Damage factor (f_{RSD}) and the branches and trimming factor (f_{Branch_Trim}), but that the results where aggregated without possibility of differentiation between f_{RSD} and f_{Branch_Trim}. Therefore a new factor will be used, called $f_{damages}$ and the following equation will replace equations 3.18, 3.19 and 3.20: $C_{DWin,t} = f_{damages} \times V_{merch,t}$ Where: $f_{damages} = f_{FSD} + f_{branch\_trim}$ $f_{damages}$ is expressed in tC / m^3 harvested. 3. §3.3.5 Carbon in the Regrowth after Selective		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			Logging: To calculate the factor called $G_{regrowth,t}$, it has been developed a growth model based on the results of the monitoring of PSPs. Based on the difference of growth for all timber species in the PSPs between two monitoring events, it will be estimated the difference of AGB for trees between 5-20 cm diameter, which it has been considered to correspond to the carbon stored in the regrowth that would have occurred in the gaps following logging under the baseline scenario. This model allows to estimate the growth between two monitoring events for every tree (taking into account each specific WSG), $G_{regrowth,t}$ is therefore expressed in $tC.ha^{-1}.yr^{-1}$ instead of $(t\ d.m.).ha^{-1}.yr^{-1}$. Equation 3-38 is therefore replaced by the following equation: $$C_{regrowth,t} = \bar{G}_{regrowth,t} \times \sum_{t=1}^{t^*} A_{NHA\_annual,t}$$ **CAR7** Requirement §3.5.1 of VCS Standard Version 3.3. Evidence and failure a) DNV identified during a site visit and through the review of the GHG accounting spreadsheet an additional deviation regarding the regrowth		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			which has not been described. According to the methodology "This Methodology applies a conservative approach for area of regrowth by considering that the entire annual net harvest area would permit regrowth each year"; however, the project proponent will use actual data on % of harvesting area which is affected by logging operations which has been obtained from similar concessions under the management of the project proponent. 4. §3.4.1 - 3.4.2 Emissions Due to Harvesting and On-Site Preparation Operations: According to the applicable methodology fuel used for the harvesting operations (i.e., logging, on-site preparation, hauling, etc.) is accounted into two categories: "mixed petrol" (petrol + oil) used for chainsaw and "Gas Oil" used for heavy machinery (skidders, bulldozers, loading machine, etc). In the proposed project activity it is not possible to differentiate between the mixed petrol used for a chainsaw that has been used to cut a tree or to prepare it, hence these will be combined into one category combining fossil fuels used in harvesting and on-site preparation. Equations 3.40 (p.61) will therefore be replaced by the following equation:		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			$E_{harvest+onsiteprep,t} = FC_{harvest+onsiteprep} \times EF_{fuel} \times V_{merch,t}$ Where: $FC_{harvest+onsiteprep}$ is the fuel consumption of chainsaws employed for felling, snagging and trimming per m^3 of harvested material. 5. §3.4.4 Emissions due to log transport: In equation 3-46, trucks Fuel Consumption ($FC_{transport,t}$, in $L.km^{-1}$) has been used instead of trucks fuel efficiency ($Eff_{vehicle}$, in $km.kL^{-1}$). This will not impact the final results. 6. §3.4.5 Emissions Due to Timber Processing: Electricity is generated by 6 generators that have different power rating (4x1250 KVa, 1x1275 KVa, 1x1375 KVa) and different load capacity. Those generators are working altogether in synchronization in order to provide electricity with the required frequency. The project transformations units, administrative units, workshops etc are all equipped with energy meters that allow following the electricity consumptions on a daily basis. Each generator fuel consumption is monitored too. It is therefore very easy to link the production of sawn timber with the electricity consumption for each transformation unit, and to link this electricity consumption with the generator fuel consumption?		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			The following equations are replacing equations used to estimate $E_{processing}$ in chap. 3.4.5 of VM0011: $$E_{processing,t} = FC_{generators} \times EF_{fuel} \times V_{sawn\_timber,t}$$ 7. §3.4.6 Emissions due to log distribution: VM0011 only considers distribution of logs/sawn timber by road while, in the baseline scenario, some timber products are transported by river/train. Additional Fuel Consumption and Fuel Emissions factors have therefore been considered in the calculation of $E_{distribution,t}$. For example two new emission factors have been created for boat and train transport, respectively $EF_{distriboat}$ and $EF_{distrirail}$. In the case of distribution by road, we have used the Fuel Consumption instead of the Fuel efficiency for the calculations. Tow specific truck capacity have also been calculated, one for truck travelling to Cameroon (CAPcameroon) where there is a legal limit for truck capacity and one for trucks travelling to Congo (CAPcongo). **CAR7** Requirement §3.5.1 of VCS Standard Version 3.3. Evidence and failure		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			b) DNV identified during a site visit and through the review of the GHG accounting spreadsheet an additional deviation of the methodology regarding the allometric equation demonstration which has not been discussed in the VCS PD. According to the applicable methodology, §3.2.1.3.2, "If species-specific or group of species-specific biomass allometric equations are not available,general biomass allometric equations can be obtained from literature such as …. For this case, select the most applicable allometric equation for a tropical forest with corresponding climate region and ecological zone and verify the applicability of this equation in the first monitoring event (see Section 7.2.4.2). If the equation is not applicable, derive a Project Area-specific equation (see specifically Steps 1 and 5 in Section 7.2.4.2 for guidelines)". Hence, the methodology requires verifying the applicability of any generic equation in any case through the application of a destructive method provided in 7.2.4.2. Although 7.2.4.2 contradicts this requirement (i.e. "where the default volume and biomass allometric equations do not match the forest type and climatic region of the Project Area, it is required to validate or derive the allometric equations using the following destructive sampling procedure") the project proponent has demonstrated that the applicable		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			allometric equation is conservative, yet this deviation has not been discussed in section 2.6 of the VCS PD.		
3 Quantification of GHG emissions reductions and removals					
3.1 Baseline Emissions and removals					
3.1.1 Have equations and parameters been clearly and properly identified?	/1/ /29/	DR	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 ($C'_{emissions,t}$). Equation 3.1 of VM0011 is described as follows: $C'_{baseline,t} = C'_{degradation,t} + C'_{emissions,t}$ According to equation 3.2 of VM0011 the degradation of the Project Area ($C'_{degradation,t}$) would be estimated through the following equation: $C'_{degradation,t} = (C_{DW_{decay},t} + C_{ltHWP_{oxidation},t} + C_{growth\_forgone,t} - C_{regrowth,t}) \times \frac{44}{12}$ Where: -$C_{DWdecay,t}$- Annual carbon leaving the deadwood pool due to the decay of deadwood in year t		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			$C_{DW_{decay},t} = \sum_{t=1}^{t^*}\left((1-e^{-k_{decay}*t}) \times C_{DWin,t}\right) - \sum_{t=1}^{t-1^*}\left((1-e^{-k_{decay}*t}) \times C_{DWin,t}\right)$ $C_{DWin,t} = f_{total\_damages} \times V_{merch,t}$ -$C_{ltHWPoxidation,t}$ - Annual carbon due to the combined delayed oxidation of long-term harvested wood products and immediate oxidation of long-term harvested wood products residues in year t $C_{ltHWP_{oxidation},t} = C_{ltHWP_{residues},t} + C_{ltHWP_{net\_out},t}$ Where: -$C_{ltHWPresidues,t}$ - Annual carbon due to the immediate oxidation of long-term harvested wood products residues in year t. This is calculated as follows: $C_{ltHWP_{residues},t} = \bar{C}_{merch,t=0} \times (1 - f_{lumber\_recovery}) \times A_{NHA\_annual,t}$ -$C_{ltHWPnet\_out,t}$ - Annual net carbon due to the delayed oxidation of the long-term harvested wood products, leaving the long-term harvested wood products pool in year t		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			$$C_{ltHWP_{net\_out},t} = \sum_{t=1}^{t^*}\left((1-e^{-k_{ltHWP\_ox}*t}) \times C_{ltHWPin,t}\right) - \sum_{t=1}^{t-1^*}\left((1-e^{-k_{decay}*t}) \times C_{ltHWPin,t}\right)$$ $$C_{ltHWPin,t} = \bar{C}_{merch,t=0} \times f_{lumber\_recovery} \times \times A_{NHA\_annual,t}$$ $$\bar{C}_{merch,t=0} = \frac{\sum_{j=1}^{J}(D \times CF_{wood} \times \bar{V}_{merch,j,t=0} \times A_{project,j,t=0})}{A_{project,t=0}}$$ $$C_{merch,t} = \bar{C}_{merch,t=0} \times A_{NHA\_annual,t}$$ -$C_{growth\_foregone,t}$- Annual carbon lost due to growth foregone in the aboveground biomass in the Project Area in year t $$C_{growth\_foregone,t} = CF_{AGB} \times \bar{G}_{growth\_foregone,t} \times \sum_{t=1}^{t^*} A_{NHA\_annual,t}$$ $$\bar{G}_{growth\_foregone,t} = \frac{B_{AGB\_merch,m2} - B_{AGB\_merch,m2}}{\Delta m}$$ --$C_{regrowth,t}$ - Annual carbon increase in the			

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			biomass due to regrowth following logging in year t $C_{regrowth,t} = \bar{G}_{regrowth,t} \times \sum_{t=1}^{t^*} A_{NHA\_annual,t}$ On the other hand the annual emissions due to selective logging operations ($C'_{emissions,t}$) would be calculated as follows: $C'_{emissions,t} = E_{harvest\_onsiteprep,t} + E_{hauling,t} + E_{transport,t} + E_{processing,t} + E_{distribution,t}$ Where: $-E_{harvest\ onsiteprep,t}$ - Annual emissions due to harvesting and on-site operations in year t, $E_{harvest\_onsiteprep,t} = FC_{harvest\_onsiteprep,t} \times EF_{fuel} \times V_{merch,t}$ $-E_{hauling,t}$ - Annual emissions due to log hauling in year $E_{hauling,t} = FC_{hauling,t} \times EF_{fuel} \times V_{merch,t}$ $-E_{transport,t}$ - Annual emissions due to log transport from collection depot to processing plant in year t $E_{transport,t} = FC_{transport,t} \times EF_{fuel} \times KM_{transport\_total,t}$		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			$KM_{transport\_total,t} = KM_{transport,t} \times N_{trucks\_transport,t} \times 2$ $N_{trucks\_transport,t} = \frac{V_{merch,t}}{Cap_{truck}}$ -$E_{processing,t}$ - Annual emissions due to electricity consumption in sawmill in year t, $E_{processing,t} = FC_{generators} \times EF_{fuel} \times V_{sawn\_timber,t}$ $V_{sawn_{timber},t} = V_{merch,t} \times f_{export/sawn}$ $E_{distribution,t}$ - Annual emissions due to transport of the sawn product from the mill to the wharf for export or to the depot for local usage in year t $E_{distribution,t} = (E_{distribution_{road},t} + E_{distribution_{river},t} + E_{distribution_{rail},t})_{Congo} + (E_{distribution_{road},t} + E_{distribution_{rail},t})_{Cameroon}$ $E_{distribution,vehicle,destination,t} = FC_{distribution,vehicle,destination,t} \times EF_{fuel} \times KM_{distribution\_total,vehicel,destination,t}$ $KM_{distribution\_total,vehicle,destination,t,t} = KM_{distrib,destination,t} \times N_{vehicle\_transport,t} \times 2$ $N_{trucks\_transport,t} = \frac{V_{merch,vehicle,t}}{Cap_{vehicle}}$ $E_{distribution,rail,destination,t} = EF_{rail} \times V_{merch,rail,destination,t} \times 0.6014 \times KM_{distrib,destination,t}$		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
3.1.2 Are the calculations documented according to the approved methodology and in a complete and transparent manner?	/1/	DR	**CAR8** Evidence and failure DNV checked the GHG accounting spreadsheet and identified the following issues: a) In order to validate the inventory the project proponent has compared the merchantable volume provided in the FMP with that provided through the forest inventory. However, in line with 3.2.1.1 the comparison should be done in terms of AGB; the allometric method would be applied to the forest inventory data and the BEF method would be applied to the FMP data. b) In order to validate the inventory data of the FMP, the project proponent conducted a forest inventory. In order to estimate the heights to be used in the allometric equations, it built a specific hypsometric equation; however, this has not been used in the calculations. Instead the equation from Feldespauth has been used. c) The Merch coefficient applied for species Wengué is not consistent with the FMP; d) The regrowth has not been estimated considering that the plot is 0.5 ha in size. However, the data used to estimate the regrowth is sourced from the regeneration plot which is of 0.025 ha of size.	~~CAR8~~	OK
3.1.3 Have conservative assumptions been used when calculating the baseline emissions?	/1/	DR	Yes, conservative assumptions have been used where appropriate.		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
3.1.4 Are uncertainties in the baseline emission estimates properly addressed?	/1/	DR	**CAR9** Evidence and failure DNV checked the uncertainty calculations /8/ and identified the following issues: a) The uncertainty of the oxidation rate of ltHWP used is 30%. However, according to the IPCC GPG 2006 this is 50%. 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. c) The uncertainty of the dead wood decay seems to be not correct. 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.	~~CAR9~~	
3.2 Project Emissions and removals					
3.2.1 Are the calculations documented according to the approved methodology and in a complete and transparent manner?	/1/	DR	The project emissions would be estimated through the following equation: $C'_{actual,t} = E_{projplan,t} + E_{design,t} + E_{monitoring,t} + \left[\left(C_{natdisturb,t} + C_{illegal\_harvest,t}\right) \times \frac{44}{12}\right]$ DNV confirmed that emissions due to the project		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			planning and design are negligible /10/ as they represent less that 5% of the emission reductions. Regarding the emissions for the project monitoring these are negligible as they will consist in the transport of 120 km annually to the project area. Hence, the project emissions would be expressed as the sum of the emissions from natural disturbance ($C_{natdisturb,t}$) and the emissions from lillegal harvesting ($C_{illegal\_harvest,t}$) which will be monitored, so no ex-ante estimate is available. $C'_{actual,t} = \left[\left(C_{natdisturb,t} + C_{illegal\_harvest,t}\right) \times \frac{44}{12}\right]$		
3.2.2 Have conservative assumptions been used when calculating the project emissions?	/1/	DR I	Not applicable since no ex-ante estimations are available for this.		OK
3.2.3 Are uncertainties in the project emission estimates properly addressed?	/1/	DR I	Not applicable since no ex-ante estimations are available for this.		OK
3.3 Leakage Emissions					
3.3.1 Are the leakage calculations documented according to the approved methodology and in a complete and transparent manner?	/1/	DR I	According to the applicable methodology 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:	~~CL6~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			$C'_{leakage,t} = (CL_{activityshifting,t} + CL_{market,t}) \times \frac{44}{12} + CL'_{emissions,t}$ Where: -leakage emissions from activity shifting ($CL_{activityshifting,t}$) Emissions due to activity shifting have been estimated by the following equation: $C_{activityshifting,t} = C_{IH\_activityshifting,t} + C_{SH\_actuvutyshifting,t}$ 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) - $C_{SH\_actuvutyshifting,t}$: Annual total carbon losses from activity shifting due to shifting of harvest volume in year t (tC) DNV checked the leakage calculations /7/ against available evidence /24/ and confirmed that the information of the 5 previous years which serves as historical reference to determine whether intensification has occurred is accurate. Leakage emissions would be monitored.		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			-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-		

