ASSESSMENT OF THE METHODOLOGY "METHODOLOGY FOR TIDAL WETLAND AND SEAGRASS RESTORATION"

DNV·GL

Document Prepared By DNV GL

Methodology Element Title	Methodology for Tidal Wetland and Seagrass Restoration	
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	Tool	
Sectoral Scope(s)	Sectoral Scope 14 - AFOLU	

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Summary:

Det Norske Veritas (U.S.A.), Inc. (DNV GL) has performed a second assessment of the "Methodology for Tidal Wetland and Seagrass Restoration" to confirm that the methodology design, as documented, is sound and reasonable and meets the identified criteria. The validation was performed on the basis of VCSA requirements for VCS methodologies, 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 the resolution of outstanding issues. The review of the methodology documentation and the subsequent follow-up interviews has provided DNV GL with sufficient evidence to determine the fulfillment of stated criteria.

The proposed Methodology Element Document (MED) provides specific procedures in order to estimate GHG emission reductions and removals resulting from project activities implemented to restore tidal wetlands or create new tidal wetlands. The methodology may be either applied to activities that restore wetlands (WRC) or in combination with the establishment or restoration of living biomass (ARR+WRC).

The assessment identified 18 CARs, 12 CLs and 2 OBSs. The CARs and CLs were satisfactorily addressed by the MED proponents.

In summary, it is DNV GL's opinion that the Methodology "Methodology for Tidal Wetland and Seagrass Restoration", version 20150525, meets all relevant VCSA requirements set out in the VCS Program, VCS standard and VCS AFOLU Requirements. Hence, DNV GL recommends the approval of the new methodology.

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1 INTRODUCTION

1.1 Objective

The purpose of an assessment is to have an independent third party assess new proposed methodologies. In particular, the methodology's new allowable baselines, carbon accounting methodologies, and compliance with relevant VCSA criteria are assessed in order to confirm that the revisions, as documented, are sound and reasonable and meet the identified criteria. The assessment is a requirement for all VCS methodology revisions and is necessary to provide assurance to stakeholders of the quality of the projects that use this methodology and their intended generation of the Verified Carbon Units (VCUs).

1.2 Summary Description of the Methodology

The proposed Methodology Element Document (MED) provides specific procedures in order to estimate GHG emission reductions and removals resulting from project activities implemented to restore tidal wetlands or create new tidal wetlands. The methodology may be either applied to activities that restore wetlands (WRC) or in combination with the establishment or restoration of living biomass (ARR+WRC).

The GHG sources and sinks covered by the methodology are CO2 emissions or removals linked to soil or living biomass, N2O and CH4 emissions linked to different processes typical of wetlands.

Activity displacement, market or ecological leakage are ruled-out through the applicability conditions of the methodology.

Interestingly a standardized activity method is used for the additionality section. As a result, any project activity covered by the framework of this methodology and implemented in the USA is demonstrated to be additional.

2 ASSESSMENT APPROACH

2.1 Method and Criteria

2.1.1 Method

The assessment was based on the recommendations of the VCS Validation and Verification Manual /9/ as required by VCS standard Version 3 /1/.

The validation consisted of the following five phases:

I a desk review of the MED
II follow-up interviews with project stakeholders
III the resolution of outstanding issues
IV Internal quality control
V Issuance of the final assessment report

2.1.2 Criteria

The MED was reviewed against the following criteria:

Ref.	Document

Ref.	Document
/1/	VCSA: VCS standard, Version 3.5, 25 March 2015
/2/	VCSA: AFOLU Requirements, VCS Version 3.4, 8 October 2013
/3/	VCSA: Program Definitions, Version 3.5, 8 October 2013
/4/	VCSA: AFOLU Non-Permanence Risk tool, VCS Version 3.2, 4 October 2012
/5/	VCSA: Methodology Approval Process, Version 3.6, 25 March 2015
/6/	VCSA: "Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities" (version 03)
/7/	VCSA: "Estimation of greenhouse gas emissions from biomass burning (E-BB)" VMD0013 (version 1.0)
/8/	VCSA: "Estimation of carbon stocks and changes in carbon stocks in the wood products pool" VMD0007 (version 1.0)
/9/	VCSA: Validation and Verification Manual, Version 3.0, 4 October 2012
/10/	CDM Executive Board: 'Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities' (version 2.1.0)
/11/	CDM Executive Board: 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1)
/12/	CDM Executive Board: 'Tool for testing significance of GHG emissions in A/R CDM project activities' (version 1)
/13/	CDM Executive Board: 'Calculation of the number of sample plots for measurements within A/R CDM project Activities' (version 2.1)
/14/	CDM Executive Board: 'Estimation of GHG emissions related to fossil fuel combustion in A/R CDM project activities' (version 01)
/15/	VCSA: VCS module VMD0016 Methods for stratification of the project area (X-STR) (version 01)
/16/	VCSA: VCS module VMD0019 Methods to Project Future Conditions (version 01)
/17/	VCSA: VCS methodology VM0024 Methodology for Coastal Wetland Creation (version 01)
/18/	VCSA: VCS methodology Baseline and monitoring methodology for the rewetting of drained peatlands used for peat extraction, forestry or agriculture based on GESTs (version 01)
/19/	VCSA: VMD0046 Methods for monitoring of soil carbon stock changes and greenhouse gas emissions and removals in peatland rewetting and conservation project activities

Additionally, documents listed in Section 2.2 where used as technical criteria for assessing certain aspects of the proposed MED.

2.2 Document Review

The following tables list the documentation that was reviewed during the assessment

Ref.	Document
/20/	Restore America's Estuaries: Methodology Element Document "Methodology for Tidal Wetland and Seagrass Restoration" -First version 20141007 -Final version 20150525 dated 16 October 2014 -Final version after reconciliation To be completed; reconciliation pending

Ref.	Document
/21/	CDM Executive Board: 'Estimation of non-CO_2 GHG emissions resulting from burning of biomass attributable to an A/R CDM project activity' (version 4)
/22/	IPCC (2006): 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme. Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds).Published: IGES, Japan Including: "2013 SUPPLEMENT TO THE 2006 GUIDELINES: WETLANDS"
/23/	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
/24/	GOFC-GOLD, 2012, A sourcebook of methods and procedures for monitoring and reporting anthropogenic greenhouse gas emissions and removals caused by deforestation, gains and losses of carbon stocks in forests remaining forests, and forestation. GOFC-GOLD Report COP18 version 1, (GOFC-GOLD project office, Natural Resources Canada, Alberta Canada).
/25/	CEC. 2013. North American Blue Carbon Scoping Study. Montreal, Canada. Commission for Environmental Cooperation. 49pp.
/26/	Pendea, I.F. and Chmura, G. L. 2012. A high-resolution record of carbon accumulation rates during boreal peatland initiation. Biogeosciences, 9, 2711–2717. doi:10.5194/bg-9-2711-2012
/27/	Voss, M. Nitrogen processes in coastal and marine ecosystems. In Th e European Nitrogen Assessment, ed. Mark A. Sutton, Clare M. Howard, Jan Willem Erisman, Gilles Billen, Albert Bleeker, Peringe Grennfelt, Hans van Grinsven and Bruna Grizzetti. Published by Cambridge University Press. © Cambridge University Press 2011, with sections © authors/European Union.
/28/	Andrews JE, Jickells TD, Adams CA, Parkes DJ, and Kelly SD 2011 Sediment Record and Storage of Organic Carbon and the Nutrient Elements (N, P, and Si) in Estuaries and Near-Coastal Seas. In: Wolanski E and McLusky DS (eds.) Treatise on Estuarine and Coastal Science 4: 9-38. Waltham: Academic Press
/29/	Duarte, CM, H Kennedy, N Marbàa, and I Hendriks 2011. Assessing the capacity of seagrass meadows for carbon burial: Current limitations and future strategies. Ocean & Coastal Management 83: 32-38.
/30/	Craft, C.B., E.D. Seneca, and S.W. Broome. 1991. Loss on Ignition and Kjeldahl Digestion for Estimating Organic Carbon and Total Nitrogen in Estuarine Marsh Soils: Calibration with Dry Combustion. Estuaries 14(2): 175.
/31/	Anisfeld, S.C., M.J. Tobin, G. Benoit 1999. Sedimentation rates in flow-restricted and restored salt marshes in Long Island Sound. Estuaries 22: 231-244.
/32/	Chmura, GL, SC Anisfeld, DR Cahoon, and JC Lynch 2003. Global carbon sequestration in tidal, saline wetland soils. Global biogeochemical cycles 17: 1111-1123. doi:10.1029/2002GB001917
/33/	Mitsch, WJ, and JG Gosselink 2007. Wetlands. 4th ed. John Wiley & Sons, Inc., Hoboken, NJ.
/34/	Poffenbarger, H, BA Needelman, and JP Megonigal 2011. Salinity influence on methane emissions from tidal marshes. Wetlands 31: 831-842.
/35/	Allen, SE 1974. Chemical Analysis of Ecological Materials, Blackwell Sci., Malden, Mass.
/36/	Smith, CJ, RD DeLaune, and WH Patrick Jr 1983. Nitrous oxide emission from Gulf Coast

Ref.	Document
	wetlands. Geochimica et Cosmochimica Acta, 47: 1805-1814.

2.3 Interviews

DNV GL held various interviews with the methodology proponents.

Date	Name	Organization	Topic
31 March 2015	Igino Emmer Steve Emmett-Mattox	Silvestrum Restore America's Estuaries	- Kick-off meeting
21 April 2015	Igino Emmer Steve Emmett-Mattox	Silvestrum Restore America's Estuaries	- Clarifications to the list of findings
23 April 2015	Igino Emmer Steve Emmett-Mattox	Silvestrum Restore America's Estuaries	- Clarifications to the list of findings
11 June 2015	Igino Emmer Steve Emmett-Mattox	Silvestrum Restore America's Estuaries	- Discussion regarding the first response from the client

2.4 Assessment Team

The validation team is in accordance with the requirements of the VCS standard.

				Type of involvement							
Role	***Last Name***	***First Name***	***Country***	Project management	Desk review	Interviews	Reporting	Supervision of work	Technical review	TA 14.1 competence	VCS AFOLU expert
Project Manager	Silon	Kyle	USA	✓							
Team leader (Assessor)	Espejo	Andres	Spain		✓	✓	✓	✓		✓	
Technical reviewer	Aalders	Edwin	Norway						✓	✓	

Team Leader: Andrés Espejo. Mr. Espejo is a Natural Resource and Forestry Engineer, with strong technical expertise in quantification and modelling of biomass and carbon in the Agriculture, Forestry, and Other Land Use (AFOLU) sector, and also with extensive experience in monitoring, reporting and verification (MRV) of AFOLU carbon offset projects, programs and initiatives under the main standards, i.e. Afforestation /Reforestation under CDM, REDD under VCS, MRVs of REDD national initiatives, JNR requirements, etc. Additionally he has expertise in forest inventory, cruising, forest management and operations, forest certification, and financial analysis of various types of projects. He has validated/verified more than 30 AFOLU projects under the VCS or the CDM standard, and he has participated in the assessment of 3 VCS methodologies. He is qualified VCS AFOLU expert for REDD and IFM categories and he is qualified VCS JNR Expert.

Technical reviewer: Edwin Aalders.

Mr Aalders has 20 years of experience as an assessor in Environmental Auditing and Policy and Management. Mr Aalders started his career in SGS in 1992 were he quickly became involved in the development of new environmental certification & control services. In 2004 he became the Director of the International Emission Trading Association (IETA) which he held till 2009. In addition to his role as Director in IETA he was the first CEO for the Verified Carbon Standard Association (VCSa) between November 2007 and October 2008. After leaving IETA Mr Aalders became a Partner with IDEAcarbon before joining DNV as at their Climate Change and Sustainable Development Department in 2011.

Throughout his career Mr Aalders lived and worked in the various developing and developed countries, particularly Latin America, Africa and Australasia, involved in developing new environmental markets services. At SGS his work covered the development of environmental programmes such as SGS' Services in for Climate Change, Marine Stewardship Council (MSC), Organic, GLOBALGAP and Forest Stewardship Council (FSC). Whilst within IETA he had the operational responsibility of IETAs overall activities and in particularly those related to the UNFCCC process (CDM & JI) as well as the voluntary market which ultimately led to the setting up of the VCSa.

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 the Pacific Carbon Trust Advisory Board and is currently member of the VCSa AFOLU Steering Committee.

2.5 Resolution of Findings

The objective of this phase of the MED assessment is to resolve any outstanding issues which need be clarified prior to DNV GL's positive conclusion on the project design. All the findings are listed in Appendix A of this report and the findings are expressed as follows:

A **Corrective Action Request (CAR)** is raised if one of the following occurs:

(a) An element of the MED is not in compliance with a specific requirement of the VCS Standard;
(b) An element of the MED contains typos, mistakes, errors or lack of internal consistency;
(c) An element of the MED is not in compliance with VCS main principles as set in Section 2.4 of VCS standard;
(d) An element of the MED is not in line with scientific and other best practice;
(e) An element of the MED needs more clarity;

A **Clarification Request (CL)** is raised if the Assessor requires some clarification from the MED proponent on an element of the MED;

An **Observation (OBS)** is raised when areas of improvement are identified. The MED proponent is not required to address these observations and may consider them voluntarily for the improvement of the MED.

A total of 18 CARs, 12 CLs and 2 OBS were raised during the assessment. These were solved satisfactorily by the MED proponent by revising the MED and providing clarifications. A summary of these may be found in Appendix A of this assessment report.

The assessment report underwent a technical review before DNV GL approved the MED. The technical review was performed by a qualified technical reviewer in accordance with DNV GL's qualification scheme.

3 ASSESSMENT FINDINGS

3.1 Relationship to Approved or Pending Methodologies

The proposed MED seeks to account for GHG emission reductions and removals from the restoration and/or establishment of tidal wetlands.

The audit team confirms that the list of similar approved or pending methodologies (i.e. WRC) listed in the MED is complete. As confirmed by the audit team, VCS-approved methodologies that could be applied to the WRC category in its restoration component, are VM0024 and VM0027. However, the former it is only applicable to the USA and it does not allow for commercial harvesting of timber neither in the baseline or the project scenarios, while the latter it is only applicable to peatland rewetting. In any case, the proposed MED refers to the VM0024 and other modules/tools throughout.

3.2 Stakeholder Comments

In the period from 11 February 2014 until 13 March 2014, the MED was published in the VCS website for the 30-day stakeholder consultation period and received no comments (http://www.v-c-s.org/methodologies/methodology-tidal-wetland-and-seagrass-restoration).

3.3 Structure and Clarity of Methodology

DNV GL is able to confirm that the MED is written in a clear, logical, concise and precise manner. Moreover, DNV GL confirms that the structure of the methodology allows the reader to follow exactly the procedures to be applied for the estimation of each emission source and sink. Moreover it is able to confirm that:

- The MED proponent has followed the instructions in the tool/module template and ensured that the tools' various criteria and procedures are documented in the appropriate sections of the template;
- The terminology used in the tool is consistent with that used in the VCS Program, and GHG accounting generally;
- Key words must, should and may have been used appropriately and consistently to denote firm requirements, recommendations and permissible or allowable options, respectively;
- Criteria and procedures are written in a manner that can be understood and applied readily and consistently by project proponents;
- Criteria and procedures are written in a manner that allows projects to be unambiguously audited against them.

3.4 Definitions

The audit team confirmed that terms listed in the MED are in alphabetical order, and terms already defined under the VCS have not been repeated. Moreover, the audit team confirmed that the Definitions section includes a list of the key acronyms used in the tool.

The audit team assessed the reasonableness of the definitions by assessing them against criteria such as the glossary of terms of the 2013 IPCC Supplement on Wetlands /22/, and confirmed that the definitions are all in line with the common-practice in the industry and that are clear.

3.5 Applicability Conditions

An assessment of how the applicability conditions are appropriate, adequate and in compliance with the VCS rules follows. Below are assessed the conditions where the MED is applicable:

Applicability Condition	Assessor comments
1. Projects that restore or create tidal wetlands (including seagrass meadows, per this methodology's definition of tidal wetland) are eligible.	This condition appropriately limits the application of theMED to the restoration or creation of tidal wetlands, as many assumptions made in the GHG accounting procedures are based on this assumption. Therefore this applicability condition is appropriate. Moreover, the definition of what constitutes a tidal wetland is provided in the definition section so the condition is formulated in a sufficiently clear and precise manner, such that it can be determined whether a project activity meets with the condition. Furthermore, conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
2. Project activities may include any of the following or combinations of the following: a. Creating, restoring and/or managing hydrological conditions (eg, removing tidal barriers, improving hydrological connectivity, restoring tidal flow to wetlands or lowering water levels on impounded wetlands) b. Altering sediment supply (eg, beneficial use of dredge material or diverting river sediments to sediment-starved areas) c. Changing salinity characteristics (eg, restoring tidal flow to tidally-restricted areas) d. Improving water quality (eg, reducing nutrient loads leading to improved water clarity to expand seagrass meadows, recovering tidal and other hydrologic flushing and exchange, or reducing nutrient residence time) e. (Re-)introducing native plant communities (eg, reseeding or replanting) f. Improving management practice(s)	This condition appropriately limits the application of the MED to specific technologies which are proved and are aligned to the assumptions made in the GHG accounting procedures. Therefore this applicability condition is appropriate. Moreover, the list is complete and technologies are described in a clear manner, such that it can be determined whether a project activity meets with the condition. Furthermore, conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
3. Prior to the project start date, the project	This condition appropriately limits the application of

Applicability Condition	Assessor comments
area: a. a) Must be free of any land use that could be displaced outside the project area, or which displacement has a net positive effect on GHG emissions outside the project boundary (as in ii below), as demonstrated by at least one of the following, where relevant: i. The project area has been abandoned for two or more years prior to the project start date, or ii. Use of the project area for commercial purposes (i.e. trade) is not profitable as a result of salinity intrusion, market forces or other factors. In addition, timber harvesting in the baseline scenario within the project area does not occur or is non-commercial in nature (excluding subsistence harvesting) and is then conservatively not accounted for; or iii. Degradation of additional wetlands for new agricultural sites within the country will not occur or is prohibited by enforced law. OR b. Must be under a land use that will continue at a similar level of service or production during the project crediting period (eg, reed or hay harvesting, collection of fuelwood, subsistence harvesting).	the MED to activities that will not cause any activity displacement or market leakage; a leakage of zero is one of the assumptions made in the GHG accounting procedures of the MED. Moreover, the list is comprehensive in a manner that ensure that any possible case of leakage is covered. Furthermore, conformance with the applicability condition can be demonstrated at the time of project validation as this condition refers to the conditions prior to the start date.
4. Live tree vegetation may be present in the project area, and may be subject to carbon stock changes (eg, due to harvesting) in both the baseline and project scenarios.	This condition appropriately clarifies that changes in carbon stocks in existing vegetation is allowed. Moreover, the condition is formulated in a clear and precise manner. Furthermore, conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
5. The prescribed burning of herbaceous and shrub aboveground biomass (cover burns) as a project activity may occur.	This condition appropriately clarifies that prescribed burning of herbaceous and shrub bioimass as a project activity is eligible. Moreover, the condition is formulated in a clear and precise manner. Furthermore, conformance with the applicability

Applicability Condition	Assessor comments
	condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
6. Where the project proponent intends to claim emission reductions from reduced frequency of peat fires, project activities must include a combination of rewetting and fire management.	This condition appropriately limits the project boundary to project activities that claim emission reductions from reduced frequency of peat fires. These project activities must include a combination of rewetting and fire management. This condition serves also to align this to the applicability conditions of the GESTs methodology /18/. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
7. Where the project proponent intends to claim emission reductions from reduced frequency of peat fires, it must be demonstrated that a threat of frequent on-site fires exists, and the overwhelming cause of ignition of the organic soil is anthropogenic (eg, drainage of the peat, arson).	This condition appropriately limits the project boundary to project activities that claim emission reductions from reduced frequency of peat fires. These project activities must include a combination of rewetting and fire management. This condition serves also to align this to the applcability conditions of the GESTs methodology /18/. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
8. In strata with organic soil, afforestation, reforestation, and revegetation (ARR) activities must be combined with rewetting.	This condition in included in order to avoid having to follow the requirement stated in the first paragraph of Section 4.2.19 2 of the AFOLU Requirements, i.e. "ARR+RWE on already drained peatland without full rewetting is permitted in cases where biomass carbon stock increases more than the peat stock decrease". No rewetting in strata with ARR activities would require to add complex calculation procedures. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.

Below are assessed the conditions where the MED is not applicable:

Non-Applicability Condition	Assessor comments
9. Project activities do qualify as IFM or REDD.	This condition appropriately limits the applicability of the methodology to project activities that are neither IFM or REDD. This is relevant as according to Table 1 of the AFOLU Requirements, ARR+RWE shall not be implemented in existing forests while RWE may be implemented in existing forests provided emission reductions from avoided deforestation/degradation (REDD) or improved forest management (IFM) are not claimed. Therefore, this condition ensures that the project cannot claim emission reductions from management of existing forests, except for the RWE component. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
10. Baseline activities include commercial forestry.	This condition appropriately limits the applicability of the MED in order to ensure that project activities do not comply with the IFM category and that there is no possible market or activity displacement leakage linked to commercial forestry operations. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
11. Project activities may lower the water table only where the project converts open water to tidal wetlands, or improves the hydrological connection to impounded waters..	This condition appropriately limits the applicability of the methodology to project activities that do not lower the water table, or if it lowers it, it does not cause GHG emissions (i.e. improves the hydrological connection to impounded waters). This condition ensures that the project is in conformance with requirement set in Section 4.2.19 2 of the AFOLU Requirements. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
12. Hydrological connectivity of the project area with adjacent areas leads to a significant increase in GHG emissions outside the	This condition appropriately limits the applicability of the MED in order to ensure that there is no ecological leakage as a result of project activities.

Non-Applicability Condition	Assessor comments
project area.	The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
13. Project activities include the burning of organic soil.	This condition in included in order to ensure compliance with Section 4.2.19 2 of the AFOLU Requirements and in order to ensure that the assumptions made in the GHG accounting procedures are applicable to the project activity. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.
14. Nitrogen fertilizer(s), such as chemical fertilizer or manure, are applied in the project area during the project crediting period.	This condition in included in order to avoid having to follow the requirement stated in the second paragraph of Section 4.2.19 2 of the AFOLU Requirements, i.e. " ARR activities that involve nitrogen fertilization, active peatland drainage or lowering of the water table depth, such as draining in order to harvest, are not eligible project activities, as they are likely to enhance net GHG emissions". Moreover, this condition will ensure that the assumptions made in the GHG accounting procedures are applicable to the project activity. The condition is formulated in a clear and precise manner and conformance with the applicability condition can be demonstrated at the time of project validation and it obviously will not change during the project's crediting period or lifetime.

In view of the above, the applicability conditions include conditions regarding the project activities that are eligible and those that are not, so the scope of application is sufficiently clear. Hence, DNV GL is able to confirm that the applicability conditions as a whole are sufficiently clear for determining which project activities are eligible under the methodology, and which are not.

In summary, the applicability conditions are appropriate, adequate and in compliance with the VCS rules.

3.6 Project Boundary

The MED provides criteria and procedures for the definition of the project boundary and identifying and assessing GHG sources, sinks and reservoirs relevant to the project and baseline scenarios. It provides specific procedures for the definition of gases within the project boundary, eligible carbon pools under the applicable methodology, and the applicable spatial and temporal boundaries of the project.

The assessment team confirms that the criteria and procedures for the definition of the project boundary are in compliance with the VCS standard and the AFOLU Requirements.

3.6.1 *GHG Sources*

The procedures for determination of the GHG sources included in the project boundary conform to the VCS rules, as specifically discussed for each GHG source below.