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			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 $\bar{V}_{before,C,N} \times (1 \mp i) \geq \bar{V}_{after,C,M}$ $\rightarrow No\ leakage\ due\ to\ ML$ $\bar{V}_{before,C,N} \times (1 \mp i) < \bar{V}_{after,C,M}$ $\rightarrow leakage\ due\ to\ ML$ **CL6** Evidence and clarification a) The project proponent is requested to provide in the VCS PD information on how the leakage would be estimated, in particular the market leakage.		
3.3.2 Have conservative assumptions been used when calculating the leakage emissions?	/1/	DR	Not applicable since no ex-ante estimations are available for this.		OK
3.3.3 Are uncertainties in the leakage emission estimates properly addressed?	/1/	DR	Not applicable since no ex-ante estimations are available for this.		OK
3.4 Summary of GHG Emission Reductions and Removals					
3.4.1 Algorithms and/or formulae used to determine emission reductions: - All assumptions and data used by the project participants are listed in the VCS PD. The data are properly referenced - All documentation is correctly quoted and interpreted. - All values used can be deemed reasonable in the	/1/	DR	Please refer to CAR8 and CAR9	~~CAR8~~ ~~CAR9~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
context of the project activity - The methodology has been correctly applied to calculate the emission reductions and this can be replicated by the data provided in the VCS PD.					
3.4.2 If the project has harvesting activities, is the number of GHG credits below the long-term average carbon stock maintained by the project? The maximum number of GHG credits available to projects shall not exceed the long-term average of the carbon stock stored in the selected carbon pools, adjusted for any project emissions of CO_2, N_2O and CH_4 and leakage. (AFOLU requirements: VCS Version 3.3; paragraph 4.5.3)	/1/	DR	Not applicable since no harvesting occurs as part of the project activity.		OK
4 Monitoring					
4.1 Data and Parameters Available at Validation					
4.1.1 How was the parameter $A_{project,t=0}$ - Project Area verified?	/1/ /29/	DR I	**CL7** Evidence and clarification a) According to the VCS PD, the parameter $A_{project,t=0}$ is 55 950 ha. However, DNV checked the shapefile for the drylands (i.e. "terre ferme") and found that the area indicated was 55 683 ha. Clarification is sought on what would be the correct figure of the productive area.	~~CL7~~	OK
4.1.1 How was the $A_{NHA\_annual,t}$ – Annual harvested area verified?	/1/ /29/	DR I	The annual harvested area would be 1/5th of the area of each UFP as indicated in the FMP /3/, i.e.. 2 384 ha/year in 2012-2017, 2 584 ha/year in 2017-2021, 3 566 ha/year in 2022-2026, and 2 658 ha/year in 2027-2031.		OK
4.1.2 How was the CF_{AGB} - Carbon Fraction in the AGB and CF_{wood} - Carbon Fraction in the Merchantable logs verified?	/1/	DR	The project proponent has applied respectively a value of 0.47 and 0.49 as per the 2006 IPCC		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
	/29/	I	GPG /63/.		
4.1.3 How was the D - Wood specific gravity and D_i – wood specific gravity per species verified?	/1/ /29/	DR I	The values of basic density used are sourced from Zanne et al. (2009) /60/ and are specific for species in Tropical Africa. A value of 0.58 is given to species that are not in this database which is reasonable for tropical Africa. **CL7** Evidence and clarification b) The project proponent is requested to provide in the VCS PD, §4.1, the list of parameters available at validation and to provide in the VCS PD the value of those parameters so that it will serve as reference for future verification events. **CAR10** Evidence and failure a) DNV checked the GHG accounting spreadsheet /4/ and found that the basic density applied for species Niové was not correct.	~~CL7~~ ~~CAR10~~	OK
4.1.4 How was the $f_B(DBH_{n,i,s,\ j,t=0}, H_{n,s,i,\ j,t=0}, D_i)$ - Biomass allometric equation as a function of diameter at breast height and height; t=0 year verified?	/1/ /29/	DR I	The project proponent has chosen as allometric equations : ✓ DBH in the range 5-156 cm: 2005 Chave Allometric model for tropical moist areas with three entry parameters that are the tree DBH, tree Height and density /50/. DNV confirmed that this model would be more precise than other models available /53//54//59/ as it		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			includes height and basic density as entry parameter and in general it provides lower estimates in comparison with other available models. Since obtaining heights of all trees is extremely costly the project proponent has adjusted an hypsometry model based on Feldpausch (2012) /51/ with local data in order to estimate the heights of each tree. This equation was adjusted with a R^2 of 0.98. ✓ DBH>156 cm: For trees that have a diameter above to 156 cm, the project proponent has applied the 2004 pan-tropical Chave model /49/, which gives very conservative results as DNV was able to confirm.		
4.1.5 How was the $DBH_{n,i,s,t=0}$ - Diameter at Breast Height (1.30 m) verified?	/1/ /29/	DR I	DNV conducted a spot-check of 2 sampling plots and required to the project proponent to re-measure these sampling plots. DNV did not identify any tree with an error of more than 3 mm and that there was no transfer error. Hence, the information is accurate.		OK
4.1.6 How was the $V_{merch,t}$ - Merchantable volume harvested in year t verified?	/1/ /29/	DR I	DNV checked the information provided in the VCS PD and the GHG accounting spreadsheet against the information provided by the FMP/3/, and confirmed that the values of merchantable volume harvested per year is consistent for all species. It is worth noting that certain species that were present in the FMP as promotion species have not been included in the GHG accounting as they cannot be currently		OK

MoV = Means of Verification, DR= Document Review, I= Interview, CC= Cross-Checking

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			commercialised.		
4.1.7 How was the C_{AGB} - Carbon in the AGB of the growing stock verified?	/1/ /29/	DR I	Not applicable.		OK
4.1.8 How was the k_{decay} - Rate of decay of the deadwood pool verified?	/1/ /29/	DR I	The rate of decay of the deadwood pool applied by the project proponent is sourced from Chambers et al. (1999) based on measurements taken in the Amazonia /48/. According to this study the decay rate would be 0.19 yr^{-1}. The project proponent has applied the lower bound of the confidence level, i.e. 0.186 yr^{-1}. DNV deems that this value is applicable to the project conditions as it is based on a region which has similar temperature conditions as the project area, and this is one of the main factors that explain decay rates /48/. Furthermore, DNV deems that it is conservative to apply this value as the average basic density of wood reported in the Amazonia is higher than in the project area /48/, so the decay rate it would be expected to be higher in the project area.		OK
4.1.9 How was the $f_{damages}$ - Factor combining Branch-Trim factor and Residual Stand Damage factor verified?	/1/ /29/	DR I	The project proponent has applied a damage factor of 0.9689 $tC.m^{-3}$, sourced from Brown et al. and Pearson et al. (2005) /45//46/. **CAR10** Evidence and failure b) DNV checked the studies of Brown et al and	~~CAR10~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			Pearson et al. (2005) /45//46/ and found that the factor of 0.9689 $tC.m^{-3}$ includes also the extraction of timber that would be directed to the ltHWP pool. The consideration of this constitutes double counting under the applicable methodology.		
4.1.10 How was the $f_{lumber\_recovery}$ – rate of lumber recovery Proportion of merchantable log converted to HWP verified?	/1/ /29/	DR I	The rate of lumber recovery is sourced from historical numbers form CIB in their sawmill of Pokola /24//25/. **CAR10** Evidence and failure c) DNV checked the production reports of CIB from the different sawmills and found that the parameter $f_{lumber\_recovery}$ has been estimated considering also the inputs and outputs of the sawmill of Loundoungou.	~~CAR10~~	OK
4.1.11 How was the k_{ltHWP_ox} - Rate of oxidation for ltHWP verified?	/1/ /29/	DR I	The rate of oxidation for ltHWP is equal to 0.023, sourced from the applicable methodology /29/.		OK
4.1.12 How was the $FC_{harvest+onsiteprep}$ - Fuel consumptions of equipment used for harvesting and trimming per m^3 of merchantable log produced verified?	/1/ /29/	DR I	This is equal to 0.0899 l m^{-3} and it has been based on historical data from CIB concessions /24//25/.		OK
4.1.13 How was the $FC_{hauling}$ - Fuel consumptions of equipment used for hauling per m^3 of merchantable log produced verified?	/1/ /29/	DR I	This is equal to 4.7097 l m^{-3} and it has been based on historical data from CIB concessions /24//25/.		OK
4.1.14 How was the $FC_{transport}$ - Truck fuel consumption	/1/	DR	This is equal to 0.6014 l km^{-1} and it has been		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
verified?	/29/	I	based on historical data from CIB's operations /24//25/.		
4.1.15 How was the Cap_{truck} - Truck load capacity verified?	/1/ /29/	DR I	This is equal to 56.32 m^{-3} and it has been based on historical data from CIB's operations /24//25/.		OK
4.1.16 How was the $KM_{transport,t}$ - Annual log transport distance from collection depot to processing plant verified?	/1/ /29/	DR I	This is based on transport distances within the Pikounda UFE provided by the FMP and the actual distance by road from Pokola's sawmill to the Pikounda UFE. The distances have been estimated using a GIS /5/, and DNV confirmed that they were correct.		OK
4.1.17 How was the $FC_{generators}$ - Generators fuel consumption per m^3 of timber entering the sawmill verified?	/1/ /29/	DR I	This is equal to 11.87 l m^{-3} and it has been based on historical data from the saw mill of Pokola /24//25/. **CAR10** Evidence and failure d) DNV checked the production reports of CIB from the different sawmills and found that the consumption by the generators from Pokola saw mill is lower than the one estimated initially.	~~CAR10~~	OK
4.1.18 How was the $V_{sawn\_timber,t}$ - Volume of merchantable logs reserved for the sawmill in year t verified?	/1/ /29/	DR I	This is sourced from historical numbers from CIB in their sawmills /24//25/.		OK
4.1.19 How was the $f_{export/sawn}$ - Ratio of total merchantable volume reserved for the sawmill verified?	/1/ /29/	DR I	This is sourced from historical numbers from CIB in their global operations per species /24//25/.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
4.1.20 How was the $V_{merch,vehicle,destination,t}$ - Volume of merchantable logs/sawn timber transported to destination d, by vehicle v, in year t verified?	/1/ /29/	DR I	This is sourced from historical numbers from CIB in their global operations per species /24//25/.		OK
4.1.21 How was the $Cap_{vehicle}$ - Truck load capacity verified?	/1/ /29/	DR I	This is sourced from historical numbers from CIB in their global operations per species /24//25/. **CAR10** Evidence and failure e) During the site visit DNV confirmed that the payload of trucks in Cameroon is 30 t not 30 m^3 as initially estimated in the GHG accounting.	~~CAR10~~	OK
4.1.22 How was the $KM_{distrib,destination,t}$ - Distance between Pokola and export point verified?	/1/ /29/	DR I	This is sourced from historical numbers from CIB in their global operations per species /24//25/.		OK
4.1.23 How was the FC_{truck} - Truck fuel consumption verified?	/1/ /29/	DR I	This is equal to 0.6014 l km^{-1} and it has been based on historical data from CIB's operations /24//25/.		OK
4.1.24 How was the EF_{fuel} - Fuel emission factor verified?	/1/ /29/	DR I	The emission factors applied are 2.7782 $kgCO_2e$ l^{-1} and 3.6028 $kgCO_2e$ l^{-1} respectively for petrol and fuel oil and 0.03634 $kgCO_2e/t/km$ for rail transportation. These are sourced from THE Department of Energy and Climate Change (DECC) of the United Kingdom /64/, so it would be conservative for the project conditions.		OK
4.1.25 How was the EF_{rail} - Rail freight emission factor verified?	/1/ /29/	DR I	See previous point.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
4.1.26 How was the $V'_{historical\_harvest,l,k}$ – Volume harvested historically verified?	/1/ /29/	DR I	The historical harvest per concession in the reference period 2007-2011 is of 64 001 m^3/year in Pokola, 61 594 m^3/year in Kabo, 41 154 m^3/year in Toukoulaka, and 74 012 m^3/year in Loundoungou as sourced from the CIB's historical data /24//25/.		OK
4.1.27 How was the $\overline{V}_{before,\,C,\,M}$ - Average annual volume of timber production before the implementation of an IFM-LtPF project verified?	/1/ /29/	DR I	**CL7** Evidence and clarification c) The project proponent is requested to provide in the VCS PD any parameter defined ex-ante for the estimation of the market leakage.	~~CL7~~	OK
4.2 Data and parameters monitored					
4.2.1 For $DBH_{n,i,s,t}$ - Diameter at Breast Height (1.30 m) , are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	Yes, the appendix provides enough information regarding the monitoring of this parameter. **CL8** Evidence and clarification a) The project proponent is requested to provide in the VCS PD, §4.2, the list of parameters that will be monitored. b) The project proponent is requested to provide in the VCS PD, §4.3, all the necessary information on monitoring procedures (i.e. APPENDIX 10 - Monitoring Plan V3-2013.docx)..	~~CL8~~	OK
4.2.2 For $C_{regrowth,t}$ - Average regrowth of the AGB in gaps	/1/	DR	Yes, enough information is provided on the		OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
after selective logging are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/29/		monitoring of this parameter.		
4.2.1 For $DBH_{tree\_nd,n,i,snd,j,t}$, - 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 are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	Yes, the appendix provides enough information regarding the monitoring of this parameter.		OK
4.2.2 For $A_{nd,j,t}$ - Area of natural disturbance nd, in stratum j in year t are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	**CAR11** Evidence and failure a) The list of parameters to be monitored does not include any parameter necessary to the monitoring of the project emissions due to natural disturbances.	~~CAR11~~	OK
4.2.3 For $f_{natdisturb,j,t}$ - Fraction of the forest naturally damaged in stratum j, in year t are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	See CAR11.	~~CAR11~~	OK
4.2.4 For $V_{illegal\_harvest,t}$ - *Volume of wood sold as determined from field surveys in year t*, are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	**CAR11** Evidence and failure b) The list of parameters to be monitored does not include any parameter necessary to the monitoring of the project emissions due to illegal	~~CAR11~~	OK