Source		Gas	Included	Assessment comments
Baseline	The production of methane by bacteria	CO_2	No	It is appropriate to include this GHG source as the production of methane in the project scenario may be higher than in the baseline scenario under certain conditions. In fact, Section 4.3.23 of the AFOLU Requirements requires to include methane emissions so it is appropriate to include this GHG source, yet it may be conservatively neglected in the baseline scenario.
		CH_4	Yes	
		N_2O	No	
	Denitrification/nitrification	CO_2	No	It is appropriate to include this GHG source as the production of methane in the project scenario may be higher than in the baseline scenario under certain conditions. In fact, Section 4.3.23 of the AFOLU Requirements requires to include N2O emissions in RWE projects, so it is appropriate to include this GHG source, yet it may be conservatively neglected in the baseline scenario.
		CH_4	No	
		N_2O	Yes	
	Burning of biomass and organic soil	CO_2	No	It is appropriate to include this source as in the case of burning of organic soil in the baseline scenario and the implementation of fire protection measures, this source may be significant. Accounting for this source is implicitly included in the Fire Reduction Premium approach.
		CH_4	Yes	
		N_2O	Yes	
	Fossil fuel use	CO_2	Yes	It may be deemed de-minimis for ARR activities according to Section 4.3.3 of the AFOLU Requirements, yet for WRC it may be significant.
		CH_4	No	It is deemed de-minimis as in comparison to CO2 emissions, non-CO2 emissions due to fossil fuel combustion are de-minimis.
		N_2O	No	
Project	The production of methane by bacteria	CO_2	No	It is appropriate to include this GHG source as the production of methane in the project scenario may be higher than in the baseline scenario under certain conditions. In fact, Section 4.3.23 of the AFOLU
		CH_4	Yes	
		N_2O	No	

Source		Gas	Included	Assessment comments
				Requirements requires to include methane emissions so it is appropriate to include this GHG source, yet it may be conservatively neglected in the baseline scenario.
	Denitrification/nitrification	CO_2	No	It is appropriate to include this GHG source as the production of methane in the project scenario may be higher than in the baseline scenario under certain conditions.
		CH_4	No	In fact, Section 4.3.23 of the AFOLU Requirements requires to include N2O emissions in RWE projects, so it is appropriate to include this GHG source, yet it may be conservatively neglected in the baseline scenario.
		N_2O	Yes	
	Burning of biomass and organic soil	CO_2	No	This may be a significant source, therefore DNV GL deems that it is appropriate to include this.
		CH_4	Yes	
		N_2O	Yes	
	Fossil fuel use	CO_2	Yes	It may be deemed de-minimis for ARR activities according to Section 4.3.3 of the AFOLU Requirements, yet for WRC it may be significant.
		CH_4	No	It is deemed de-minimis as in comparison to CO2 emissions, non-CO2 emissions due to fossil fuel combustion are de-minimis.
		CO_2	No	
Leakage	Displacement of activities, market leakage or ecological leakage	CO_2	No	Leakage emissions are zero under the applicability conditions of the MED.

Other possible emissions sources not considered by the MED are neglected through applicability criteria of the MED, e.g., no peatland fires or nitrogen fertilization are allowed as a project activity.

The assessment team deems that the list of emission sources is complete and that the criteria and procedures are in conformance with Section 4.4.1-4.4.3 of VCS standard. Furthermore, it may be confirmed that the MED is in conformance with Section 4.3.3-4.3.6 and Section 4.3.16-4.3.17 of AFOLU Requirements. More specifically for those requirements that are relevant to the project activity:

Requirement	Assessment
Section 4.3.3 of AFOLU Requirements	The MED is in compliance with Section 4.3.3 of the AFOLU Requirements since it includes within the project boundary those GHG sources that are not considered to be de-minimis. Moreover regarding the sub-sections:

Requirement	Assessment
	1) This requirement is not applicable since nitrogen fertilization is not permitted; 2) GHG emissions from burning of herbaceous vegetation and collection of non-renewable biomass for fencing has not been included; 3) Fossil fuel combustion has been considered, since this has to be considered for WRC project activities.
Section 4.3.6 of AFOLU Requirements: "Reductions of CH_4 emissions are eligible for crediting if fire would have been used to clear the land in the baseline scenario"	As assessed above, the MED is in compliance with this requirement since methane emissions are included within the project boundary.
Section 4.3.23 of AFOLU Requirements: **"**Methodologies shall include CH_4 emissions in the project boundary (for example, transient peaks of CH_4 that may arise after rewetting peatland). The methodology shall establish the criteria and procedures by which the CH_4 source may be deemed *de minimis* (as set out in Section 4.3.3) or conservatively excluded (as set out in Section 4.3.4)"	As assessed above, the MED is in compliance with this requirement since methane emissions are included within the project boundary.
Section 4.3.24 of AFOLU Requirements: "For RWE projects, N_2O emissions shall be included in the project boundary. The methodology shall establish the criteria and procedures by which the N_2O source may be deemed *de minimis* (as set out in Section 4.3.3) or conservatively excluded (as set out in Section 4.3.4)"	As assessed above, the MED is in compliance with this requirement since N2O emissions are included within the project boundary.

3.6.2 *Carbon Pools*

The procedures for selection of carbon pools is consistent with the requirements of the VCS standard and Section 4.3.1-4.3.4 of the AFOLU Requirements:

Carbon Pool	Included / Excluded	Assessment according to WRC requirements	Assessment according to ARR requirements
Above-ground tree	Included	Major carbon pool affected by project activities and required to be accounted as per Section 4.3.1	Major carbon pool affected by project activities and required to be accounted as per Section 4.3.1 of the AFOLU

Carbon Pool	Included / Excluded	Assessment according to WRC requirements	Assessment according to ARR requirements
biomass		of the AFOLU Requirements.	Requirements.
Above-ground non-tree biomass	Included	According to Section 4.3.1 of the AFOLU Requirements this carbon pool is required where it may significantly reduce the pool or where baseline activities may significantly reduce the pool. Since project activities may cause an increase or decrease of this pool, it has been included. Therefore, DNV GL agrees that this carbon pool must be included.	According to Section 4.3.1 of the AFOLU Requirements this carbon pool is Optional. However, this carbon pool has been included following the WRC requirements.
Below-ground biomass	Included	According to Section 4.3.1 of the AFOLU Requirements this carbon pool is Optional. However, this carbon pool has been included following the WRC requirements.	According to Section 4.3.1 of the AFOLU Requirements this carbon pool must be included where it may where it may significantly reduce the pool or where baseline activities may significantly reduce the pool. As indicated above, project activities may increase or decrease carbon stocks in this carbon pool, therefore this has been included.
Litter	Excluded	According to Section 4.3.1 of the AFOLU Requirements this carbon pool does not have to be included, because it is not subject to significant changes or potential changes are transient in nature.	According to Section 4.3.1 of the AFOLU Requirements this carbon pool has to be included where it may significantly reduce the pool or where baseline activities may significantly reduce the pool. However, it has been excluded since according to the WRC requirements it has to be excluded.
Dead wood	Excluded	According to Section 4.3.1 of the AFOLU Requirements this carbon pool this pools optional.	According to Section 4.3.1 of the AFOLU Requirements this carbon pool has to be included where it may significantly reduce the pool or where baseline activities may significantly reduce the pool. It has been excluded because it is deemed that it is not subject to significant changes or potential changes are transient in nature.
Soil organic	Included	Major carbon pool affected by project activities and required to	According to Section 4.3.1 of the AFOLU Requirements this carbon pool

Carbon Pool	Included / Excluded	Assessment according to WRC requirements	Assessment according to ARR requirements
carbon		be accounted as per Section 4.3.1 of the AFOLU Requirements.	this pools optional. However, it has been included as it is required for WRC projects.
Wood products	Included	According to Section 4.3.1 of the AFOLU Requirements this carbon pool this pools optional. It has been included as in the case harvesting occurs in the project or the baseline scenario this carbon pool may be relevant.	According to Section 4.3.1 of the AFOLU Requirements this carbon pool this pools optional. It has been included as in the case harvesting occurs in the project or the baseline scenario this carbon pool may be relevant.

The audit team deems that the list of chosen carbon pools is complete and that the criteria and procedures are in conformance with Section 4.3.1-4.3.4 and Section 4.3.16-4.3.17 of AFOLU Requirements.

3.6.3 *Spatial boundaries*

The methodology element contains some fairly standard requirements for delineation of the project area, including procedures for the stratification of the project area, procedures to account for sea level rise, the identification of ineligible project areas (i.e. that their cumulative GHG benefit in a 100 year period is negative) and the delineation of buffer zones. Moreover, DNV GL deems that these procedures are relevant and correct, and that they are in line with the VCS requirements as shown above:

Requirement	Assessment
Section 4.3.25 of AFOLU Requirements: "For project activities implemented on coastal wetlands, methodologies shall establish criteria and procedures for establishing the geographic boundary that considers projections of expected relative sea level rise. The procedures shall account for the potential effect of sea level rise on the lateral movement of wetlands during the project crediting period and the potential that the wetlands will migrate beyond the project boundary"	The MED includes specific procedures to account for the potential effect of sea level rise during the project crediting period and the period beyond this. Therefore, the MED is in compliance with the specific VCS requirements.

3.6.4 *Temporal boundaries*

The requirements of the methodology element regarding the specification of temporal boundaries are fully consistent with the VCS rules:

Temporal boundaries are in accordance with the AFOLU Requirements:

Requirement	Assessment
Section 4.5.25 of the AFOLU Requirements:	The MED includes procedures in order to estimate both the peat depletion time (PDT) and soil depletion time (SDT) as required in section so the MED is in compliance with this requirement;
Section 3.1.10 of the AFOLU Requirements	Although not being a methodological requirement, the MED includes requirements to assess the appropriateness of the baseline scenario every 10 years after the start date,

3.7 Baseline Scenario

The MED refers to the 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1) /11/ in order to determine the baseline scenario. The MED lists some changes in words, abbreviations and sections of the tool, in order to adapt it to the VCS framework.

Therefore, the audit team is able to confirm that the procedures to determine the baseline scenario are in accordance with the VCS standard and the AFOLU Requirements: Requirements regarding the baseline scenario as set out in Section 4.4.1 and 4.4.5- 4.4.7 of the AFOLU Requirements will be discussed in Section 3.9.1 of this assessment report.

3.8 Additionality

The MED specifies two options for demonstrating additionality depending on where the wetland is located: 1) Wetlands within the USA; or 2) Wetlands out of the USA.

1) Wetlands within USA: Regarding the former, the MED requires to conduct a regulatory surplus and confirm that the project activity is within the positive list. The positive list includes any wetland restoration project within the USA, either tidal wetlands or seagrass meadows, and it was established following the Activity Method described in Sections 4.6.8 and 4.6.9 of the AFOLU Requirements. The MED developer conducted the analysis separately for tidal wetlands and seagrass meadows, finding that the activity penetration level for the former is equal to 2.74% while it is equal to 0.2% for the latter; this is below the 5% specified in the VCS rules. DNV GL checked the calculations and the sources referred to in the VCS PD and confirmed that the reported penetration levels are correct and in accordance to the VCS requirements.
2) Wetlands out of USA: Regarding the latter, a project method has to be applied consisting on the application of the 'Combined tool to identify the baseline scenario and demonstrate additionality in AR CDM project activities' (version 1) /11/, which is required to identify the baseline scenario.

In view of this, DNV GL is able to confirm that the additionality section of the MED is in compliance with the VCS rules.

3.9 Quantification of GHG Emission Reductions and Removals

3.9.1 *Baseline Emissions*

The MED provides specific and clear procedures for determining the baseline emissions. According to the proposed MED and in line with the project boundary defined in Section 3.6 above, baseline emissions are estimated (GHG_{BS}) as the sum of the following parameters:

$$GHG_{BSL} = GHG_{BSL\text{-}biomass} + GHG_{BSL\text{-}soil} + GHG_{BSL\text{-}fuel}$$

here:

GHG_{BSL} = Net CO_2e emissions in the baseline scenario up to year *t**; t CO_2e. The MED provides complete and accurate procedures to estimate GHG emissions and removals in the baseline scenario. It also provides requirements for the consideration of sea level rise.

$GHG_{BSL\text{-}biomass}$ = Net CO_2e emissions from biomass carbon pools in the baseline scenario up to year *t**; t CO_2e. Changes in biomass in tree and shrub vegetation is calculated following the provisions of the CDM tool 'Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities' (version 2.1.0) /10/. For herbaceous biomass, the MED provides specific procedures for estimating the changes in biomass stocks, which may be estimated through direct measurements or through the use of a specific default value sourced from Mitsch & Gosselink /33/. The tool also takes into account the provisions of the AFOLU Requirements for projects with harvesting (Section 4.5.5); baseline GHG emissions must be equal to the long-term average in carbon stock change of biomass.

$GHG_{BSL\text{-}soil}$ = Net CO_2e emissions from the SOC pool in the baseline scenario up to year *t**; t CO_2e. The MED provides a set of options to calculated GHG emissions from the SOC pool based on either various proxies (e.g. carbon stock change, water table depth) or through the use of literature, data, default factors or models. DNV GL confirmed that the default values defined in the methodology are based on peer reviewed publications /35//28//31//32//29//30//34//36/, sources that are in accordance to the requirements set in Section 4.1.7 of the VCS Standard. Moreover, DNV GL confirmed that that the procedures for model use are in accordance with the requirements set in Section 4.1.7 of the VCS Standard.