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			harvesting.		
4.2.5 For $A_{illegal\_harvest,j,t}$ - *Area of illegal harvest in stratum j, in year t*, are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	See CAR11.	~~CAR11~~	OK
4.2.6 For $V_{actual\_harvest,l,t}$ -, 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 are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	**CAR11** Evidence and failure c) The list of parameters to be monitored does not include any parameter necessary to the monitoring of the leakage emissions, i.e. activity displacement and market leakage.	~~CAR11~~	OK
4.2.7 For *V in the country by similar concessions*, are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected? What are they? Do they comply with the requirements of the methodology, including measurement accuracy?	/1/ /29/	DR	See CAR11.	~~CAR11~~	OK
4.2.8 What QA/QC procedures will be applied to ensure the measurement quality, including installation, calibration and maintenance?	/1/ /29/	DR	See CAR11.	~~CAR11~~	OK
4.3 Description of the monitoring plan					
4.3.1 How has it been assessed that the monitoring arrangements described in the monitoring plan are feasible within the project design?	/1/	DR I	Yes, all monitoring agreements are feasible within the project design. It is not costly and the annual frequency of most of the aspects does not suppose an issue to the project proponent.		OK
4.3.2 Are procedures identified for day-to-day records handling (including what records to keep, storage area of records and how to process performance documentation)?	/1/	DR I	Yes, there are specific procedures defined indicating clearly the frequency, responsibility and the scope of each action. Furthermore, there are		OK

MoV = Means of Verification, DR= Document Review, I= Interview, CC= Cross-Checking

Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			3 SOPs integrated in the management system of the project proponent which rule the monitoring of the PSPs /18//19//20/.		
4.3.3 Are the data management and quality assurance and quality control procedures sufficient to ensure that the emission reductions achieved by/resulting from the project can be reported ex post and verified?	/1/	DR I	The project proponent has defined the QA/QC procedures to be applied at: - SOPs for field measurements: Persons involved in the measurements shall be trained and shall adhere to the SOPs. - Data collection. 10-20% of plots will be remeasured. - Data entry and analysis. Data will be reviewed. - Data maintenance and archiving. All data will be archived in durable media and stored in multiple locations.		OK
4.3.4 Will all documents and records are kept in a secure and retrievable manner for at least two years after the end of the crediting period?	/1/	DR I	**CL9** Requirement §3.17.1 of the VCS Standard Version 3.3 Evidence and clarification Clarification is sought on what are the provisions in order to ensure that he project documents and records are kept in a secure an retrievable manner for at least 2 years after the end of the crediting period.	~~CL9~~	OK
4.3.5 Is a description of the central GHG information system and controls described in the monitoring plan? (Grouped)	/1/	DR	Not applicable.		OK
4.3.6 What types of data and information to be reported in order to estimate the emission reductions and provide other	/1/	DR	Yes, all the required information is reported.		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
relevant information required by VCS program? Is the identified data type and information complete, including units of measurement?					
4.3.7 Are sources of the data and information to be reported identified properly? What are they? Do they comply with the requirements of the methodology?	/1/	DR	Yes, all the source of data and information are clearly identified. This is in line with the methodology.		OK
4.3.8 Are the monitoring, including estimation, modelling, measurement or calculation approaches are properly selected?	/1/	DR	Yes, monitoring procedures are adequate considering the project circumstances.		OK
4.3.9 Are monitoring times and periods, considering the needs of intended users properly defined?	/1/	DR	Yes, all the monitoring times and periods are adequate and in line with the applicable methodology.		OK
4.3.10 Are monitoring roles and responsibilities clearly and properly defined?	/1/	DR	Yes, all responsibilities are clearly defined.		OK
4.3.11 Have processes and procedures been defined to ensure data quality?	/1/	DR	Yes, they will ensure data quality.		OK
5 Environmental Impact					
5.1.1 Are there any requirements for an Environmental Impact Assessment (EIA) by applicable legislation or regulation? And if yes, is an EIA approved? Does the approval contain any conditions that need monitoring?	/1/	DR I	The proposed project activity does not require any EIA according to the applicable legislation as it is a “do-nothing” option. This was effectively confirmed during the interview held with the national REDD coordinator /76/ who confirmed this.		OK
5.1.2 Is a summary of environmental impact assessment described in the VCS PD when such an assessment is required by applicable legislation or regulation	/1/	DR I	A very short summary is provided in the VCS PD, however, this is not required as per the applicable legislation or regulation.		OK
5.1.3 Does the project comply with applicable environmental legislation?	/1/	DR I	Yes, it complies with all environmental legislation as confirmed by the REDD coordinator in the		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			interview held in Brazzaville.		
5.1.4 Have identified environmental impacts been addressed in the project design?	/1/	DR I	No negative impacts have been identified.		OK
6 Stakeholders Comments					
6.1.1 Have relevant stakeholders been consulted?	/1/	DR I	No local communities live within the Pikounda-Nord UFE as confirmed through the FMP /3/ and as confirmed by other stakeholders /76//74//73//75/. The closest village is Molenda which is located more than 20 km away from the project area, and from that village the project area is almost inaccessible due to the presence of wetlands. However, the project proponent has conducted various stakeholder consultations at a governmental level and also at a local level, involving local authorities and in particular the people of Molenda. ✓ October 2011: REDD+ Technical Meeting with RoC / MDDEFE / CIB-Olam - Singapore. ✓ November 2011: North Pikounda Awareness Workshop - Ouesso, Dept. Sangah, Republic of Congo ✓ October 2012: Molanda Mission - Molanda, Dept. Sangah, Republic of Congo ✓ September 2012: REDD+ PILOT Project Steering Committee - Pokola, Republic of		OK

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Checklist Question	Ref	MoV	Assessment by DNV	Draft Concl.	Final Concl.
			Congo The accuracy of these meetings were confirmed against available evidence /26/ and during the meeting held with the national REDD coordinator /76/.		
6.1.2 Is a summary of the stakeholder comments received provided?	/1/	DR I	**CL10** Evidence and clarification a) The project proponent is requested to include in the VCS PD a summary of stakeholder comments received during the LSC meetings held, including any specific request from stakeholders.	~~CL10~~	OK
6.1.3 Has due account been taken of any stakeholder comments received?	/1/	DR I	**CL10** Evidence and clarification b) The project proponent is requested to include in the VCS PD a short description on how it has taken into account of the comments received from local stakeholders.	~~CL10~~	OK
6.1.4 Have mechanisms been identified in the VCS PD for on-going communication with stakeholders?	/1/	DR I	Yes, a steering committee will meet in a yearly basis and the project proponent will continue with continuous stakeholder consultations with the local communities.		OK

Table 2 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	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

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Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
polygons in the project area (Score 2).				
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	d) 0	As justified in the validated IRR analysis, the breakeven point would be within four years of the project implementation /27/.		c) 1

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
years from the current risk assessment				
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	**CL11** Evidence and clarification 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.	~~CL11~~	0
i) **Mitigation:** Project has available as callable financial resources at least 50% of total cash out before project reaches breakeven	-2	**CL11** Evidence and clarification 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.	~~CL11~~	-2
Total Financial Viability (FV)	0		~~CL11~~	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	a) 8	The baseline alternative land-use scenario would be at least 100% more profitable than the associated with project activities /27/.		a) 8

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
activity is expected to be between 50% and up to100% more than from project activities 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 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 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 f) NPV from project activities is expected to be at least 50% more profitable than the most profitable alternative land use activity				
g) **Mitigation:** Project proponent is a non-profit organization	0	Not argued by the project proponent.		0
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	-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 /14/. This was effectively confirmed during the meeting held with the REDD national coordinator /76/.		-2
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	0	Not argued by the project proponent.		0

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Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
Total Opportunity Cost (OC)	6			6
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 /14/. Hence the project longevity would be 30 – 15 = 15. OK.		b) 15
Total Project Longevity (PL)	15	The total project longevity risk is 9.		15
1.5 Total Internal Risk				
Total Internal Risks (PM+FV+OC+PL)	17		~~CL11~~	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 /14/. 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 /76/, 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		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
		rights.		
d) There exist disputes over access/use rights (or overlapping rights)	0	DNV confirmed during the meeting held with the REDD national coordinator /76/, 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
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 /14/.		-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	0	No households live within 20 km of the project boundary		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
km of the project boundary outside the project area, and who are reliant on the project area, have been consulted		outside the project area.		
c) **Mitigation:** The project generates net positive impacts on the social and economic well-being of the local communities who derive livelihoods from the project area	-5	**CAR12** Requirement §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, the risk is not relevant to the project and the risk rating for community engagement (CE) shall be zero." Evidence and failure 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.	~~CAR12~~	0
Total Community Engagement (CE)	-5			0

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Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
2.3 Political Risk				
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) d) Governance score of 0.19 to less than 0.82 (Score 1) e) Governance score of 0.82 or higher (Score 0)	a) 6	The governance score of Republic of Congo is -1.063, hence it is lower than -0.79.		a) 6
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		~~CAR12~~	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.		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
		OK.		
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 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
3.2.2 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		0

Checklist Question	Value report	Assessment by DNV	Draft Conc.	Final Concl.
		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.		
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
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		~~CL11~~ ~~CAR12~~	21