$GHG_{BSL\text{-}fuel}$ = Net CO_2e emissions from fossil fuel use in the baseline scenario up to year *t**; t CO_2e. Calculation of GHG emissions from the fuel use is done following the provisions of the 'Estimation of GHG emissions related to fossil fuel combustion in A/R CDM project activities' (version 01) /14/.

Additionally, the audit team checked whether the MED is in compliance with the requirements set out in Sections 4.4 and 4.5 of the AFOLU Requirements:

Requirement	Assessment
Section 4.4.1 of AFOLU Requirements: "The determination and establishment of a baseline scenario shall follow an internationally	The methodology is sound and in compliance with 2006 IPCC GL /22/ as confirmed by DNV GL.

Requirement	Assessment
accepted GHG inventory protocol, such as the *IPCC 2006 Guidelines for National GHG Inventories*."	
Section 4.4.10 to 4.4.18 of AFOLU Requirements including procedures for establishing the baseline scenario	DNV GL checked the applicable MED and confirmed that Section 8.1.1 of the MED includes procedures for modelling the baseline scenario. These procedures are combined with the procedures of the module VMD0019 Methods to Project Future Conditions (version 01) /16/.
Section 4.5.1 and Section 4.5.2 of AFOLU Requirements	The MED is sound and in compliance with 2006 IPCC GL /22/ as confirmed by DNV GL
Section 4.5.3 of AFOLU Requirements	The MED includes procedures that address the requirements of Section 4.5.3 regarding the accounting of the soil carbon pool. GHG emissions in the baseline scenario does not occur instantaneously but during a transition period.
Section 4.5.4 of AFOLU Requirements	This is not applicable to the proposed MED.
Section 4.5.5 of AFOLU Requirements	As explained above, the MED includes procedures in order to estimate the long-term average in baseline carbon stocks in projects with harvesting in the baseline or the project scenario. Although the requirement refers to GHG benefits, considering the long-term average in both the project and baseline scenarios is equivalent to consider the long-term average in GHG benefits.
Section 4.5.25 of AFOLU Requirements: 1) GHG emission reductions may be claimed only during the period defined by the PDT and SDT; 2) Any applicable and justifiable proxies, as established in scientific literature, for GHG emissions projected throughout the project crediting period shall be estimated. 3) Net baseline GHG emissions during the project crediting period, including emissions associated with the estimated water table depths, salinity or another justifiable proxy for GHG emissions, plus emissions from other activities such as biomass loss or fires, as well as carbon sequestration, where applicable, shall be estimated.	DNV GL assessed the MED against the following requirements: 1) As assessed in Section 3.6.4 of this report, the MED includes specific procedures in order to calculate the PDT and SDT and thus set the temporal boundary of the project; 2) GHG emissions in both the baseline scenario may be estimated through proxies and scientific literature as justified previously; 3) GHG emissions associated to the events and factors indicated in the requirement are all considered in Section 8.1.1 of the MED. Therefore, the MED is fully compliant to the VCS requirements.
Section 4.5.26 of AFOLU Requirements: Baseline emissions shall be estimated conservatively and consider that the water table depth in the project area may rise during	As assessed in Section 3.6.3 and assessed in this Section of the report, provisions for accounting for the sea level rise and other changes have been considered by the MED.

Requirement	Assessment
the project crediting period due to any or all of the causes identified in alternative baseline scenarios as set out in Section 4.4.11.	
Section 4.5.27 of AFOLU Requirements: The procedure for quantifying CO2 emissions for the baseline and project emissions may be estimated through hydrological modelling or the modelling of proxies for GHG emissions in place of direct on-site gas flux measurements.	As assessed in Section 3.6.3 and assessed in this Section of the report, provisions for hydrological modelling have been considered by the MED.
Section 4.5.28 of AFOLU Requirements: Where relevant, the fate of transported organic matter as a result of sedimentation, erosion and oxidation shall be assessed conservatively based on peer-reviewed literature and considering the following: 1) It is conservative to not account for the loss of sediment from the project area in the baseline scenario. 2) It is conservative to not account for further sedimentation in the project area in the project scenario.	DNV GL confirmed that the MED provides procedures in order to discount for the allochthonous SOC as required by the applicable requirement.
Section 4.5.29 of AFOLU Requirements: With respect to the soil carbon pool, the maximum quantity of GHG emission reductions that may be claimed by the project shall not exceed the net GHG benefit generated by the project 100 years after its start date.	DNV GL confirmed that the MED provides procedures in order to cap the GHG emission reductions from the SOC pool to the GHG benefit generated by the project 100 years after its start date.
Section 4.5.30 of AFOLU Requirements: Emissions of CH4 from drained or saline wetlands may be excluded in the baseline scenario where it may be deemed de minimis (as set out in Section 4.3.3) or conservatively excluded (as set out in Section 4.3.4)	DNV GL confirmed that the MED includes provisions to account for methane emissions.
Section 4.5.31 of AFOLU Requirements: As WRC activities are likely to influence CH4 emissions, methodologies shall establish procedures to estimate such emissions, and shall establish the criteria and procedures by which the source may be deemed de minimis (as set out in Section 4.3.3) or conservatively excluded (as set out in Section 4.3.4).	DNV GL confirmed that the MED includes provisions to account for methane emissions. DNV GL confirmed that these procedures are complete, accurate and transparent.
Section 4.5.33 of AFOLU Requirements: RWE projects on peatland that include an activity designed specifically to reduce incidence and	DNV GL confirmed that the procedures indicated to estimate the parameter $Rate_{peatloss\text{-}BSL,i}$ or $Rate_{carbonloss\text{-}BSL,i}$ it has been stated that fires must be considered

Requirement	Assessment
severity of fires shall deduct the amount of peat assumed to burn when estimating peat depletion times.	when estimating PDT and SDT.
Section 4.5.34 of AFOLU Requirements: Methodologies for RWE projects on peatland explicitly addressing anthropogenic peatland fires occurring in drained peatlands shall establish procedures for determining or conservatively estimating the baseline emissions from peatland fire occurring in the project area using defensible data (such as fire maps, historical databases on fires, and where appropriate, combined with temperature and precipitation data).	The MED refers to the procedures provided in the VCS methodology "Baseline and monitoring methodology for the rewetting of drained peatlands used for peat extraction, forestry or agriculture based on GESTs (version 01)" /18/ which consist in a conservative estimate of GHG emissions from fires. Therefore, this requirement would not be applicable as the approach is based on a conservative estimate conditional to the applicability of the tool.
Section 4.5.35 of AFOLU Requirements: Where relevant, methodologies shall establish procedures to account for any changes in carbon sequestration or GHG emission reductions resulting from lateral movement of wetlands due to sea level rise, or coastal squeeze associated with any structures that prevent wetland landward migration and cause soil erosion.	As assessed in Section 3.6.3 and assessed in this Section of the report, provisions for accounting for the sea level rise and other changes have been considered by the MED.

Hence, DNV GL concludes that criteria and procedures to define the baseline emissions are in conformance the VCS standard and the AFOLU Requirements.

3.9.2 *Project Emissions*

The MED provides specific and clear procedures for determining the project emissions. According to the proposed MED and in line with the project boundary defined in Section 3.6 above, baseline emissions are estimated (PR_y) as the sum of the following parameters:

$$GHG_{WPS} = GHG_{WPS\text{-}biomass} + GHG_{WPS\text{-}soil} + GHG_{WPS\text{-}burn} + GHG_{WPS\text{-}fuel}$$

Where:

GHG_{WPS} = Net CO_2e emissions in the project scenario up to year *t**; t CO_2e

$GHG_{WPS\text{-}biomass}$ = Net CO_2e emissions from biomass carbon pools in the project scenario up to year *t**; t CO_2e. The procedure for estimating this parameter is the same as for baseline GHG emissions or removals. These have been assessed in Section 3.9.1 of this report.

$GHG_{WPS\text{-}soil}$ = Net CO_2e emissions from the SOC pool in the project scenario up to year *t**; t CO_2e. The procedure for estimating this parameter is the same as for baseline GHG emissions or removals. These have been assessed in Section 3.9.1 of this report.

$GHG_{WPS\text{-}burn}$ Net CO_2e emissions from prescribed burning in the project scenario up to year *t**; t CO_2e. The MED refers to the procedures provided in the VCS methodology "Baseline and monitoring methodology for the rewetting of drained peatlands used for peat extraction, forestry or agriculture based on GESTs (version 01)" /18/

$GHG_{WPS\text{-}fuel}$ Net CO_2e emissions from fossil fuel use in the project scenario up to year *t**; t CO_2e. The procedure for estimating this parameter is the same as for baseline GHG emissions or removals. These have been assessed in Section 3.9.1 of this report.

Additionally, the audit team checked whether the MED is in compliance with requirements set in Sections 4.4 and 4.5 of the AFOLU Requirements. Since procedures for estimating GHG emissions in the baseline and the project scenario are identical, compliance with the AFOLU requirements was assessed in the previous section.

Hence, the audit team concludes that criteria and procedures to define the baseline emissions are in conformance the VCS standard and the AFOLU Requirements.

3.9.3 *Leakage*

The MED provides specific procedures for determining leakage emissions. As specified in the MED the no leakage sources are applicable under the applicability conditions of the MED. DNV GL assessed whether the possible leakage sources defined in Section 4.6.1 of the AFOLU Requirements would have to be accounted for:

- Market leakage: The audit team deems that this would not be applicable as the production of a commodity would not be affected by the project activities as required by Section 4.6.4 of the AFOLU Requirements. The reason is that no commercial activities would take place within the project area as per applicability condition 3).
- Activity-Shifting leakage: No activity displacement leakage would occur as per applicability condition 3) which ensures that no activity takes place within the project boundary, or if it is displaced it will not cause GHG emissions.
- Ecological leakage: No ecological leakage would occur as per applicability condition 8) and 12) which ensures that there is no leakage due to lowering the water table or due to hydrological connectivity.

Additionally, the audit team checked whether the MED is in compliance with requirements set in Sections 4.6 of the AFOLU Requirements:

Requirement	Assessment
Section 4.6.1 of the AFOLU Requirements	The MED provides provisions to determine market leakage and activity-shifting leakage as explained above.
Section 4.6.2 of the AFOLU Requirements	The MED includes provisions to neglect emission sources that are considered *de minimis*. No leakage emissions would occur.
Section 4.6.3 of the AFOLU Requirements	GHG emissions from leakage are determined directly from monitoring. This is not applicable since leakage is ruled-out.
Section 4.6.4 of the AFOLU Requirements	This is not applicable as assessed above.
Section 4.6.6 of the	This is not applicable under the applicability conditions of the MED which

AFOLU Requirements	limits the project activities that can be established.
Section 4.6.7 of the AFOLU Requirements	This is not applicable since leakage is ruled-out.
Section 4.6.15 of the AFOLU Requirements	This is not applicable since leakage is ruled-out.
Section 4.6.16 of the AFOLU Requirements	This is not applicable since leakage is ruled-out.

The audit team deems that criteria and procedures to define the leakage emissions are in conformance with the following requirements from AFOLU Requirements.

3.9.4 *Net GHG Emission Reductions and Removals*

The MED provides clear criteria and procedures to estimate the net GHG emission reductions and removals by the project. The audit team confirmed that the equations provided are correct and that there would be no double accounting of emission reductions.

In addition, the MED provides a clear procedure for estimating the GHG benefits for each year in the crediting period, and how the VCU's generated by the project would be estimated considering the provisions of the AFOLU Non-Permanence Risk tool.

The MED is in compliance with Section 4.1.4 of the VCS standard as it clearly states the assumptions, parameters and procedures that have significant uncertainty, and describes how such uncertainty is addressed. Where applicable, a means to estimate a 90 or 95 percent confidence interval is provided and specific procedures are provided in order to adjust uncertain average estimates.

The approach provided for calculating baseline emissions, project emissions and emission reductions are deemed appropriate and adequate and they are in compliance with Section 4.7 of the AFOLU Requirements and Section 4.7 of VCS standard.

3.10 Monitoring

The MED provides clear criteria and procedures of the project monitoring including procedures for: the ex-post estimation of project emissions and calculation of Net Emission Reductions; the estimation of the buffer; the limitation of the generation of GHG benefits by the SOC pool as required by the VCS requirements.

The audit team deems that the monitoring plan is complete as it provides complete and sound methods for monitoring leakage, changes in carbon stocks and other emissions.