Table 3 Resolution of corrective action requests and clarification requests

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
CAR1 Requirement §3.9.1 of VCS Standard Version 3.3 Evidence and failure The definition of the scale of the project provided in the VCS PD is not in accordance with the VCS Standard.	1.7.1	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR1** Scale of project have been changed to "Project" as North Pikounda REDD+ project is supposed to emit less than 300,000 tCO2-e per year, this in harmony with version 3.3 of VCS standard (see §1.7 of VCS-PD).	**Assessment#1** (Ver. 6.0 - 3 June 2013) The PD has been updated. The project is classified as per §3.9.1 of VCS Standard Version 3.3 as a 'project' as the estimated annual GHG emission removals is less than or equal to 300 000 tCO_2e. **CAR1 is closed.**
CAR2 Requirement According to the step-wise approach for identifying the baseline scenario, the project proponent identify credible alternative baseline scenarios to the proposed VCS IFM-LtPF project activity, and should consider amongst these alternatives the protection of the land within the Project Area without being registered under the VCS as an IFM-LtPF project activity. Evidence and failure a) As part of Step 1a the project proponent is stating that proposed project activity without the VCS is not a credible scenario due to financial and legal constraints, yet with a different standard it could be credible. The project proponent has not followed the provisions of the methodology due to the following reasons 1) Step 1a is intended to	2.4.3 2.4.4	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR2.a)** The Proponents have noted the requests by DNV for the alteration of the language required to identify possible alternatives, including as the proposed project activity as a credible and viable alternative The VCS PD has been updated in the appropriate sections (Section 2.4 and Section 2.5) both within the baseline description and the additionality description to reflect the Project Activity as a viable alternative. **CAR2(b)** The Proponents have noted the requests by	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) The VCS PD has been revised. Step 1a is in accordance with the provisions of the methodology as the proposed project activity without carbon incentives has been kept as a possible alternative scenario – OK. b) The VCS PD has been revised. Step 1b is now in accordance with the provisions of the methodology as the proposed project activity without carbon incentives has been kept as alternative scenario – OK. c) The VCS PD has been updated and now it is in accordance with the tool – OK. **Open after DVR** d) The VCS PD indicates in section 2.4 that the alternative Oil Palm Plantation is

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
identify possible alternatives, not to identify barriers or already exclude alternatives; 2) The step-wise approach requires by default to include the proposed project activity amongst the credible scenarios; 3) The alternative to be discussed is the proposed project activity without carbon incentives irrespective of the carbon standard used, so an alternative without VCS but with another standard is the same as the proposed project activity with VCS. Please reformulate the discussion of Alternative 3 in Step 1a of the baseline identification and the additionality assessment b) For the alternative baseline scenarios identified in Sub-step 1a, the Project Proponent must demonstrate in sub-step 1b that these alternatives comply with mandatory applicable legislation and regulations in the host country, i.e. are not illegal. Based on this, it has eliminated the alternative land-use "No Harvesting and/or Protection but without being registered under the VCS as an IFM-LtPF project". The project proponent has not followed the provisions of the methodology due to the following reasons 1) Step 1b is intended to explain whether any of the identified alternatives in step 1a is illegal (or if illegal, whether a systematic non-enforcement occurs), not to identify barriers or already exclude alternatives. This has to be done in Step 2/3; 2) The proposed		DNV for the alteration of the language required to indicate how the 1b alternatives, and specifically the proposed Project Activity, that is stop logging without the support of carbon finance comply with applicable host country legislation and regulations. The VCS PD has been updated in the appropriate sections (Section 2.4 and Section 2.5) both within the baseline description and the additionality description to reflect the Project Activity as a viable alternative. **CAR2.c)** The Proponents have noted the requests by DNV for the alteration of the language and the request to reformulate the position of the VCS PD in regards to barriers that would impact the various alternative scenarios. The VCS PD has been updated in the appropriate sections (Section 2.4 and Section 2.5) both within the baseline description and the additionality description to analyse the barriers that are posed in the different alternative scenarios.	suffering infrastructure barriers, while it does not indicate anything in section 2.5. The PP is requested to clarify whether this alternative is a credible and plausible scenario or whether it faces barriers to its implementation. In the case of existence of a barrier, its existence shall be substantiated following the provisions of the methodology. e) Following the "Combined tool to identify the baseline scenario and demonstrate additionality in A/R CDM project activities" and section 2.1.1 of the methodology, the alternative scenarios refer to alternative land-use scenarios. In view of this, the two alternatives of selective logging are identical land-use scenarios as they consist on selective logging, yet with different regimes. The alternative conventional selective harvesting shall be eliminated.

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
project activity without carbon incentives could be deemed legal based on the same rationale as alternative 4, i.e. it would be possible to renegotiate with the government the change in the concession conditions and implement the proposed project activity without carbon incentives. Please reformulate Step 1b of the baseline identification and the additionality assessment. c) Sub-step 2a shall include an identification of barriers which affect to the proposed project activity without carbon incentives. Note: You may refer to the additionality assessment just to avoid repeating the information.		**Response#1** (Ver. 6.3 - 22 July 2013) **CAR 2.d)** The Project Proponent has updated the VCS-PD in section 2.4 and 2.5 in regards to the Alternative Scenario "Oil Palm Plantation" and the associated barriers it would face. **CAR 2.e)** The Project Proponents have removed the language in Section 2.4 and @.5 in regards to the Alternative scenario "Conventional Logging".	**Assessment#1** (Ver. 6.3 - 22 July 2013) The VCS PD has been updated and the two issues have been closed: barriers faced by the oil palm plantation alternative have been described; the alternative scenario conventional logging has been deleted. **CAR2 is closed.**
CAR3 Evidence and failure a) The VCS PD identify barriers and demonstrate that these barriers affect the proposed project activity without carbon incentives and that it does not affect at least one of the alternatives. However, 1) it has only discussed how the barriers do not affect just one of the alternative land use scenarios (i.e. conventional logging and palm oil are missing): 2) In order to confirm the project's additionality it shall be explained how the carbon revenues help to overcome such barriers. b) The investment barrier is substantiated as the lack of sources of finance available due to the	2.5.23	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR 3** The Proponent has updated the VCS PD with the removal of the investment barrier argument in Section 2.5 of the Additionality Assessment. **Response#2** (Ver. 6.1 – 14 June 2013) The Proponent has updated the VCS PD within the baseline analysis and	**Assessment#1** (Ver. 6.0 - 3 June 2013) When explaining that the carbon incentives will help to overcome the barrier it is mentioned the revenue stream which is related to a financial barrier. Clarification is sought on how the carbon incentives helped to overcome such barrier without making reference to revenue streams linked to a potential financial analysis – **NOT OK**. **Assessment#2** (Ver. 6.1 – 14 June 2013) DNV checked the VCS PD and confirmed that it now provides information on how the

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
perceived risks in the country, and it is also substantiated as other activities have been implemented only with the use of grants or non-commercial funding. However, a) other alternative land use scenarios would be affected in the same way by these barriers; b) it is not clear how carbon incentives would alleviate the lack of financing available..		additioanlity assesmsent in regards to how the carbon incentives are able to overcome barriers that would otherwise be in place.	carbon incentives help to overcome the barrier. DNV deems that the explanation is correct and correct. **CAR3 is closed.**
CAR4 Evidence and failure a) The VCS PD argues that the project is affected by a technological barrier due to the lack of capacity to implement the project and the lack of technical capacity in the country. DNV deems that this is not justified considering that the proposed project activity consists in a "do-nothing" option which does not require such a technical capacity, and the only capacities required are related to the carbon component required by the standard, which should not be considered as part of the "proposed project activity without carbon finance". b) The VCS PD does not provide an explanation on how the carbon incentives would alleviate a technological barrier.	2.5.25 2.5.26	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR4** ADDITIONALITY STEP 3 (TECHNOLOGY BARRIER) The Proponent has updated the VCS PD with the withdrawal of the Institutional Barrier argument in Section 2.5 of the Additionality Assessment.	**Assessment#1** (Ver. 6.0 - 3 June 2013) The technological barrier has been eliminated from the additionality assessment. **CAR4 is closed.**
CAR5 Evidence and failure a) The VCS PD is arguing the existence of an institutional barrier due to the lack of political instability. However, it is not clear how this barrier	2.5.27 2.5.28	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR5** ADDITIONALITY STEP 3 (Institutional Barrier) The Proponent has updated the VCS PD	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) The reference to political instability has been deleted – OK. b) c.f. **CAR3 – NOT OK**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
is real considering that other alternative land use scenarios are in the same way affected by this barrier due to political instability, i.e. a logging concession might also be affected. b) The VCS PD does not provide an explanation on how the carbon incentives would alleviate an institutional barrier.		Section 2.5 on Additionality at Step 3 in regards to the arguments set forth for institutional barriers. The arguments regarding political instability have been withdrawn and those arguments regarding appropriate legislative institutions to support carbon trading have been enhanced including discussing how carbon finance would alleviate the barrier. **Response#2** (Ver. 6.1 – 14 June 2013) The Proponent has updated the VCS PD within the baseline analysis and additioanlity assesmsent in regards to how the carbon incentives are able to overcome barriers that would otherwise be in place.	**Assessment#2** (Ver. 6.1 – 14 June 2013) b) The VCS PD provides now a clear explanation. The carbon incentives would alleviate this barrier through the specific support from the government to the implementation of the project through the creation of the necessary regulatory framework and solve uncertainties linked. As confirmed during the interview held with the REDD+ coordinator /70/ this project is seen by the country as a demonstration project which serve to increase the visibility of Republic of Congo in the negotiation area. **CAR5 is closed.**
CAR6 Evidence and failure	2.5.292.5.30 2.5.30	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR6** ADDITIONALITY STEP 3 (Prevailing	**Assessment#1** (Ver. 6.0 - 3 June 2013) The project proponent is requested to

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
a) The VCS PD is arguing the existence of a prevailing practice barrier as this is the first time such a carbon project is implemented. This is not correct since the alternative scenario to be discussed is the activity itself, i.e. LtPF, without carbon incentives. Hence the project proponent would have to analyse whether in the RoC logged areas or areas legally sanctioned for logging operations have been protected regardless of the carbon finance, etc. b) The VCS PD does not provide an explanation on how the carbon incentives would alleviate prevailing practice barrier.		Practice Barrier) The Proponent has updated the VCS PD Section 2.5 on Additionality at Step 3 in regards to the arguments set forth for barriers related to prevailing practices including discussing how carbon finance would alleviate the barrier. **Response#2** (Ver. 6.1 – 14 June 2013) Foreword: Within the VCS-PD and documents provided thus far to the auditor, there have been minor mistakes in the context of the South Pikounda UFE. In order to maintain transparency the Project Proponents state that Pikounda was not part of a Land-swap agreement, and that CIB has never undertaken land-swap compensation for areas surrendered for conservation (i.e. Goualougo Triangle) The Project Proponent, set forth this explanation the history of various conservation areas within its borders, particularly those that have been mentioned in the 2010 IUCN Report entitled "The Ecosystem Approach – Learning from Experience, edited by Gil Shepherd, and to show how they differ from the NPR+ Project. This primarily affects the Kabo concession, partly because it was the first	provide further information (i.e. area, conditions, whether it was an approved concession, etc.) and evidence on the conversion of CIB's concession of Pikounda South to a national park. This was not commented during the site visit. **Assessment#2** (Ver. 6.1 – 14 June 2013) DNV checked the provided evidence. DNV checked other third party evidence /65//39/ and confirmed that no similar projects have occurred: - Goualougo Triangle in the CIB concession of Kabo. This is the case in which an area which was initially legally sanctioned for harvesting was converted to a protected area /65/. The region in question is a 25 600 ha area which are limited in the south by wetlands which have limited the human penetration. Due to this factor and by the fact that it borders with Nouabale-Ndoki National Park (NP) created in 1993, the Wildlife Conservation Society (WCS) requested to CIB to declare that region as protected area within the

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		with an FSC Management Plan and partly because of the political landscape at the time.	forest concession /65/. In the year 2000, CIB and WCS conducted a detailed inventory of fauna after which it was decided to classify the Goualougo Triangle as protected area within the concession /27/. This was formalized by the government in agreement with CIB by extracting this from the concession area and integrating it in the Nouabale-Ndoki NP through decree n°2632 /MEFPRH/DGEF/DF-SIAF of 2002 as mentioned in the forest management plan /27/. DNV deems that this case would not be comparable to the proposed project as the decision to define it as protected area within the concession was made at the time of the development of the forest management plan, which is common. - Ntokou-Pikounda NP. At the beginning of the 2000s North Pikound belonged to a larger UFA of 427 000 ha called Ntokou-Pikounda UFA which was offered to CIB as concession /71/. Such UFA