Quality control and quality assurance procedures have also been properly prescribed for all major monitoring activities to further ensure the accuracy and reliability of the emission reduction estimates.

Finally, the audit team deems that the list of data and parameters and the provided information is appropriate, adequate, and in compliance with Section 4.8 of the AFOLU Requirements and Section 4.8 of the VCS standard.

3.10.1 *Data and parameters available at validation*

The audit team checked the appropriateness of the data and parameters available at validation and described in Section 9.1 of the MED:

- $Depth_{peat,i,t0}$: Average organic soil depth above the drainage limit in stratum *i* at the project start date; m. These are obtained through direct measurement or literature involving the project area or similar areas. This is used for the calculation of baseline emissions and the calculation of the maximum quantity of GHG emission reductions that may be claimed by the project;
- $Rate_{peatloss\text{-}BSL,i}$: m yr^{-1}: Rate of organic soil loss due to subsidence and fire in the baseline scenario in stratum *i*. This is sourced from expert consultation or using proxies. This parameter serves for the calculation of baseline emissions and the calculation of the maximum quantity of GHG emission reductions that may be claimed by the project;
- $Rate_{peatloss\text{-}WPS,i,t}$: m yr^{-1}; Rate of organic soil loss due to subsidence in the project scenario in stratum *i* in year *t.* This is based on expert judgement/literature or proxies and it serves to calculate project emissions and the maximum quantity of GHG emission reductions that may be claimed by the project;
- $Rate_{Closs\text{-}BSL,i,t}$: t C ha^{-1} yr^{-1}: Rate of organic carbon loss in mineral soil due to oxidation in the baseline scenario in stratum *i* in year *t.* This is sourced from publications, historical data or chronosequences. This parameter serves for the calculation of baseline emissions and the calculation of the maximum quantity of GHG emission reductions that may be claimed by the project. The assumed default value is zero which is reasonable according to DNV GL as it is conservative.
- $Rate_{Closs\text{-}WPS,i,t}$: t C ha^{-1} yr^{-1}: Rate of organic carbon loss in mineral soil due to oxidation in the project scenario in stratum *i* in year *t*. This is obtained through literature reviews or specific measurements. This parameter serves for the calculation of project emissions and the maximum quantity of GHG emission reductions that may be claimed by the project;
- $\Delta C_{TREE\_BSL,t}$: t CO_2-e. Change in carbon stock in baseline tree biomass within the project area in year t; t CO_2-e. This is estimated through the tool 'Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities' (version 2.1.0) and it serves to estimate the baseline emissions;
- $\Delta C_{SHRUB\_BSL,t}$: t CO_2-e. Change in carbon stock in baseline shrub biomass within the project area in year t; t CO_2-e. This is estimated through the tool 'Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities' (version 2.1.0) and it serves to estimate the baseline emissions;
- $Rate_{subs\text{-}BSL,i}$: m yr^{-1}. Rate of organic soil loss due to subsidence in the baseline scenario in stratum *i*. This is based on literature or expert consultation and it serves to calculate baseline emissions;
- $C_{BSL\text{-}soil,i,t}$: t C ha^{-1}. Soil organic carbon stock in the baseline scenario in stratum *i* in year *t.* This is estimated through specific studies in the area and it serves to calculate baseline emissions
- $Depth_{soil,i,t0}$: m; Average mineral soil depth in stratum *i* at the project start date. Calculation of baseline emissions. This is obtained from specific studies in the area or region. It serves to estimate the maximum quantity of GHG emission reductions that may be claimed by the project;
- VC: kg C m^{-3}; Volumetric organic carbon content of organic or mineral soil. This is estimated through direct measurements and/or literature involving the project area or similar areas. This serves to calculate baseline emissions, project emissions and the maximum quantity of GHG emission reductions that may be claimed by the project;
- $A_{BSL,i}$ or $(A_{i,t})$*:* ha; Area of baseline stratum *i* (in year *t*). This is estimated through GIS and it serves to calculate the baseline emissions;

- $C_{BSL\text{-}herb,i,t}$: t C ha^{-1}. Carbon stock in herbaceous vegetation in the baseline scenario in stratum i in year t. This is sourced from direct measurements or default factor and it serves to calculate baseline emissions;
- %*OM*: %; Percentage of soil organic matter. This is sourced from direct measurements based on loss-on-ignition or may be derived from direct measurements of soil carbon. This serves to calculate baseline emissions;
- $\%C_{soil}$: %; Percentage of soil organic C. This is sourced from direct measurements or may be derived from direct measurements of soil organic matter. This serves to calculate baseline emissions;
- *BD*: kg m^{-3}; Dry bulk density. This is sourced from direct measurements or, for the determination of allochthonous carbon, may be derived from soil carbon percentage. This serves to calculate baseline emissions;
- $\%OM_{depsed}$: %; Percentage of organic matter in deposited sediment. This may be estimated directly using loss-on-ignition (LOI) data or indirectly from soil carbon percentage, or from the default value. This serves to calculate baseline emissions;
- $\%C_{depsed}$: %; Percentage of carbon in deposited sediment. This parameter may be estimated directly using loss-on-ignition (LOI) data or indirectly from soil carbon percentage. It serves to estimate baseline emissions;
- $EF_{N2O,burn}$: g N_2O / kg dry biomass; Emission factor for N_2O emissions from vegetation burning. This is based on IPCC values and it serves to calculate project emissions;
- $EF_{CH4,burn}$: g CH_4 / kg dry biomass; Emission factor for CH_4 emissions from vegetation burning. This is based on IPCC values and it serves to calculate project emissions;
- CH4-GWP: dimensionless; Global warming potential of CH_4. This value is 24 and it is sourced from the IPCC. This parameter serves to calculate project and baseline emissions;
- N2O-GWP: dimensionless; Global warming potential of N_2O. This value is 310 and it is sourced from the IPCC. This parameter serves to calculate project and baseline emissions;
- *allowable_unsert: %; Allowable uncertainty;* 20% or 30% at a 90% or 95% confidence level, respectively. This is calculated using the provisions of hte MED and it serves to calculate net GHG emission reductions;
- $V_{ex,ty,i,t}$: m^3; Volume of timber extracted from within stratum *i* (does not include slash left onsite) by species *j* and wood product class *ty* in year *t.* The value of this parameter is based on data representing common practice in harvesting. This is used to estimate baseline and project emissions;
- D_j: t d.m. m^{-3}; Basic wood density in t d.m. m^{-3} for species *j*. This is based on different sources, being the priority national species-specific values. This is used to estimate baseline and project emissions;
- CF_j: t C t-1 d.m.; Carbon fraction of dry matter in t C t^{-1} d.m. for species *j.* This value must be species- or family-specific values from the literature (eg, IPCC 2006 INV GLs AFOLU Chapter 4 Table 4.3) or a default value of 0.47 t C t-1 d.m. may be used which is reasonable as it is the default value defined in the 2006 IPCC GL. This parameter is used to estimate baseline and project emissions;
- WW_{ty}*:dimensionless ;* Fraction of extracted biomass effectively emitted to the atmosphere during production by class of wood product *ty.* The source of data is the published paper of Winjum *et al*. 1998 which is used in the "Estimation of carbon stocks and changes in carbon stocks in the wood products pool" VMD0007 (version 1.0) /8/;

- SLF_{ty}*: dimensionless;* Fraction of wood products that will be emitted to the atmosphere within 5 years of production by class of wood product *ty.* The source of data is the published paper of Winjum *et al*. 1998 which is used in the "Estimation of carbon stocks and changes in carbon stocks in the wood products pool" VMD0007 (version 1.0) /8/;
- OF_{ty}*: dimensionless;* OF = Fraction of wood products that will be emitted to the atmosphere between 5 and 100 years after production by class of wood product *ty.* The source of data is the published paper of Winjum *et al*. 1998 which is used in the "Estimation of carbon stocks and changes in carbon stocks in the wood products pool" VMD0007 (version 1.0) /8/;
- *BCEF: dimensionless;* Biomass conversion and expansion factor for conversion of commercial wood volume per unit area to total aboveground tree biomass per unit area. This is based on default values. This is used to estimate baseline and project emissions.
- $Pcom_{i,t}$*: dimensionless;* Commercial volume as a percent of total aboveground volume in stratum *i* in year *t.* Possible osurces are: *(*a) Direct forest inventory of the project area; (b) Forest inventory from a proxy area in the same region. This is used to estimate baseline and project emissions.

DNV GL checked the GHG accounting procedures of the MED and confirmed that the list of parameters is complete. Furthermore, the audit team confirms that the estimation procedures are adequate.

3.10.2 *Data and parameters monitored*

The audit team checked the appropriateness of the data and parameters available at validation and described in Section 9.2 of the MED:

- $Biomass_{i,t}$: kg d.m. ha^{-1}; Aboveground shrub biomass in stratum *i* in year *t.* This parameter is measured using field collected data at time of burning or conservatively estimated from data collected during a period with greater biomass within year *t.* This parameter serves to calculate project emissions
- $\Delta C_{TREE\_PROi,t}$: *t* CO_2*-e*; Change in carbon stock in tree biomass in the project scenario in year t. This is estimated through the tool 'Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities' (version 2.1.0) and it serves to estimate the project emissions;
- $\Delta C_{SHRUB\_PROi,t}$: *t* CO_2*-e*; Change in carbon stock in shrub biomass in the project scenario in year t. This is estimated through the tool 'Estimation of carbon stocks and change in carbon stocks of trees and shrubs in A/R CDM project activities' (version 2.1.0) and it serves to estimate the project emissions;
- $C_{WPS\text{-}herb,i,t}$: t C ha^{-1}; Carbon stock in herbaceous vegetation in the project scenario in stratum *i* in year *t.* This is based on direct measurements or default factor and it serves to calculate project emissions;
- $A_{WPS,i}$ (or $A_{i,t}$)*: ha;* Area of project stratum *i* (in year *t*). This is estimated through a GIS and it is used to estimate project emissions;
- $C_{WPS\text{-}soil,i,t}$: t C ha^{-1}; Carbon stock in the project scenario in stratum *i* in year *t.* The value for this parameter may be sourced from soil coring may be used. This parameter is used to estimate project emissions.
- $Rate_{subs\text{-}WPS,i}$: m yr^{-1}. Rate of organic soil loss due to subsidence in the project scenario in stratum *i*. This is based on literature or expert consultation and it serves to calculate project emissions;

- %*OM*: %; Percentage of soil organic matter. This is sourced from direct measurements based on loss-on-ignition or may be derived from direct measurements of soil carbon. This serves to calculate project emissions;
- %C_{soil}: %; Percentage of soil organic C. This is sourced from direct measurements or may be derived from direct measurements of soil organic matter. This serves to calculate project emissions;
- *BD*: kg m^{-3}; Dry bulk density. This is sourced from direct measurements or, for the determination of allochthonous carbon, may be derived from soil carbon percentage. This serves to calculate project emissions;
- %OM_{depsed}: %; Percentage of organic matter in deposited sediment. This may be estimated directly using loss-on-ignition (LOI) data or indirectly from soil carbon percentage, or from the default value. This serves to calculate project emissions;
- %C_{depsed}: %; Percentage of carbon in deposited sediment. This parameter may be estimated directly using loss-on-ignition (LOI) data or indirectly from soil carbon percentage. It serves to estimate project emissions;
- $ET_{FC,y}$: t CO_2-e yr^{-1}; CO_2 emissions from fossil fuel combustion during the year *y*; t CO_2 yr^{-1}. This is estimated through the CDM tool Estimation of GHG emissions related to fossil fuel combustion in A/R CDM project activities. This is used to estimate project emissions.
- NER_{ERROR}*: %;* Total uncertainty for project activity. This is calculated following the procedures of the MED and is used to estimate project emissions
- $V_{ex,ty,i,t}$*:* m^3*;* Volume of timber extracted from within stratum *i* (does not include slash left onsite) by species *j* and wood product class *ty* in year *t.* Estimates derived from field measurements or remote assessments with aerial photography or satellite imagery. This parameter is used to estimate baseline and project emissions.

The audit team checked the GHG accounting procedures of the MED and confirmed that the list of parameters is complete. Furthermore, the audit team confirms that the estimation or monitoring procedures, the monitoring frequencies (if applicable) and other conditions are adequate.

4 ASSESSMENT CONCLUSION

Det Norske Veritas (U.S.A.), Inc. (DNV GL) has performed the Assessment of the methodology “Methodology for Tidal Wetland and Seagrass Restoration” . The assessment was performed on the basis of VCSA criteria for methodologies as well as criteria given to provide for consistent project operations, monitoring and reporting.