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
			was constituted of wetland forest in the southern 3/4 of the UFA and a richer, denser, forest on dry land in the 1/4 located in the north /3/. The former had a very high concentration of conservation values. In view of this and the fact that the revenues from the southern 3/4 from an hypothetical logging in the southern area the government decided to excise the southern part from the UFA /3/. **CAR6 is closed.**
CAR7 Requirement §3.5.1 of VCS Standard Version 3.3. Evidence and failure a) DNV identified during a site visit and through the review of the GHG accounting spreadsheet an additional deviation regarding the regrowth which has not been described. According to the methodology "This Methodology applies a conservative approach for area of regrowth by considering that the entire annual net harvest area would permit regrowth each year"; however, the project proponent will use actual data on % of harvesting area which is affected by logging	2.6.1	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR7.a)** While VCS VM0011 methodology state that it applies a conservative approach "by considering that the entire annual harvest area would permit regrowth each year", we have considered that, in the case of this project, this approach was not representing the reality. Indeed, there is a fixed annual area that can be legally harvested annually, but, under the baseline scenario of RIL, this area will not be totally harvested. More	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) DNV confirmed that the spreadsheet has been corrected - OK b) DNV confirmed that the spreadsheet has been corrected. Now the verifiability of the equation has been demonstrated following the specific procedures of the methodology- OK **CAR7 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
operations which has been obtained from similar concessions under the management of the project proponent. b) DNV identified during a site visit and through the review of the GHG accounting spreadsheet an additional deviation of the methodology regarding the allometric equation demonstration which has not been discussed in the VCS PD. According to the applicable methodology, §3.2.1.3.2, "If species-specific or group of species-specific biomass allometric equations are not available,general biomass allometric equations can be obtained from literature such as …. For this case, select the most applicable allometric equation for a tropical forest with corresponding climate region and ecological zone and verify the applicability of this equation in the first monitoring event (see Section 7.2.4.2). If the equation is not applicable, derive a Project Area-specific equation (see specifically Steps 1 and 5 in Section 7.2.4.2 for guidelines)". Hence, the methodology requires verifying the applicability of any generic equation in any case through the application of a destructive method provided in 7.2.4.2. Although 7.2.4.2 contradicts this requirement (i.e. "where the default volume and biomass allometric equations do not match the forest type and climatic region of the Project Area, it is required to validate or derive the allometric equations using		precisely, Meoli (2005) has defined that, for CIB operation, only 12.4% of the annual area that can be harvested is effectively damaged by harvesting operations (felling gaps + hauling damages + road network), thus only 12.4% of the annual harvesting area will allow regrowth. This deviation have now been fully explained in §2.6 "Methodology Deviation" of the VCS-PD. **CAR7.b)** CC has interpreted the VM0011 in the following way: 1. (§3.2.1.3.2) if no species-specific allometric equation are available, the most applicable general biomass allometric equation for a tropical forest with corresponding climate region and ecological zone should be used and its applicability should be verified in the first monitoring event following steps described in paragraph §7.2.4.2. 2. §7.2.4.2 state that "where the default volume and biomass allometric equations do not match	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
the following destructive sampling procedure") the project proponent has demonstrated that the applicable allometric equation is conservative, yet this deviation has not been discussed in section 2.6 of the VCS PD.		the forest type and climatic region of the Project Area, it is required to validate or derive the allometric equations using the following destructive sampling procedure" This has been interpreted in the way that the monitoring audit should verify that the general allometric equation is used in the correct area (climate and ecological zone). CC would like to provide more proof of the validity of Chave equation and to demonstrate again that the corresponding estimation of AGB is totally conservative. First of all, Fayolle and al (2013, to be published) have tested the validity of Chave equation in South-East Cameroon forests similar/identical to the forest of North Pikounda REDD+ Project (average annual rainfall between 1500 and 2000 mm; 3 to 4 month dry season; average temperature of 24°C; forests of the Guineo-congolian domain, in transition between evergreen and semi-evergreen forests; soils are deep ferralitic red or yellow soils). This study, based on the destructive sampling of 138 trees (ranging from 5.30 to 192.50 cm dbh) concluded that the pan-tropical multi-species allometric equation developed by Chave for moist forests can be used to	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		produce accurate estimates of biomass and carbon stocks. This study is very important as the main critic toward Chave equation was that the sample on which it was based to define its results didn't incorporate many results from African forests. Then, in addition of the previous demonstration that showed that Chave equation does not over estimate AGB compared to other allometric equations (VCS-PD appendix 02.b), we have developed a new calculation to confirm this result: in appendix 02.C of VCS-PD, we have calculated the theoretical BEF for the project area by dividing, for each commercial tree present inventoried in the PSPs, the AGB estimated by Chave by the biomass of the commercial log estimated with the "Tarifs de cubage". The resulting mean BEF for the project is equal to 2.13 (dimensionless). In comparison, IPCC (2003, Table 3A.1.10) provide an estimate of mean BEF for tropical forests of 3.4 (min: 2.0, max: 9.0). Therefore, we consider that those two additional proofs are demonstrating (i) Chave equation validity and applicability for the project area and (ii) that Chave	

<table>
<tr><th>Corrective action and/ or clarification requests</th><th>Reference to Table 1/2</th><th>Response by project participants</th><th>Validation conclusion</th></tr>
<tr><td></td><td></td><td>equation is conservative to estimate AGB.</td><td></td></tr>
<tr><td>CAR8
<u>Evidence and failure</u>
DNV checked the GHG accounting spreadsheet and identified the following issues:
a) In order to validate the inventory the project proponent has compared the merchantable volume provided in the FMP with that provided through the forest inventory. However, in line with 3.2.1.1 the comparison should be done in terms of AGB; the allometric method would be applied to the forest inventory data and the BEF method would be applied to the FMP data.
b) In order to validate the inventory data of the FMP, the project proponent conducted a forest inventory. In order to estimate the heights to be used in the allometric equations, it built a specific hypsometric equation; however, this has not been used in the calculations. Instead the equation from Feldespauth has been used.
c) The Merch coefficient applied for species Wengué is not consistent with the FMP;
d) The regrowth has not been estimated considering that the plot is 0.5 ha in size. However, the data used to estimate the regrowth is sourced from the regeneration plot which is of 0.025 ha of size.</td><td>3.1.2</td><td><u>Response#1</u> <u>(Ver. 6.0 - 3 June 2013)</u>
CAR8.a)
Remark from the auditor have been integrated and a new calculation have been done in order to compare AGB of merchantable timber from the FMP and PSPs data.
Changes have been brought to Appendixes 02.a and 02.c.
The results are summarized in the table herebelow:
<table><tr><th>Merchantable trees</th><th>FMP</th><th>PSPs</th></tr><tr><td>AGB (t.d.m/ha)</td><td>63.10</td><td>70.22</td></tr><tr><td>IC 95% (t.d.m/ha)</td><td>4.85</td><td>5.67</td></tr><tr><td>Relative uncertainty (%)</td><td>7,68</td><td>8.1</td></tr></table>
CAR8.b)
The former Feldpausch allometric model used for tree height modelling has been replaced by the following site-specific allomtric model
H = 58,3423*(1-EXP(-0,017254*DBH^0,95289))</td><td><u>Assessment#1</u> <u>(Ver. 6.0 - 3 June 2013)</u>
a) The spreadsheet has been corrected. It has been confirmed that the inventory data is precise and can be used - OK
b) The spreadsheet has been corrected - OK
c) The spreadsheet has been corrected - OK
d) The spreadsheet has been corrected - OK

CAR8 is closed.</td></tr>
</table>

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		CAR8.c) An error has occurred for Wengé, former Merchantable coefficient of 0,5 has been replaced by the real coefficient of 0,65 (see table 42 of Management Plan). **CAR8.d)** The error identified by the auditor has been corrected in Appendix 06 (Inventory Data modelling). The new Regrowth factor calculated is now of 0.3377 tC/ha. This result has been incorporated in the degradation emissions calculation spreadsheet.	
CAR9 <u>Evidence and failure</u> DNV checked the uncertainty calculations /8/ and identified the following issues: a) The uncertainty of the oxidation rate of ltHWP used is 30%. However, according to the IPCC GPG 2006 this is 50%. 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.	3.1.4	**<u>Response#1</u>** <u>(Ver. 6.0 - 3 June 2013)</u> **CAR9.a)** LtHWP oxidation uncertainty rate has been corrected in the Degradation Emission Uncertainty spreadsheet. The uncertainty of 30% has been replaced by 50%. **CAR9.b)** In the Volumes estimation spreadsheet, a new section for uncertainty calculation has	**<u>Assessment#1</u>** <u>(Ver. 6.0 - 3 June 2013)</u> 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 **CAR9 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
c) The uncertainty of the dead wood decay seems to be not correct. 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.		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. **CAR9.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}. 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	

<table>
<tr><th>Corrective action and/ or clarification requests</th><th>Reference to Table 1/2</th><th>Response by project participants</th><th>Validation conclusion</th></tr>
<tr><td></td><td></td><td>calculated rate of decay.

CAR9.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:
<table><tr><th></th><th>Growth Foregone (tC/ha)</th><th>Regrowth (tC/ha)</th></tr><tr><td>Mean</td><td>0.4468</td><td>0.3377</td></tr><tr><td>Std Deviation</td><td>0.2842</td><td>0.2918</td></tr><tr><td>CI95%</td><td>0.1160</td><td>0.0877</td></tr></table>
Those results have been incorporated in the Baseline Degradation Emissions and in the Baseline Degradation Uncertainty calculation spreadsheets.</td><td></td></tr>
<tr><td>CAR10
<u>Evidence and failure</u>
a) DNV checked the GHG accounting spreadsheet /4/ and found that the basic density applied for species Niové was not correct.</td><td>4.1.4
4.1.9
4.1.10
4.1.17
4.1.21</td><td><u>Response#1</u> <u>(Ver. 6.0 - 3 June 2013)</u>
CAR10.a)
The WSG has been corrected and the correct WSG of 0,797 selected from Zanne (2009) has been used in the calculations</td><td><u>Assessment#1</u> <u>(Ver. 6.0 - 3 June 2013)</u>
a) The spreadsheet has been corrected - OK
b)The factor has been corrected. Now it has been applied 0.6989 tC / m^3 which is</td></tr>
</table>

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
b) DNV checked the studies of Brown et al and Pearson et al. (2005) /44//45/ and found that the factor of 0.9689 $tC.m^{-3}$ includes also the extraction of timber that would be directed to the ltHWP pool. The consideration of this constitutes double counting under the applicable methodology. c) DNV checked the production reports of CIB from the different sawmills and found that the parameter $f_{lumber\_recovery}$ has been estimated considering also the inputs and outputs of the sawmill of Loundoungou. d) DNV checked the production reports of CIB from the different sawmills and found that the consumption by the generators from Pokola saw mill is lower than the one estimated initially. e) During the site visit DNV confirmed that the payload of trucks in Cameroon is 30 t not 30 m^3 as initially estimated in the GHG accounting.		**CAR10.b)** The impact of "extracted biomass" (0,27 tC/ha) as defined by Brown has been deducted from the parameter f(total_damages). The actualized parameter is equal to 0,6989 tC / m^3 extracted (95 % CI = 0.0907) which will be inputed to the Dead Wood pool. This is the sum of the following impacts: • 0.0089 t C impact on skid trails / m^3 extracted (95 % CI = 0.0007) • 0.23 t C impact from logging roads / m^3 extracted (95 % CI = 0.04) • 0.46 t C impact from stump+crown+incidentally damaged biomass /m3 extracted (95 % CI = 0.05) **CAR10.c)** New production data have been calculated for only the Pokola sawmills (excluding Loundoungou volumes). This has lead to modified $f_{lumber\_recovery}$ parameters for the following species: Bilinga, Iroko, Sapelli, Sipo, Tali, Acajou, Dibeou, Kossipo. The new paramters	correct OK c) I was not able to find the value for Ebene – **NOT OK**. d) The excel spreadsheet has been corrected - OK e) WSG has been applied which is conservative as these are lower than specific densities – OK. **Additional issues:** f) Regarding the calculation of the E(harvest,t) + E(onsiteprep,t): The project proponent has applied a merch volume of 99447 in 2012, while during the site visit evidence was gathered which indicated 98844 - **NOT OK**. g) Columns L and D of the tab 2.2 Baseline Activity Emissions don't have any formulae - **NOT OK** h) The uncertainty of Cumulative carbon emissions leaving theltHWP pool year t has not been calculated correctly – **NOT OK**.