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

It is DNV GL’s opinion that the MED “Methodology for Tidal Wetland and Seagrass Restoration”, Version 20150525 as described therein, complies with the methodological requirements set in AFOLU Requirements and VCS standard. Hence, DNV GL recommends the approval of the proposed MED.

5 REPORT RECONCILIATION

During report reconciliation, Athe following three general changes were made:

- The definition for degraded wetland has been updated to include reference to natural causes.
- Reference to CH4 removed from 8.1.4.5.
- The definition for organic soil has been updated to the following:

Soil with a surface layer of material that has a sufficient depth and percentage of organic carbon to meet thresholds set by the IPCC (Wetlands supplement) for organic soil. Where used in this methodology, the term peat is used to refer to organic soil.

Deduction of allochthonous carbon in the project scenario

Because of the IPCC definition, if in the wps an organic layer of less than 10 cm has accumulated, the soil is by definition considered mineral and deduct alloch must normally not be set to zero. The text now refers to this case and explains:

"If the organic surface layers exceeds 10 cm, the soil is deemed organic and no deduction is required. If an organic surface layer of up to 10 cm is present, deduction_alloch must be determined only in such cases where the project experiences mineral sedimentation events are sufficient to create mineral soil layers. In practice, the project area may show mineral sedimentation in places. If this is observed it is assumed that at some point during the project crediting period mineral sediment can be deposited on top of organic surface layers, unless the project proponent can justify that strata with an organic surface layer of less than 10 cm will not experience mineral sedimentation during the project crediting period."

Baseline scenario

PDT can be used if the soil is classified as organic. This may still involve a thin organic layer of 10 cm or a bit more. If depletion in the baseline is expected within the crediting period, the project may want to claim SOC loss from the remaining mineral soil as well. The SDT procedure can then be applied subsequent to the PDT procedure. For layered soils, the SDT procedure can be used.
These additions should be sufficient:

PDT procedure:

"If $t_{PDT\text{-}BSL,i}$ falls within the crediting period, subsequent SOC loss from remaining mineral soil may be estimated as well using the procedure for SDT".

SDT procedure:

"In case of alternating mineral and organic horizons, $Rate_{Closs\text{-}BSL,i}$ may be determined for all individual horizons. This also applies to cases where an organic surface layer of less than 10 cm exists or in cases where the soil is classified as organic but its organic mater depletion is expected within the project crediting period and oxidation of organic matter in an underlying mineral soil may occur within this period."

Note that with these additions the PP has the option to use $Rate_{Closs\text{-}BSL,i}$ (measured in t C ha^{-1} yr^{-1}) in stead of $Rate_{peatloss\text{-}BSL,i}$ (measured in m yr^{-1}) for organic layers.

These changes are reflected in version 20150525 of the methodology, issued 16 October 2015. DNV GL has reviewed these changes and approved the updated version of the methodology.

6 EVIDENCE OF FULFILMENT OF VVB ELIGIBILITY REQUIREMENTS

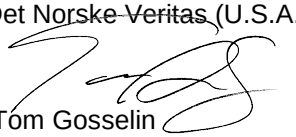
Det Norske Veritas (U.S.A.), Inc. holds accreditation to perform validation for projects under sectorial scopes 3 (agriculture, forestry, other land use) under the American National Standards Institute (ANSI). DNV GL, therefore, is eligible under the VCS Program to perform assessments for the MED, which falls under the sectorial scope 3.

DNV GL has completed more than 2900 project validations under the VCS and the CDM in any sectoral Scope. This is evidenced through the VCS project database (http://www.vcsprojectdatabase.org/#/projects) or the CDM project database (https://cdm.unfccc.int/Projects/projsearch.html). Hence, DNV GL has completed at least 10 project validations as required by the VCS rules.

7 SIGNATURE

Signed for and on behalf of:

Name of entity: Det Norske Veritas (U.S.A.), Inc.

Signature: 

Name of signatory: Tom Gosselin

Date: 6 November 2015

APPENDIX A

The following tables include all findings issued during the methodology assessment.

Corrective action requests

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
CAR1	**Element of MED** 3. Definitions **Requirement** Section 4.1.3 VCS Version 3.5 referring to VCS Methodology template which provides instructional text on how to complete the relevant Section **Evidence** MED Version 20150413 **Corrective Action Request** According to the applicable criteria, the MED has to be completed following the VCS template and considering any guidance provided in the same. According to the instructional text of the template definitions of key terms and acronyms that are used in the methodology shall be listed in Section 3. The audit team identified the following issues: a) The term "marsh" or "salt marsh" is used throughout but it is not defined in Section 3. b) The term "Mineral Soil" is defined as a "soil that does not have a surface layer of organic soil". The term "Organic Soil" is defined as a "soil with a surface layer of material that has a sufficient percentage of organic carbon to meet an internationally accepted threshold (eg, host-country, FAO or IPCC) of organic soil". However, these definitions do not use appropriate terms in view of the 2006 IPCC Guidelines (Annex 3A.5, Chapter 3 in Volume 4), which define mineral soils as soils that are not organic, and define organic soils based not only on the percent of organic carbon but on the thickness of the organic horizon (not layer). c) Terms "degraded wetland", "mudflat", "open or impounded water" are not defined.	**Response #1** (MED Version Draft 20150413) We added/amended the following definitions: a) Marsh Definition provided b) Mineral Soil Definition amended Organic Soil Definition amended c) Degraded wetland Definition added Mudflat Definition added Open Water Definition added Impounded Water Definition added **Response #2** Not applicable.	**Assessment #1** (MED Version Draft 20150413) a), b) and c): DNV GL checked the revised MED and confirmed that it has been revised. The identified terms were added to Section 3 of the MED. DNV GL confirmed that the definition of the terms are in line with common definitions such as those contained in the 2013 IPCC Wetland Supplement. Therefore, this finding has been resolved and may be closed. **CAR1 is closed**
CAR2	**Element of MED** 4. Applicability conditions **Requirement**	**Response #1** (MED Version Draft 20150413) a) Title page corrected to read RWE and RWE + ARR. In the applicability condition we added "This methodology is not applicable under the following conditions: Project activities qualify as IFM or REDD" to make sure there is no confusion with	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and confirmed that the cover page was corrected and now it was clearly stated that the MED is applicable to RWE+ARR too. Moreover, as part of the applicability conditions it is now clearly stated that IFM and

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	Section 4.2.20 of AFOLU Requirements regarding the combination of WRC category with other categories **Evidence** MED Version 20150413 **Corrective Action Request** The audit team identified the following issues in Section 4. a) According to the cover sheet of the MED and other relevant sections the proposed MED is applicable to ARR+RWE project activities. According to the AFOLU requirements, Table 1, ARR+RWE projects are implemented in degraded wetlands or non-wetland/open water that are non-forests in the pre-project scenario. The audit team checked the applicability conditions of the MED and did not find any conditions in order to ensure that the project complies with the definition of ARR+RWE category, i.e. that the project is implemented on degraded wetlands or non-wetland/open water that are non-forests. Please include in the MED conditions in order to ensure that the MED is not applicable to other categories that are not ARR+RWE (i.e. RWE if the intention is to apply it only to ARR+RWE, REDD+RWE, IFM+RWE). b) According to the introductory text of Section 4, the MED applies to project activities that restore disturbed or degraded tidal wetlands. This is in line with the rest of the MED where the many methodological options are made under this assumption. However, the audit team found that this is not explicitly required in the applicability conditions defined in Section 3. Please explicitly state as part of the eligibility criteria that the MED is applicable to tidal wetlands. c) According to the introductory text of Section 4, the MED applies to project activities that establish wetland ecological conditions on mudflats or open or impounded water. However, the audit team found that this is not explicitly required in the eligibility criteria defined in Section 3 and it is not clear if the MED is only referring to mudflats or open or impounded water that could be converted to tidal wetlands.	these categories. b and c) Added applicability condition: Projects that restore or create tidal wetlands (including seagrass meadows, per this methodology's definition of tidal wetland) are eligible. Also the language of the intro was changed back to an earlier version as the more recent VCS edit was not appropriate (re 'establishing wetlands ecological conditions on mudflats').	REDD projects are not eligible. Therefore, this finding has been resolved and may be closed. b) and c) DNV GL checked the revised MED and confirmed that it now includes condition "1) Projects that restore or create tidal wetlands (including seagrass meadows, per this methodology's definition of tidal wetland) are eligible", indicating clearly that this MED is applied to projects that intend to restore tidal wetlands, which is clearly the scope of the MED as indicated in Section 4 of the MED. In view of this, it is confirmed that the finding has been resolved and may be closed. **CAR2 is closed**.

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
CAR3	**Element of MED** 4. Applicability conditions **Requirement** Section 4.3.1 of VCS Version 3.5; Section 4.1.3 VCS Version 3.5 referring to VCS Methodology template which include instructional text on how to formulate the applicability conditions **Evidence** MED Version 20150413 **Corrective Action Request** The VCS rules require methodologies to establish criteria that describes the conditions under which a methodology can or cannot be applied. The MED lists eligibility criteria in order to ensure that no activity displacement leakage or market leakage occur. The audit team found the following issues: a) Condition 2 provides conditions in order to demonstrate that no leakage occurs. One of the conditions is that the land "must be free of any land use that could be displaced outside the project area, as demonstrated by ii) Use of the project area for commercial purposes is not profitable as a result of salinity intrusion, market forces or other factors. In addition, harvesting in the baseline scenario within the project area does not occur or is non-commercial in nature (excluding subsistence harvesting);)". However, if non-commercial activities exist in the pre-project scenario and they are displaced by the project activity out of the project area, potential leakage could occur, which would not be limited by the referred eligibility criterion. Please ensure that displacement of non-commercial activities is considered too. b) Condition 2 provides conditions in order to demonstrate that no leakage occurs. One of the conditions is that the land "must be free of any land use that could be displaced outside the project area, as demonstrated by iii) Degradation of additional wetlands for new agricultural sites will not occur or is prohibited by law". However, i) it is not clear if this condition is only applicable where the degradation driver is conversion to agriculture; ii) activities could be prohibited by law but where	**Response #1** (MED Version Draft 20150413) a) The condition "harvesting in the baseline scenario within the project area is non-commercial in nature" addresses the avoidance of market leakage. With respect to activity shifting, this condition is also used in the GEST methodology (now in its 2nd validation) where we added "and is then conservatively not accounted for". Not sure why the phrase was deleted in the current methodology. It is reinserted. Not accounting for these emissions in the baseline is conservative and it a priori addresses activity shifting leakage. bi) ", where relevant" was added to 2a. bii) "enforced" added to law in aiii. biii) We argue that if either 1 of conditions i, ii or iii is met there is no need to know to what area or what market activities would be displaced. c) "(at a similar level of service or production)" added to this sentence **Response #2** (MED Version Draft 20150525) a) under ii) If not accounted for it balances any leakage emissions in WPS. This is also true for non-commercial harvesting. Language added to this effect. bii) now added biii) The realm of analysis will be limited to the country. Language added. c) now added	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and confirmed that the applicability conditions related to leakage conditions has been revised. However, DNV GL deems that there could be displacement from non-commercial activities out of the project area, yet market leakage would be discarded. Leakage linked to activity displacement would still be possible. b) i) DNV GL checked the revised MED and confirmed that it has been revised. It has been added "where relevant", so that it is clear that by complying by only one of the below conditions leakage could not be ruled-put, but that projects must comply with all conditions that are relevant. Therefore, the finding has been corrected and may be closed. b) ii) DNV GL checked the revised MED and did not found the word "enforced". Therefore, this finding is still open. b) iii) DNV GL agrees that if nothing is displaced it does not make sense to define where it is displaced, yet, in a iii) it is relevant where it is displaced, i.e. degradation of additional sites will not occur, but it is not clear where it refers to. Therefore, this finding has not been resolved and it remains open. c) DNV GL checked the revised MED and did not found the word "level of service". Therefore, this finding is still open. **Assessment #2** (MED Version Draft 20150525) a) DNV GL checked the revised MED and confirmed that the applicability conditions related to leakage conditions has been revised. Now it is stated "or which displacement has a net positive effect on GHG emissions outside the project boundary (as in ii below)", which ensures that any kind of displacement is considered. Therefore, this finding has been resolved and may be closed. b) ii) DNV GL checked the revised MED and found the word "enforced". Therefore, this finding may be closed. b) iii) DNV GL checked the revised MED and found the applicability condition now refers to the country. Therefore, this finding has been resolved and may be closed. c) DNV GL checked the revised MED and found the word "level of service". Therefore, this finding has been revised and may be closed. **CAR3 is closed.**

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	law is not enforced, the displacement to areas out of the project area could occur anyway; c) it is not clear the location where agricultural activities will not occur (i.e. region, province, leakage area if it exist?) c) Condition 2 provides conditions in order to demonstrate that no leakage occurs. One of the conditions is that the land must be "under a land use that will continue during the project crediting period". However, the fact that the same land-use continues does not preclude the existence of leakage as same land use could exist but with different level of service or production.		
CAR4	**Element of MED** 4. Applicability conditions **Requirement** Section 4.3.1 of VCS Version 3.5; Section 4.1.3 VCS Version 3.5 referring to VCS Methodology template which include instructional text on how to formulate the applicability conditions **Evidence** MED Version 20150413 **Corrective Action Request** The VCS Methodology template, Section 4, states that the list of applicability conditions may contain exclusions. The MED includes a number of conditions where the MED is not applicable. One of the conditions state that "Baseline activities do not include commercial forestry". However, it seems that the condition is not well formulated as this should be a condition where the MED is not applicable. Please ensure that the condition is formulated in compliance with the requirement.	**Response #1** (MED Version Draft 20150413) The applicability condition now reads "Baseline activities include commercial forestry". **Response #2** (MED Version Draft 20150525) Condition 10 changed: "Baseline activities include commercial forestry"	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and confirmed that the issue has been resolved. However, the new applicability condition of that Section (that refers to IFM and REDD) has exactly the same issue. Therefore, this finding has not been resolved. **Assessment #2** (MED Version Draft 20150525) DNV GL checked the revised MED and confirmed that the word "NOT" has been deleted. Therefore, the finding has been resolved and may be closed. **CAR4 is closed.**
CAR5	**Element of MED** 5.1.1. Peat Depletion Time (PDT), Section 8.1.4.2.1 and Section 9 **Requirement** a) Section 4.5.33 establish that RWE projects on peatland that include an activity designed specifically to reduce incidence and severity of fires shall deduct the amount of peat assumed to burn when estimating peat depletion times. b) Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles	**Response #1** (MED Version Draft 20150413) a) The references to low and high conservative values in equations 1, 13 and 14 have been removed and added to the comments box of parameter $Rate_{peatloss\text{-}BSL,i}$. in section 9.1 and $Rate_{peatloss\text{-}WPS,i}$.in section 9.2. This avoids confusing as to when to use a low or high value to make results conservative. In all parameter definitions for $Rate_{peatloss\text{-}BSL,i}$. and $C_{peatloss\text{-}BSL,i,t}$ the inclusion of fire is consistency present. b) In section 9.1 for parameter $Rate_{peatloss\text{-}BSL,i}$. the source of data with respect to fire now reads "For organic soil loss due to fire, based on the areal extent of burnt and non-burnt areas a mean annualized burn depth must be calculated and applied to	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and confirmed that the procedures to define parameters $Rate_{peatloss\text{-}BSL,i}$. and $Rate_{peatloss\text{-}WPS,i}$. is consistent throughout the document. Now, the same procedures will be applied for the purposes of defining the PDT and calculating baseline (and project) GHG emissions. DNV GL finds the procedures to be correct and agrees that are in line with the VCS rules. Therefore, the finding has been resolved and may be closed. b) DNV GL checked the revised MED and confirmed that the procedures to define parameters $Rate_{peatloss\text{-}BSL,i}$. have been corrected. Now, for estimating baseline emissions it has been replaced by the parameter $Rate_{subs\text{-}BSL,I}$ which does not account for subsidence caused by fires. Therefore, the PDT and the baseline GHG emissions are estimated independently. DNV GL confirms that the procedures are in

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** a) Section 5.1.1 of the MED states that "a conservative (high) value may be applied" for parameter $Rate_{peatloss\text{-}BSL,i}$. Moreover, Section 9.1 gives additional guidance to estimate this parameter and it gives the option to assume "that the whole area is burned at historical rates which is conservative". However, Section 5.2.4 states that "Alternatively, a conservative (low) value may be applied that remains constant over time". Section 8.1.4.2.1, equation (29), defines the parameter $C_{peatloss\text{-}BSL,i,t}$ as Organic soil carbon loss due to subsidence (including fire) in the baseline scenario. The procedures in these sections would not be in compliance with the VCS rules as it is not clear that fire occurrence must be deducted to calculate PDT and they seem to be inconsistent. Please make the necessary corrections, and clearly state in Section 9.1 in what cases a low value and a high value is conservative. b) According to the MED, ER from the reduction of fire occurrence would be estimated through the premium. Moreover, Section 9.1 states that in order to estimate the parameter $Rate_{peatloss\text{-}BSL,i}$ it must be assumed "that the whole area is burned at historical rates which is conservative". However, if ER from fire are estimated through the premium, the proportion of peat loss due to fire must be deducted in order to avoid double counting. Please make the necessary adjustments in order to ensure that no double counting occurs. (this is also applicable to the procedures to determine $Rate_{peatloss\text{-}WPS,i,t}$)	the entire project area". The phrase "Since only part of the project area is likely to burn in the baseline scenario, this is a conservative approach." was deleted as it is not correct. In equation 31 $Rate_{peatloss\text{-}BSL,i}$. has been changed to $Rate_{subs\text{-}BSL,i}$. because here the term should not include fire. $Rate_{subs\text{-}BSL,i}$. has been added to section 9.1.	line with the VCS rules as they will provide estimates that are in line with the VCS principles. Therefore, this finding has been resolved and may be closed. **CAR5 is closed.**
CAR6	**Element of MED** 5.1.2. Soil organic carbon depletion time (SDT) and Section 9 **Requirement** Section 4.1.4 VCS Version 3.5 sets that	**Response #1** (MED Version Draft 20150413) a) Changes made similar to those for parameter $Rate_{peatloss\text{-}BSL,i}$ b) In equation 2 the parameter $C_{min,i,t0}$ has been changed to $C_{i,t0}$.	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and confirmed that the procedures to define parameters $Rate_{Closs\text{-}BSL,i}$. is consistent throughout the document. Now, the same procedures will be applied for the purposes of defining the SDT and calculating baseline (and project) GHG emissions. DNV GL finds the procedures to be correct

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** a) Section 5.1.1 of the MED states that "A conservative (high) value may be applied" for parameter $Rate_{Closs-BSL,i}$". However, Section 5.2.4 state that "Alternatively, a conservative (low) value may be applied that remains constant over time". Section 9.1 states that "a conservative (low) value may be applied that remains constant over time". The team understands that the former would be appropriate to calculate the SDT and the latter would be appropriate for estimation of ERs. Please correct this inconsistency or clarify the appropriate procedures in each case. b) Parameter $C_{min,i,t0}$ of equation (2) is expressed in tC ha^{-1}. However, the same parameter in equation 11 and Section 9.1 is expressed in tC m^{-3}. Please make the necessary corrections.		and agrees that are in line with the VCS rules. Therefore, the finding has been resolved and may be closed. b) DNV GL checked the revised MED and confirmed that parameter $C_{min,i,t0}$ is no expressed in equation (2) in terms of tC ha-1. Now the different sections of the MED are internally consistent, so the MED is now in line with the VCS rules. Therefore, this finding has been resolved and may be closed. **CAR6 is closed.**
CAR7	**Element of MED** 5.2.4. Ineligible wetland areas **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** a) Parameter *VC* of all equations in Section 5.2.4 is expressed in kg C m^{-3}. However, the same parameter in Section 9.1 is expressed in tC m^{-3}. Moreover, it is not clear what is the difference of this parameter and $C_{min,i,t0}$. b) Parameter $C_{min,i,t0}$ in equation (11) in Section 5.2.4 is expressed in t C m^{-3}. However, it is not clear why in equation (11), parameters are multiplied by a factor of 10 if $C_{i,t0}$ is expressed in	**Response #1** (MED Version Draft 20150413) a) Unit for VC in 9.1 corrected. $C_{min,i,t0}$ changed to *VC*. b) Multiplication by 10 only if the unit for $C_{min,i,t0}$ is kg C m^{-3}. However, $C_{min,i,t0}$ already changed to *VC*. c) The parameter $A_{i,t}$ is generally used in the methodology but in equation 12 this would not work because baseline and project strata may be different. For this reason in equation 12 $A_{BSL,i}$ and $A_{WPS,i}$ are used. In 9.1 and 9.2 the relevant parameter tables are slightly amended.	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and confirmed that the unit for VC in 9.1 has been corrected and equation has been changed from $C_{min,i,t0}$ to *VC*. Therefore, this finding has been resolved and may be closed. b) DNV GL checked the revised MED and confirmed that the parameter $C_{min,i,t0}$ has been changed to *VC*. Therefore, this finding has been resolved and may be closed. c) DNV GL checked the revised MED and confirmed that Section 9.1 and Section 9.2 now clarify the correspondence between parameters $A_{WPS,I}$, $A_{BSL,i}$ and Ai,t. The MED is now clear with regard to the parameter notations so the MED is now in compliance with the VCS rules. Therefore, this finding has been resolved and may be closed. **CAR7 is closed.**

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	t C ha^{-1}. c) Notation of parameters $A_{WPS,i}$ and $A_{BSL,i}$ is not consistent with parameters Ai,t and Ai,t presented in Section 9.1 and 9.2, and equations (25), (62), (64), and (65).		
CAR8	**Element of MED** 6 Baseline scenario **Requirement** Section 4.6.9 VCS Version 3.5 provides procedures that must be followed in order to demonstrate that the project activity has achieved a low penetration rate. **Evidence** MED Version 20150413 **Corrective Action Request** The MED provides a demonstration of the low penetration rate of seagrass restoration activities. However, the demonstration does not follow strictly the procedures set in Section 4.6.9 of the VCS Standard. Please reformulate the demonstration of the low penetration rate following exactly the defined procedures.	**Response #1** (MED Version Draft 20150413) Additionality section revised.	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and confirmed that the discussion on additionality for seagrass restoration is now in accordance to the VCS rules. The MED requires to conduct a regulatory surplus and confirm that the project activity is within the positive list. The positive list includes any wetland restoration project within the USA, either tidal wetlands or seagrass meadows, and it was established following the Activity Method described in Sections 4.6.8 and 4.6.9 of the AFOLU Requirements. The MED developer conducted the analysis for seagrass meadows, finding that the activity penetration level is equal to 0.2% for the latter; this is below the 5% specified in the VCS rules. DNV GL checked the calculations and the sources referred to in the VCS PD and confirmed that the reported penetration levels are correct and in accordance to the VCS requirements. **CAR8 is closed.**
CAR9	**Element of MED** 8.1 Baseline Emissions **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** a) Equation (21) includes the multiplier 44/12 in order to estimate the parameter $\Delta C_{BSL\text{-}biomass,i,t}$. However, in equation (18) this same parameter is multiplied once again by 44/12. Please make the necessary corrections in order to align the methodology to the principle of accuracy. b) Following the notation of equation (21) if carbon stocks decrease in the period T, the resulting value of $\Delta C_{BSL\text{-}biomass,i,t}$ is a negative value which represents a GHG removal, not a GHG emissions. c) Following the notation of equation (24) if	**Response #1** (MED Version Draft 20150413) a) 44/12 in equation 21 changed to 12/44 and parameter description amended ("multiplied with 12/44" removed) b) We disagree. A negative value for a stock change represents an emission, which is exactly what is intended. If $C_{BSL\text{-}biomass,i,t}$ equals zero at submergence, the value for the carbon stock at the previous t-T is subtracted, giving rise to a negative stock change. c) Ditto. In case of tree growth, the stock at t-T is smaller than the stock at t0, giving rise to a positive stock change, ie. carbon sequestration/removal. If stocks decrease, the stock at t-T is larger than the stock at t, giving rise to a negative stock change, ie. emission. d) See under c) above. **Response #2** (MED Version Draft 20150525) a) Corrected b) Minus sign added to equation 18. Result: As $C_{BSL\text{-}biomass,i,t}$ at submergence (t2) equals zero and $C_{BSL\text{-}biomass,i,t}$ a year earlier (t1 or t-T) $\Delta C_{BSL\text{-}biomass,i,t}$ has a positive value, subtracting a positive value form zero yields a negative value, which gives a negative ΔC and thus an emission.	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and confirmed that it was revised. However, the unit of $C_{BSL\text{-}biomass,i,t}$ is not consistent with the equation as it is now it should be expressed in tCO2, while the MED states it is expressed in tC. Therefore, this finding has not been resolved and remains open. b), c) and d) DNV GL checked the revised MED and confirmed that it has been revised. According to equation 18, a positive value equals to GHG emissions. A negative value would reduce the baseline GHG emissions which is contradictory with what the MED proponent is stating in its response **Assessment #2** (MED Version Draft 20150525) a) DNV GL checked the revised MED and confirmed that it was revised. The unit of $C_{BSL\text{-}biomass,i,t}$ is now consistent with the equation as it is now it should be expressed in tCO2. Therefore, this finding has been resolved and may be closed. b), c) and d) DNV GL checked the revised MED and confirmed that it has been revised. Now all equations ensure that GHG emissions add while GHG removals substract to total GHG emissions. Therefore, this finding has been resolved and may be closed. **CAR9 is closed.**