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		have been included in the volumes calculation spreadsheet. Original data are provided in the excel spreadsheet called "Pokola Sawmill Production 2007-2012". **CAR10.d)** Changes have been brought due to the new estimation for sawmill timber and fuel consumptions. Those data have been changed in the "Parameters" spreadsheet with the following new values for 2012: Vprocessed = 141,844.091 m3 FUELconsumption = 2,081,297 L **CAR10.e)** New value for truck maximum volume has been calculated based on a maximum payload of 30 tons. Parameters "CAPcameroon" of "Parameters" spreadsheet is now equal to 49.4 m^3. **Response#2** (Ver. 6.1 – 14 June 2013) a) Ebony is not sold as sawn wood but as small logs. Because this specie presents naturally a lot of defaults, logs have to be sawn in order to extract the commercial small logs. This is done with a chainsaw. The lumber recovery factor of 0,32 is	**Assessment#2** (Ver. 6.1 – 14 June 2013) a) Now it is clear. A value of 0.32 is applied -OK. f) Although DNV still finds it inconsistent with the values gathered on-site, it will be accepted as it represents more conservative values for the emission factor

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		calculated based on the ratio of volumes of harvested logs and exported small logs, this is why it is not possible to find this ration in the sawmill data f) Data provided by CIB for Loundoungou for 2012 is 99447,19 m3 harvested in 2012 for Loundoungou concession (selected because its forest structure is similar to Pikounda North) (see joined document: "Ratio LDG 2012.doc") g) Corrected h) Corrected	as the same fuel consumption it will be divided by more volume - OK. g) Columns L and D of the tab 2.2 Baseline Activity Emissions have been corrected - OK h) The uncertainty of Cumulative carbon emissions leaving theltHWP pool year t has been corrected –OK. **CAR10 is closed.**
CAR11 a) The list of parameters to be monitored does not include any parameter necessary to the monitoring of the project emissions due to natural disturbances. b) The list of parameters to be monitored does not include any parameter necessary to the monitoring of the project emissions due to illegal harvesting. c) The list of parameters to be monitored does not include any parameter necessary to the monitoring of the leakage emissions, i.e. activity displacement and market leakage.	4.2.2 4.2.3 4.2.4 4.2.5 4.2.6	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR11.a) and b) and c)** The list of parameters to be monitored has been updated with the required parameters necessary for monitoring of project emissions due to respectively natural disturbances, illegal harvesting, activity shifting leakage and market leakage. The table is included in § 4.2 of corrected VCS-PD	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) The VCS-PD has been revised. It now includes parameters for the measurement of project emissions from natural disturbances – OK. b) The VCS-PD has been revised. It now includes parameters for the measurement of project emissions from illegal logging– OK. c) The VCS-PD has been revised. It now includes parameters for the measurement of leakage emissions – OK. **CAR11 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
CAR12 Requirement §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, the risk is not relevant to the project and the risk rating for community engagement (CE) shall be zero." Evidence and failure 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.	2.2 Community Engagement	**Response#1** (Ver. 6.0 - 3 June 2013) **CAR 12** **Overview of the 2.3.2 Community Engagement Standard (from: VCS Risk Assessment Tool)** *I. Qualitative Requirements of the standard:* 1. Eligibility Requirement a) those living within or surrounding the project area (given as within 20 km of the project boundary b) are reliant on the project area Where local populations are not reliant on the project area risk rating for community engagement (CE) shall be zero 2. Project must Demonstrate that: the social and economic well-being of these communities receive a net positive benefit. 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	**Assessment#1** (Ver. 6.0 - 3 June 2013) DNV deems that considering the type of project activity and the type of land-tenure involved (improved forest management where the right of use is only given by the government and there are no other overlapping rights) the main external risks would be related directly or indirectly with the political risk. Hence, it is doubtful that the Land Tenure and Resource Access/Impacts risk and the political risk could be mitigated by the lack of negative impacts of the project on a small community. Therefore, DNV deems that the community engagement shall be zero.

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		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. *II. Quantitative Requirements of the standard* 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. **Analysis of the 2.3.2 Community engagement standard in the context of the North Pikounda REDD+ Project.** **2.3.2 Community engagement standard**	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		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 value that relate to symbolic practices and rituals. 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: 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 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	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		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. 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. 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	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		at the periphery of the village area. (N Pikounda Soci-Econ Report (2010)) Essentially the boundary of the villages are much more dynamic, they alter slowly over time based on the movement of the members of the community. 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. 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	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		significant relevance to every aspect of the community lands, even when not used extensively. **Community Reliance** The Proponents maintain that the local populations are reliant on a part of the project area for the following activities: 1. Fishing - During the stakeholder engagement process, there were Molanda community members who indicated that the area was used by fisherman. They would go to the area and set up a seasonal camp for a number of days in order to fish the area. 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. 2. Hunting – A portion of the Molanda community uses the NPR+ project area for	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		hunting. 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 3. Non-Timber Forest Products: The Sapele Caterpillar are considered a local delicacy and are actively collected. It is known, also from the community engagement activities, that some caterpillar	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		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. 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. 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 5. Spiritual Sites: It is known that there are old villages that	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		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., 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 of the fear of how they could be damaged). It is more liklely than if logging proceeds, then some of these sites will either be lost or access will become more complicated because of harvesting activities. 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.	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		Evidence Requirements – The participatory rural appraisal conducted as part of the North Pikounda Social report was completed in 2010. **Net Positive Benefit – the Standard** 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 community or communities, the Proponents need to explain what they understand by the standard. 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. **Quantitative Requirements of the standard** The Proponents understand the standard	

<table>
<tr><th>Corrective action and/ or clarification requests</th><th>Reference to Table 1/2</th><th>Response by project participants</th><th>Validation conclusion</th></tr>
<tr><td></td><td></td><td>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.

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.

Community Engagement - Demonstration of Net Benefits

<table>
<tr><th>Number</th><th>Activity Impacted</th><th>Benefit</th><th>With Project</th><th>Without Proj</th></tr>
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Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion

				ect
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	Access to Pokola Medical	+	+

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion

	& education	facilities and to teachers		
9	Community Access to profits of the NPR+ Project	Funding for community sustainability projects	+	+
TOTAL BENEFITS			**9**	**2**

Conclusion

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 an economic welfare of the

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		affected communities. 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 their 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. 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. The Non Permanence Risk Assessment has been updated to reflect the above clarifications. The Project Proponent has initiated contact with the VCS's AFOLU Manager for specific guidance on the matter and will aim to seek resolution of the disagreement over the language of the standard as quickly as possible.	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		Response#2 (Ver. 6.1 – 14 June 2013)	**Assessment#2** (Ver. 6.1 – 14 June 2013) The risk assessment has been changed in order to set the mitigation to zero. **CAR12 is closed.**
CAR13 Requirement 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 activities", which means that the NPV of the baseline scenario is compared with the NPV of the project scenario. Evidence and failure The project proponent has estimated the percentage of difference as the ration of the difference by the mean, which is not correct.	Open after DVR	**Response#1** (Ver. 7.1 – 29 July 2013) **CAR 13** The Project Proponents have updated the VCS-PD, the Non-Permanence Risk Assessment and the Non-Permanence Risk Assessment Tool and the Pikounda Financial Review to reflect that the NPV formula should be (alternative land use – project) / project.	**Assessment#1** (Ver. 7.1 – 29 July 2013) The percentage of difference has been corrected and the risk has been reset to 8, which is the maximum risk. **CAR13 is closed.**
CAR14 **Requirement** According to section 3.4.5 of the methodology "To avoid double accounting, if a processing plant utilises mill residue/waste as an electricity source, then the emissions from electricity generated by mill residue/waste must not be considered here - as these emissions have already been accounted for in Section 3.3.2.1.". **Failure** During the site visit DNV confirmed that the	Open after DVR	**Response#1** (Ver. 7.1 – 29 July 2013) The VCS-PD has been updated to reflect the Project Proponents position that no emissions from timber processing shall be considered once the co-generation plant is in place and operational. The following chapter has been added in paragraph 3.1.2 "Calculations of $C'_{emissions}$":	**Assessment#1** (Ver. 7.1 – 29 July 2013) The VCS PD has been updated. Now it clearly specifies that the emissions from generation will only be accounted while the co-generation which is under construction in Pokola's saw mill is not in place. **CAR14 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
project proponent is in the process of implementing a co-generation in the sawmill of Pokola using as fuel the residues generated in the sawmilling process. No emissions from timber processing shall be considered once this co-generation is in place. This shall be clearly indicated in the PD and in the ex-ante GHG estimations.		"*It is important to note that, in the future, a co-generation system will be implemented in Pokola, which will use timber processing residues to generate electricity. Once this system is in place, the emissions due to processing will not anymore be accounted for, and the baseline will be revised accordingly. This will be the object of a deviation in the Monitoring report and the baseline will include this change once it will be revised after 10 years*." In paragraph 4.1 "Data and parameters available at validation", in the line of the table dedicated to Emissions Due to Timber Processing, the following mention has been added: "*Only used while co-generation is not in place*"	
CL1 <u>Evidence and clarification request</u> The VCS PD states that the starting date of the project activity as 1 February 2012. Clarification is sought on the reasonableness of the chosen start date considering that: a) the forest management plan foresaw to commence with harvesting operations since 1 January 2012 and doing so before receiving the approval is not illegal according to the local authorities /70/ and that CIB has done already this in the past in other similar	1.5.1	**<u>Response#1</u>** <u>(Ver. 6.0 - 3 June 2013)</u> Carbon Conservation would like to bring attention on the fact that the project activity start date has been defined as 1 February **2012** and not 2013. As discussed with the Certification Body representative during the audit, in order to simplify the accounting of VCUs on an annual basis, and because legally, it is possible to harvest a concession after	**<u>Assessment#1</u>** <u>(Ver. 6.0 - 3 June 2013)</u> The project start date is 1 January 2012, which is the date in which logging operations would commence according to the management plan /3/. Although the forest management plan was not approved until 28 December 2012 /38/, DNV confirmed that a concessionaire can commence to log at most 2 years before the approval of the forest management plan /70/. Hence, CIB could have legally

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
concessions, i.e. commencing operations before receiving the formal approval; b) Before receiving the formal approval, it was already decided to suspend the application of the forest management plan as part of the proposed project, so the date in which the activities that lead to the generation of GHG emissions reductions are implemented would be before 1 February 2012.		signing a "Protocole d'Accord", only two years before finalizing the "Plan d'Aménagement" or Forest Management Plan. This is why the new starting date for the project has been change to the 1 January 2012.	commenced to implement the forest management plan without an official approval from the authority. DNV confirmed that the project start date is in accordance with VCS requirements. **CL1 is closed.**
CL2 a) The project proponent is requested to clarify in the VCS-PD §1.9 details of the ownership as required by AFOLU requirements: VCS Version 3.3; paragraph 3.4.1. b) The project proponent is requested to clarify in the VCS-PD §1.9 how it has established control over the project area as required by AFOLU requirements: VCS Version 3.3; paragraph 3.4.2.	1.9.3 1.9.5	**Response#1** (Ver. 6.0 - 3 June 2013) **CL2.a)** VCS_AFOLU_v3.3, paragraph 3.4.1; answer are provided in VCS-PD §1.9: 1) Name of the project area (eg, compartment number, allotment number and local name): *UFE Nord Pikounda (in English: North Pikounda UFE),* 2) Maps of the project area: *please refer to Fig.4 of the VCS-PD,* 3) Geodetic coordinates of the project area boundary, provided in the format specified in the VCS Standard: • *On the West: from the 0°33'42'' N parallel, the limit follows the flooded forests of the Kandeko river, then the Ebangapélé river up to the 1° N parallel;* • *From North to North-Est and Est: the limit correspond to the 1°N parallel till the Ebangui river. There,*	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) The proposed project activity is located in the UFE of Pikounda-Nord whose limits are defined as per ministerial decree n°8233/MEF/CAB approved 5 October 2006 /39/. In accordance with the forestry code of the Republic of Congo /40/ this UFE along with forested areas are of public property. This was effectively confirmed during the interview held with the REDD country coordinator /70/. Hence, DNV was able to confirm that the project proponent would have a right of use arising by virtue of a statutory, property or contractual right in the land that generated GHG emissions removals, hence being in compliance with VCS Standard Version 3.3 requirements. b) In view of the above the project proponent has established control of all the project area – OK.

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		it follows the Ebangui river flooded forests until the 16°25'07''E meridian; • *From South-East to West: the limit follows 0°44'13''N parallel between meridian 16°25'07''E and meridian 16°18'35''E. Then it follows the later meridian to the South until crossing the 0°41'56''N parallel, then this parallel straight to the West until it crosses the meridian 16°12'38''E. There, it follows a line oriented at 186° until the points of geographic coordinates 0°33'42''N – 16°12'03''E. From there, the limit follows the 0°33'42''N parallel until it crosses the Kandeko river.* *If not verified by the auditor while on-site, a KML file will be provided together with this document.* 4) Total size of the project area: *According to the decree, the project area is 93,970 ha, but in fact the GIS corrected area (which is retained for this project) is 92,530 hectares (furthermore, this variation, due to differences of GIS software and delineation, is conservative)*, 5) Details of Ownership: The North Pikounda UFE is part of the private domain	**CL2 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		of the state which has been established and having as its main purpose the undertaking of forestry production activities by regulations (Articles 10 and 65 of Act 16-2000). The limits of North Pikounda UFE are defined by ministerial decree (decree n°8233/MEF/CAB approved 05th October 2006) The Agreement of Development and Processing - 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 for a period of 15 years from the date of signing of the order of approval. The Government of the Republic of Congo, through his Excellency Henri DJOMBO, Minister of Sustainable Development and the Forest Economics of the Environment contracted, together with CIB, on 24 May 2012,in order that CIB might undertake the "development and implementation of the Pilot REDD+ North Pikounda UFE" signed and implemented a REDD+ Project	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		Development Agreement. The project was to be a "REDD+ pioneer project for the improvement of sustainable forest management of natural tropical forests in the Congo Basin including [for CIB,]the right to hold and commercialize the carbon credits from this Project." The Agreement agreed to a 30 year Project timespan and a corresponding grant to CIB to maintain the North Pikounda UFE license for the same period in order to undertake the REDD+ Activity. A benefit sharing scheme between CIB and the RoC was incorporated into the agreement. The VCS PD has been updated in Section 1.9 **CL 2(b) Establishment of Control of the Project Area** CIB exerts legal and physical control of the NPR+ Project Area, as well as the ability to leverage that control for commercial exploitation of timber resources. It is mandates in the 2002 Agreement of Development and Processing that CIB must undertake numerous activities in order to be	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		able to have a validated Forest Management Plan that would allow for the control required to undertake mechanised selective logging. A host of activities over the last decade took place that have steadily moved the North Pikounda concession to receive its Forest Management Plan approved for January 2012 harvesting. This included but is not limited to: 1. Stakeholder consultations; 2. Complete forest inventory; 3. Division of the Pikounda UFA; 4. Community Social and Economic Study; 5. REDD+ Feasibility Study; 6. Etc. With the final ministerial approval of the Management Plan by Minister Djombo, received in early 2012, such that logging could have commenced at the beginning of 2012, the legal control of the North Pikounda UFE is complete. The ability to conduct REDD+ activity is legally based on the Project Development Agreement	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		between CIB and the RoC. CIB maintains Physical control of the property through having access dedicated logging roads that can be used to access the North Pikounda UFE. CIB has had two inventory teams in the forest priort to the carbon project in order to evaluate timber production levels, the latest was in 2006. CIB also collaborates with a neighbour concession (also FSC certified) regarding access and information regarding unauthorised access to the area. Since the NPR+ Project has began in 2012, the area is now clearly demarcated with signs, and additional inventory activity has set up permanent sample plots (PSPs). These sites are regularly visited. Additionally the Project utilises space based observation systems in order to detect land cover change. CIB maintains ongoing legal and physical control of the north Pikounda UFE. The VCS PD has been updated in Section 1.9	
CL3 a) The project proponent is requested to specify in	1.10.2	**Response#1** (Ver. 6.0 - 3 June 2013) CL3 (a) Chronological List of the main	**Assessment#1** (Ver. 6.0 - 3 June 2013) The VCS PD has been updated. It now

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
§10.1 of the VCS PD a chronological list of the main events/milestones of the project activity from the CAT signature until the starting date passing by the project inception as required by the VCS-PD template. .		events/milestones The above table outlining the main events/milestones has been added to section 1.10 of the VCS PD	provides a precise chronological list of events which shows the main milestones of the project in parallel to other milestones – OK. **CL3 is closed.**
CL4 a) The project proponent is requested to clarify in the VCS PD what are the provisions to manage leakage.	1.13.2.a	**Response#1** (Ver. 6.0 - 3 June 2013) **CL4.a)** In VCS-PD, in chapter 3.3 "Leakage", two new sections have been added, namely 3.3.1 "Activity Shifting Leakage" and 3.3.2 "Market Leakage". Those sections, previously in Appendix 03.a, describe how activity shifting and market leakage would be estimated and managed For leakage management, the following paragraph has been added: *"For each monitoring event, in case of identified leakage, the parameter* $C'_{leakage,t}$ *will be estimated following the methodology described in the next paragraphs (and further in details in appendixes) and it will be deducted from* $C_{'baseline,t}$, *as required in equation 1.1 of VM0011:*	**Assessment#1** (Ver. 6.0 - 3 June 2013) OK, in any case it is not relevant in this project since leakages are market leakages or leakage due to activity displacement of a planned degradation agent. **CL4 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		$C'_{IFM-LtPF} = C'_{baseline} - C'_{leakage}$ *No management zones are planned for leakage under the baseline scenario: in our case leakage could only consists in market leakage, i.e the intensification of harvesting activities by CIB competitors, against which no legal action could be undertaken."*	
CL5 a) The project participant is requested to clarify in the VCS PD, i.e. the table of §2.3.5, the GHG sinks that would occur too, i.e. regrowth, Embodied carbon in AGB (CS) . b) The project participant is requested to clarify in the VCS PD, i.e. the table of §2.3.5, GHG sources are identified for leakage.	2.3.2 2.3.4	**Response#1** (Ver. 6.0 - 3 June 2013) **CL5.a) and b)** Table 14 of §2.3.5 have been updated to include Embodied carbon in AGB, Growth Foregone, Regrowth and Leakage into the GHG sources and sinks.	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) The VCS PD has been updated. Now it also includes the source Regrowth, Embodied carbon in AGB (CS) – OK. b) Leakage sources have been provided in the VCS PD. These are correct. – OK. **CL5 is closed.**
CL6 a) The project proponent is requested to provide in the VCS PD information on how the leakage would be estimated, in particular the market leakage.	3.3.1	**Response#1** (Ver. 6.0 - 3 June 2013) **CL6** In VCS-PD, in chapter 3.3 "Leakage", two new sections have been added, namely 3.3.1 "Activity Shifting Leakage" and 3.3.2 "Market Leakage". Those sections, previously in Appendix 03.a, describe how activity shifting and market leakage would be estimated	**Assessment#1** (Ver. 6.0 - 3 June 2013) The VCS PD now provides provisions for the market leakage. DNV deems that it is correct in and compliance with relevant criteria. **CL6 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
CL7 Evidence and clarification a) According to the VCS PD, the parameter $A_{project,t=0}$ is 55 950 ha. However, DNV checked the shapefile for the "terre ferme" and found that the area indicated was 55 683 ha. Clarification is sought on what would be the correct figure of the productive area. b) The project proponent is requested to provide in the VCS PD, §4.1, the list of parameters available at validation and to provide in the VCS PD the value of those parameters so that it will serve as reference for future verification events. c) The project proponent is requested to provide in the VCS PD any parameter defined ex-ante for the estimation of the market leakage.	4.1.1 4.1.3 4.1.27	**Response#1** (Ver. 6.0 - 3 June 2013) **CL7.a)** The shapefile controlled for the dryland area has been estimated from the stratification made by Lembe (2012) with Landsat 7 images. Unfortunatelly, this satellite present a default of one of its captor, which could have lead to minor discrepancies in the estimation of the dryland area. This stratification has been undertaken to demonstrate that the stratification done for the Management Plan was similar to the one undertaken for the project. As Landsat images present minor errors and as the area defined in the FMP for the drylands/production area is legally binding, the figure of 55 950 ha given in the VCS-PD for $A_{project,t=0}$ is the correct one. **CL7.b)** The list of data and parameters available at validation, previously presented in appendix is now disclosed in §4.1. **CL7.c)** Parameters used for the historical reference period are presented in appendixes 03.a, b and c	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) Although the shapefile differs, the actual value employed in the inventory is the one employed to make the estimations of total volumes, hence, DNV accepts the value of 55 950 ha – OK. b) & c) Please include in Annex of the VCS PD the values of the following parameters: -Volume allometric equations for calculation of AGB -Merchantable volume harvested in year - KMtransport,t - KMdistrib,destination,t

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		Response#2 (Ver. 6.1 – 14 June 2013) -Chave equation is presented in Appendix 02.a -Tarifs de cubage are presented in Appendix 06 -Included in VCS-PD, paragraph 4.1 -'Appendix 07.a and b -Included in VCS-PD, paragraph 4.1	**Assessment#2** (Ver. 6.1 – 14 June 2013) Please note that I referred to include these in an Annex to the VCS PD, not an appendix which will not be uploaded in the VCS database. It is important that these values are available in the VCS PD so that it serves as reference for future verifications. Otherwise, the verifier will have to re-validate AGAIN all values which are not presented transparently in the VCS PD – **NOT OK**. **CL7 is closed.**
CL8 Evidence and clarification a) The project proponent is requested to provide in the VCS PD, §4.2, the list of parameters that will be monitored. b) The project proponent is requested to provide in the VCS PD, §4.3, all the necessary information on monitoring procedures (i.e. APPENDIX 10 - Monitoring Plan V3-2013.docx)..	4.2.1	**Response#1** (Ver. 6.0 - 3 June 2013) **CL8.a)** The list of parameters to be monitored has been updated with the required parameters necessary for monitoring of project emissions due to respectively natural disturbances, illegal harvesting, activity shifting leakage and market leakage. The table is included in § 4.2 of corrected VCS-PD **CL8.b)** Appendix 10 “Monitoring Plan for the North	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) The list has been provided. – OK. b) Please integrate this in the VCS PD as it provides relevant information on the project monitoring, mainly the frequency – **NOT OK**.

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		Pikounda REDD+ project" can be considered as the procedure that will be implemented in order to collect all the necessary information for the Verification audits. **Response#2** (Ver. 6.1 – 14 June 2013) b) Included in VCS-PD **Response#3** (Ver. 6.2 – 24 June 2013) a) parameters necessary for the estimation of Cgrowth_foregone,t and Cregrowth,t have been added to the table of data monitored (paragraph 4), respectively: B(AGB_merch,t) for growth foregone and G(regrowth,t) as detailed in the methodology VM0011 pp.48 and 49 b) the monitoring plan is included table 36, pp.97 to 100	**Assessment#2** (Ver. 6.1 – 14 June 2013) a) regarding monitored parameters, replace the parameters Cgrowth_foregone,t and Cregrowth,t by the two parameters which should be reported in each MR, the aboveground biomass estimated via the forest inventory of the monitoring period in order to calculate both parameters: -$B_{AGB\_merch,m}$ used for estimate the growth forgone. -$B_{AGB_merch,m}$used to estimate the regrowth. Please change the parameter notation and description so that it is clear that it is not the same as the above – **NOT OK.** b) I am not able to find it in the VCS-PD. Please note that this information shall be provided in the VCS PD, not an appendix which will not be uploaded – **NOT OK**. **Assessment#3** (Ver. 6.2 – 24 June 2013) Not updated – **NOT OK**.

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		Response#4 (Ver. 7.1 – 29 July 2013) Paragraph 2.6 “Methodology deviation” has been updated to include the parameter $B_{AGB\_regrowth,t}$. Paragraph 4.2 of the PD “Data and Parameters available at monitoring” have been updated to include this parameter.	**Assessment#4** (Ver. 7.1 – 29 July 2013) The VCS PD has been updated and now it is correct – **OK**. **CL8 is closed.**
CL9 Requirement §3.17.1 of the VCS Standard Version 3.3 Evidence and clarification Clarification is sought on what are the provisions in order to ensure that he project documents and records are kept in a secure an retrievable manner for at least 2 years after the end of the crediting period.	4.3.4	**Response#1** (Ver. 6.0 - 3 June 2013) **CL9** Hard-copy of project documentation will be stored in the “Aménagement” office and soft-copy are stored in the “Public” folder used for the project. This folder is automatically saved on a daily basis. All documents will be archived for at least two years after the crediting period. § 4.3 of VCS-PD and Appendix 10 have been changed according to the above statement.	**Assessment#1** (Ver. 6.0 - 3 June 2013) The VCS PD has been corrected. Now it includes provisions for keeping project documents and records for at least 2 years after the end of the crediting period – OK. **CL9 is closed.**
CL10 Evidence and clarification a) The project proponent is requested to include in the VCS PD a summary of stakeholder comments received during the LSC meetings held, including	6.1.2 6.1.3	**Response#1** (Ver. 6.0 - 3 June 2013) **CL10.a)** The project proponent organized a series of meeting with international and domestic stakeholders. The meetings are listed in the	**Assessment#1** (Ver. 6.0 - 3 June 2013) a) A summary of stakeholder comments has been provided in the VCS PD – OK. b) Information on how the comments received from local stakeholder consultation

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
any specific request from stakeholders. b) The project proponent is requested to include in the VCS PD a short description on how it has taken into account of the comments received from local stakeholders.		VCS PD in Section 6. The VCS PD has been updated with a brief summary of key comments received at the various stakeholder meetings as well as any specific requests. To summarize, the comments that were heard repeatedly from domestic and local stakeholders were the questions of: 1. How the benefits would be shared, especially with local communities; 2. Who would be interested in in purchasing the carbon certificates ones they were made; and 3. How do you measure carbon in the forests? Local communities (i.e. Molanda) were very interested in the notion of climate change and were able to provide telling stories regarding changes they have seen themselves in weather and weather related patterns in regards to fishing and agriculture activities. They were also keen to see the North Pikounda UFE protected. Naturally they also wanted to know if the protection of the forest for the REDD+ project would restrict their access to the	has been included in the VCS PD – OK. **CL10 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		North Pikounda UFE area. The Molanda community was in agreement in its belief that protecting the forest is beneficial for the climate and therefore for their daily living as they strongly rely on the natural resources for their survival The only specific requests, and one that was heard both from international stakeholders right down through to the local NGO groups, was to ensure that the local communities would actually receive a benefit. **CL10.b)** The design of the NPR+ Project was largely dictated as the result of the applied VM0011 methodology. However, the Proponents do exercise a modicum of control of the development of a REDD+ project and as such have when feasible, integrated feedback from stakeholders (including local ones) into the design of the project. From a technical perspective, the questions of how the project would measure the	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		carbon was one of intense interest from the RoC Forestry Ministry, and also those members of the RoC National REDD+ Coordination team, particularly from the MRV cell. The Proponents were keen to follow the requests of having the carbon inventory methods to be as similar as possible to the national forestry inventory methods. The MRC team from RoC were in fact invited to attend and validate the methods that were ultimately used and members of the National REDD+ coordination team participated in a portion of the inventory process as observers. The Proponents also organized numerous technical meetings and workshops with the National REDD+ Coordination team in order to not only review project progress, but to collaborate together on ensuring harmonization of the techniques of REDD+, especially in regards to carbon stock inventory matters. From the perspective of ensuring community benefits, the Proponents were not only willing to listen to requests from local NGOs, local community leaders as well as national level stakeholders from the	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		RoC ministries, but to seek to implement a world class community benefit program. This was a sensitive issue at the projects initial stakeholder pilot project steering committee meeting and one where the Proponents agreed needed to be addresses as effectively as possible. However as the NPR+ project as a VCS project sought to originate credits first, it was always represented that once the carbon component was proven to work, that the NPR+ Project would then integrate a CCBA approach. This was agreed to by CIB-Olam and the Roc in the REDD+ development agreement of May 2012, and was reiterated at further stakeholder discussions. The Proponents continue to plan to undertake a CCBA project validation. The last major comment that was received was in regards to how the credits would be sold and who would buy them. However, as this is less of a project design issue, and instead one that requires a description of the markets, the project design was not impacted. However, the issues were always addressed with appropriate	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		descriptions of the carbon market and how they worked. The VCS PD has been updated to reflect the above positions.	
CL11 <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. 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.	1.2 Financial viability	**<u>Response#1</u>** <u>(Ver. 6.0 - 3 June 2013)</u> **CL 11 a)** 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 wholey owned subsidiary of Olam International. 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 Proponent Olam International has secured cash assets far in excess of 80% of the funding needed to cover the total cash out prior to reaching the project break even	**<u>Assessment#1</u>** <u>(Ver. 6.0 - 3 June 2013)</u> a) The VCS PD has been modified – OK. 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. **CL11 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		point. The Project Documents have been updated to reflect this information. **CL 12 (b)** 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. Proponent Olam International has adequate callable financial resources to cover more then 50% of the total cash outlay needed for the Project prior to it reaching a breakeven point. The Project Documents have been updated to reflect this information.	
CL12 <u>Evidence and clarification</u> a) The project proponent is requested to clarify why the log and sawn timber volumes of the financial analysis provided are not consistent with	Open after DVR	**<u>Response#1</u>** <u>(Ver. 6.2 – 24 June 2013)</u> CL 12 CL 12 a) The Project Proponent has updated the financial analysis in regards to	**<u>Assessment#1</u>** <u>(Ver. 6.2 – 24 June 2013)</u> Since the opportunity risk is maximum (the difference between the NPV of the alternative scenario and the project is above 100%) no additional evidence is

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
the GHG accounting spreadsheets. b) The project proponent is requested to provide evidence for the values of PU € Logs, Cost Log/m3, PU € Sawn T, Cost Sawn/m3.		log and sawn timber volumes so that they are consistent with North Pikounda Forest Management Plan which forms the baseline of the Project. These are now consistent with the GHG accounting spreadsheets. CL 12 b) The Project Proponent has interviewed Mr. Wolfgang Kuehns, "Responsable Commercial" and the manager of all of CIB's commercial timber operations. He reports directly to the CIB Country Director, Christian Schwartz and Olam VP of Timber, Helmut Brunner in order to determine evidence in regards to the pricing and costing to support the financial analysis. Firstly, in regards to the request for clarification regarding the prices units of Logs and of sawn timber. The prices provided in the financial analysis were all provided and substantiated by Mr. Kuehns. They were provided in Q2 2013 prior to the	required. **CL 12 is closed.**

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		validation and verification event. All the pricing is based on the price in Euros per m3, both for logs and sawnwood. All prices are Free On Board (FOB). Secondly, it should be borne in mind that the price of logs and sawn wood can vary from month to month based on various issues such as quality of the wood, physical characteristics of particular species, end user demand (which varies from country to country), foreign exchange rates, shipping conditions, etc. Price will also depend on which buyers are asking for which species, how many varieties a buyer may want, how much demand exist for the buyer, etc. There is substantial market competition in the wood market and the buyer will often make an offer for a lower price b/c someone else may sell for less. Essentially this is a market that is driven by supply and demand, and as a result of the myriad of variables (such as the ones cited above, price can vary up and down from 10-20% in any given year. The prices that were used for the financial analysis, and acquired from CIB's Mr.	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		Kuehns are essentially average prices that CIB believes were achievable at the time and are the same prices that were used for internal CIB marketing and budgeting purposes. However, as each sale of logs and sawnwood are based on unique contracts, which in general contain standard commercial confidentiality clauses, it is not possible to provide copies of those agreements. Nonetheless, wood prices can be generally verified by trade organisations such as the ITTO, although their prices need to be understood conservatively as the ITTO reports will have average prices that may not reflect what every seller of wood is able to achieve, although they can be used as a guideline or benchmark. As such the Project Proponents have included copies of ITTO market reports from Q2 2013 that demonstrate West African log prices, FOB, per m3 in Euros and it is clear that the species that the major species that CIB sells, such as Sipo, Sepele, Azobe, Iroko, and Tali all correspond generally to the Log Export Prices and Sawnwood Export Prices provided in the Market report, although of	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		course not exactly, as CIB is sometimes able to command superior prices to market averages because of longstanding customer relationships, the FSC certification of the timber and other commercial factors. In regards to the costing for CIB, there are again a large number of factors that are present within the average costing modelling that is conducted by CIB, all again which can vary due to the dynamic commercial conditions present in the West African timber market. In any case the costing that was provided in the financial analysis was also provided by Mr. Kuehns and are the same values used by CIB for internal planning. Included in the cost to produce both logs and sawn timber are: • Forest Management Planning;	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		• Pre-harvesting Inventory work; • Harvesting costs (workers, fuel, etc); • Machinery and equipment costs (capital costs, maintenance costs, oils, etc); • Transportation costs to the ports of Point Noire and Duuala (all wood is FOB); • RoC Export taxes; • Concession taxes; • Management and staff costs; • Harbour costs and taxes; • Loading costs; • Transit cost for paperwork • Fumigation and anti-fungal application costs • Etc. Additionally for sawnwood, there are further	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		production costs that are associated with the transformation of roundlogs to sawnwood, such as: • Sawmill machinery and equipment costs (capital costs, maintenance costs, etc); • Electricity generation costs (diesel, generators, maintenance on same, etc); • Transformation workers; • Drying costs (equipment, electricity, etc); • Additional transformation taxes; • Container costs; • Etc. It should be borne in mind that the it takes substantially more cubic meters of roundlogs to produce a single meter of sawnwood. This has much to do with the loss of wood during the production process	

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
		due to the variance of quality of the wood in any given log, loss of volume during production, etc. In any case, the cost of production indicated within the financial analysis are the same costs used by Mr Kuehns and the transformation management to account for commercial margins. If DNV wishes to ask further questions regarding pricing and costs for the logs and sawnwood, a telephone conference can be arranged with Mr. Wolfgang Kuehns.	
CL13 a) DNV checked the CIB production values provided for all CIB concessions in the period 2006 to 2012 and compared them with the production values provided in the FMP of North-Pikounda. DNV found that in many cases (i.e. certain commercial volume per species per UFP) the volumes theoretically produced by Pikounda-North per year, exceed very significantly the	Open after DVR	**Response#1** (Ver. 7.1 - 29 July 2013) Please see attached response to CL13	**Response#1** (Ver. 7.1 - 29 July 2013) DNV checked the FMPs of other concessions that belong to CIB and confirmed that certain species are being harvested well below the volumes reported in the FMPs and that other species are harvested above FMP volumes. Hence, it is doubtful that 100% of the volume reported in the FMP is actually harvested.

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
average of those commercialised in 2006-2012 by all concessions (e.g. The production of Fraké in North-Pikounda provided by the FMP would be from 1 to 5 times higher than the average production seen in the past, an in many cases higher than the maximum observed in one year in the referred period; the production of Tali and Wengué in North-Pikounda provided by the FMP would be higher than the yearly average seen in the referred period for all concessions). Furthermore, DNV compared the production values provided in the FMP of Pokola with the real production figures in the period 2006-2013, and found that Pokola was harvested below its potential as described in the FMP. This could mean that the assumption that 100% of the wood produced in North-Pikounda would be commercialised does not seem to be accurate for certain species such as Fraké, Wengué or Tali, amongst others. Clarification is sought on whether the use of the Pikounda-North FMP's figures in the GHG accounting would lead to conservative estimations.		**Response#1** (Ver. 7.2 - 19 August 2013) Please see attached response to CL13	**Response#1** (Ver. 7.2 - 19 August 2013) The applicable methodology establishes that the volumes of timber harvested in the baseline scenario has to be sourced from a Forest Inventory Report (FIR) or an equivalent document (if the data is validated as per procedures in Section 3.2) or through measured data if the FIR or equivalent document does not provide precise estimations. The project proponent has deviated from this requirement, by not exactly applying the volumes provided in the Forest Management Plan /3/. The reason of this is that the Forest Management Plan includes an uncertainty derived from the Harvesting factors and commercial factors applied (i.e. timber might be of higher quality than expected), and that it does not consider the international demand into account. As DNV was able to confirm through the Forest Management Plan for the Loundoungou Concession (2010-2044) /28/ and the real harvesting figures for the period 2010-2012 /25/, actual harvesting of promotion species tends to be well below the potential provided in the FMP due to the lack of demand for those species in the market

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
			along with other logistical problems (i.e. impossibility of stocking sawn volumes). Furthermore, harvested volumes of objective species can be higher than those specified in the FMP. Since the consideration of the volumes of the FMP /3/ would lead to imprecise estimates of harvested volumes, and it would lead to an overestimation of baseline emissions, the project proponent has applied a correction factor to the volumes provided in the FMP. This correction factor would be the harvesting intensity ratio (HI_x) which is estimated for each species based on the ratio between the merchantable volumes actually harvested in the past in all CIBs concessions (i.e. $\overline{V_{merch,x}}$), by the merchantable volumes forecasted in the FMP for all CIBs concessions (i.e.$\overline{V_{merchFMP,x}}$). In order to adapt some of these ratios to the specific situation of North-Pikounda (i.e. quality of species, logistical aspects), these ratios are affected by a correction factor (i.e. *corr*) which is based on subjective estimations based on the volumes harvested in a similar concession which is not under control of CIB (i.e. IFO concession). DNV deems that this would be an

Corrective action and/ or clarification requests	Reference to Table 1/2	Response by project participants	Validation conclusion
			acceptable deviation as the same methodology specifies in section 2.1.2 that "in order to establish this baseline, the Project Proponent must provide the following information: (i) documented history of the operator (e.g., operator shall have five to 10 years of management records to show normal historical practices) (ii) legal requirements for forest management and land use in the area; and (iii) proof that operators environmental practices equal or exceed those commonly considered a minimum standard among similar landowners in the area". Furthermore, it states "The established baseline must represent what would have most likely occurred in the absence of the IFM-LtPF project". Although the methodology does not specifically provide a procedure on how to handle this situation, DNV understands that section 2.1.2 requires that the baseline must be precise and that for this the documented history of the operator has to be taken into consideration. **CL13 is closed.**

Table 4 Forward action requests

Forward action request	Reference to Table 2	Response by project participants
Not applicable.		Not applicable.

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APPENDIX B

CURRICULA VITAE OF THE VALIDATION 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, sylvicultural systems, Sylvicultural 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 Nº562) and II (VCS Nº612). 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 Nº2569). Leader auditor of A/R project applying AR-AM0005.
- VCS validation and verification of Mali Jatropha Curcas Plantation Grouped project (VCS Nº829). Leader auditor of A/R project applying AR-AMS0006.
- VCS validation and verification of Bukaleba Forest project (VCS Nº799). 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, 20007-2008: 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 were 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 strtegies 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 resent 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 possition papers in relation to the different market based instruments. Since joing 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.