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	carbon stocks decrease in the period T, the resulting value of $\Delta C_{BSL\text{-}herb,i,t}$ is a negative value which represents a GHG removal, not a GHG emissions. d) Following the notation of equation (30) if carbon stocks decrease in the period T, the resulting value of $GHG_{BSL\text{-}soil\text{-}CO2,i,t}$ is a negative value which represents a GHG removal, not a GHG emissions.	c) Minus sign added to equation 18. And to eq 30.	
CAR10	**Element of MED** 8.1.4.3.4 Default factor **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** Equation (45) and (46) serves to estimate the baseline methane emissions using a default value of methane emission rate sourced from Poffenbarger et al. 2011. The team identified the following issues: a) Equation (45) applies a value of 0.011 while later in the section it is referred to a default value of 0.11. Please correct this inconsistency. b) According to the text, equation (45) is applicable where the salinity average or salinity low point is >18 ppt, while equation (46) is applicable where the salinity average or salinity low point is ≥ 20 ppt. The team reviewed the publication and concluded that the thresholds are not correctly defined. c) The team reviewed the publication and found that methane emissions vary logarithmically with salinity and that using these thresholds instead of the provided log equation might be a serious source of bias. It is not clear based on what these thresholds have been defined.	**Response #1** (MED Version Draft 20150413) a) corrected in the methodology document. b&c) These default values were calculated using the raw data from Fig. 1 in the Poffenbarger et al. 2011 paper. The values >18 ppt are (in t CH_4 ha^{-1} yr^{-1}): 0.057 0.012 0.004 0.013 0.003 0.013 0.002 0.004 0.002 0.002 The average of these values is 0.011, which is our default value for > 18 ppt. You will see that the first value is an outlying point; the salinity at this site was 18.1 ppt; for this reason we allowed for the second default value of 0.0056 for salinities ≥ 20 ppt, which is the average of the above values except the first two (which were the only ones that did not have salinity ≥ 20). For values in this range of the graph, there isn't a strong relationship between salinity and methane flux, which is why we chose to use a mean-based estimation procedure rather than one based on the logarithmic curve, which is largely a function of values at lower salinity sites.	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and confirmed that the value has been changed to 0.011 which is in line with the reference. Therefore, this finding has been resolved and may be closed. b) and c) DNV GL checked Fig. 1 in the Poffenbarger et al. 2011 paper and confirms that when using the raw data an average value of 0.011 for >18 ppt and a value of 0.0056 for >20 ppt are correct. The logarithmical model is very influenced by outliers, so these average values seem to be reasonable. Therefore, DNV GL agrees that these values may be used and confirms that the MED is complaint with the VCS principles. In view of this, DNV GL confirms that the finding has been resolved and may be closed. **CAR10 is closed.**
CAR11	**Element of MED** 8.2.3 Net carbon stock change in biomass carbon pools in project scenario **Requirement**	**Response #1** (MED Version Draft 20150413) See responses to CAR9.	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and confirmed that it has been revised. According to equation 18, a positive value equals to GHG emissions. A negative value would reduce the baseline GHG emissions which is contradictory with what the MED

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** Following the notation of equation (59) if carbon stocks decrease in the period T, the resulting value of $\Delta C_{BSL\text{-}herb,i,t}$ is a negative value which represents a GHG removal, not a GHG emissions.	**Response #2** (MED Version Draft 20150525) A negative sign was added to equation 53.	proponent is stating in its response **Assessment #2** (MED Version Draft 20150525) DNV GL checked the revised MED and confirmed that it has been revised. Now all equations ensure that GHG emissions add while GHG removals substract to total GHG emissions. Therefore, this finding has been resolved and may be closed. **CAR11 is closed.**
CAR12	**Element of MED** 8.4.3 Calculation of Verified Carbon Units **Requirement** Section 4.7.2 of AFOLU Requirements Version 3.4 indicating that the buffer credits are estimated by multiplying the risk rating by the change in carbon stocks only. **Evidence** MED Version 20150413 **Corrective Action Request** The VCS rules require buffer credits to be determined by multiplying the risk rating by the change in carbon stocks only. The MED includes procedures to estimate the buffer credits through equation (75). However, this equation estimates the buffer credits from the net emission reductions generated in the monitoring period not based on the change in carbon stocks only. For instance, fuel emissions and in some cases non-CO2 emissions are not related to the changes in carbon stocks so they should not be considered in the estimation of the buffer credits.	**Response #1** (MED Version Draft 20150413) The procedure in 8.4.3 has been amended and now uses equations that calculate total emission reductions only based on stock changes, ie. by excluding parameters not related to stock changes from a number of equations provided earlier in 8.1 and 8.2. **Response #2** (MED Version Draft 20150525) Original equation 76 reinserted and NER_{WRC} amended to NER_{stock} and added to description "discarding non-CO_2 emissions from soil and biomass burning and emissions from fossil fuel use".	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and found that the made revisions are still not in compliance with the VCS rules as the new equation represents the cumulative change in carbon stocks, while the buffer is estimated from the difference in carbon stocks. Therefore, the finding has not been resolved and remains open. **Assessment #2** (MED Version Draft 20150525) DNV GL checked the revised MED and found that the new revisions make the MED in compliance with the VCS rules. The buffer is calculated from the changes in carbon stocks which may be in the same way as $adjusted\_NER_{t2} - adjusted\_NER_{t1}$ but discarding certain GHG sources which do not represent changes in carbon stocks. Therefore, the finding has been resolved and may be closed. **CAR12 is closed.**
CAR13	**Element of MED** 8.4.3 Calculation of Verified Carbon Units (a. Long-term benefit in WRC projects) **Requirement** a) Section 4.5.29 of AFOLU Requirements Version 3.4 sets that the maximum quantity of GHG emission reductions from the soil pool that may be claimed by the project shall not exceed the net GHG benefit generated by the project	**Response #1** (MED Version Draft 20150413) The wording in section 8.4.3 is indeed wrong and we amended it. This part on long-term benefits from soil has been moved to section 8.4.1 as this limit should be applied to the GHG benefits, not the VCUs, as the VCUs are estimated after subtracting the buffer credits to GHG benefits.	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and confirmed that it has been revised. Procedures have been moved to section 8.4.1 and it is now clearly stated that this cap refers to GHG benefits generated in the soil carbon pool, and not the VCUs generated. Therefore, this finding has been resolved and may be closed.

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	100 years after its start date. b) Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** The VCS rules establish a limit of generation GHG credits from the soil pool in WRC projects. This limit is the net GHG benefit generated by the project 100 years after its start date. The MED provides procedures in order to establish this limit and to apply it. According to the MED "maximum quantity of GHG emission reductions that may be claimed (VCUmax) is limited to the difference between the project and baseline scenarios after a 100-year time frame". However, the VCS rules refer only to the soil pool so this cap should be set to the GHG credits generated by the soil pool not the whole projects. This is very relevant since applying this cap to the whole GHG benefit generation would limit also the accounting of GHG benefits from other pools.		**CAR13 is closed.**
CAR14	**Element of MED** 8.4.3 Calculation of Verified Carbon Units (b. Maximum benefit in case of tree harvesting), Section 8.1.3 and Section 8.2.3 **Requirement** a) Section 4.5.5 of AFOLU Requirements Version 3.4 sets that the maximum number of GHG credits available to ARR projects with harvesting shall not exceed the long-term average GHG benefit. b) Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** The VCS rules establish a limit of generation	**Element of MED** (MED Version Draft 20150413) 6. Data and parameters a) On the second point: Taking the difference between wps and bsl and then calculating the long-term average of this GHG benefit yields the same result as calculating the long-term averages of the bsl and the wps and then taking the difference. In both cases the result is the long-term GHG benefit. On the former point: The following language is seen to sufficiently clarify how the baseline and project long-term averages have to be combined in order to set the cap: For strata where harvesting occurs, the maximum carbon stock in tree biomass ($C_{TREE,i,t}$) used in *AR-Tool14* is limited to $C_{AVG\text{-}TREE,i}$, In a spreadsheet one would apply the equation and thus maximize the values of $C_{TREE,i,t}$ to $C_{AVG\text{-}TREE,i}$. Suffix i was added to equations 57 and 58 (new numbering) to make clear that this equations is only used for strata with harvesting. Note that Tool14 does not specify strata in the equations but states that calculations must be done for all strata. b) 'from these activities' changed to 'from the tree component'. **Evidence** MED Version 4 **Response #2** (MED Version Draft 20150525) **Corrective Action Request** a) Language added: "The long-term average carbon stock must be calculated for	**Assessment #1** (MED Version Draft 20150413) a) DNV GL agrees with what the MED developer indicates, but only if you calculate the long-term average in both the baseline and project scenarios. If you do it for the project scenario but not for the baseline scenario the result is not the same as doing it for the GHG benefits. Therefore, the procedures of the MED are still not compliant with the VCS rules and this finding cannot be closed. b) DNV GL checked the revised MED and confirmed that it has been revised. DNV GL confirmed that 'from these activities' has been changed to 'from the tree component', so it is clear that this cap applies only to the tree component. Therefore, this finding has been resolved and may be closed. **Assessment #2** (MED Version Draft 20150525) a) DNV GL confirmed that the MED now includes a clearly requirement indicating that "The long-term average carbon stock must be calculated for both the baseline and the project scenario", in order to ensure full compliance with the VCS rules. Therefore, this finding has been resolved and may be closed. **CAR14 is closed.**

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	GHG credits for ARR projects with harvesting. The limit is established as the long-term average GHG benefit. In the framework of a RWE+ARR category, the team understands that this requirement would refer to the biomass carbon pools which are mainly part of the ARR component. The MED provides procedures to estimate the long-term average in GHG benefits, however: a) Equation (77) serves to estimate the long-term average in carbon stocks which has to be estimated for both baseline and project scenarios. However, it is not clear how the baseline and project long-term averages have to be combined in order to set the cap. Besides, the VCS rules require to estimate the long-term average in GHG benefits from the biomass pools, not the long-term average in carbon stocks. Please ensure that equation (77) is in compliance with the VCS rules. b) The MED establishes that "where reforestation or revegetation activities in the project scenario include harvesting, the maximum number of GHG credits generated by these activities must not exceed the long-term average GHG benefit from these activities". It is not clear if the maximum number of GHG credits generated by these activities refer to both the ARR and RWE components or only to those carbon pools which will be significantly affected by harvesting.	both the baseline and the project scenario".	
CAR15	**Element of MED** 8.4.3 Calculation of Verified Carbon Units and Annex I **Requirement** a) Section 4.5.5 of AFOLU Requirements Version 3.4 sets that the maximum number of GHG credits available to ARR projects with harvesting shall not exceed the long-term average GHG benefit. b) Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413	**Element of MED** 6. Data and parameters General remark: The relevant text in 8.4.3 has been moved to section 8.2.3 and in section 9.1.2 reference is made to 8.2.3. **Requirement** §4.1.3 VCS standard referring to VCS Module for template. a) The 1/A has been removed from the equation. This was a leftover when adapting the procedures in VCS module VMD0005 v1. b) Parameter $C_{WP,t}$ was changed to $C_{WP,i,t}$ in the main text and in Annex 1 $C_{WP,i}$ was changed to $C_{WP,i,t}$ to account for time steps. The word "entering" was removed to avoid confusion. c) Added: "Once actual extraction data can be obtained from the project site they must be monitored and used for calculations. At each verification event the long-term average is recalculated based on past harvested volumes and most recent forecasts." Parameter $V_{ex,ty,j}$ has been added to parameters to be monitored. **Evidence** MED Version 1.4	**Assessment #1** (MED Version Draft 20150413) a) DNV GL confirmed that the 1/A has been removed from the equation in the revised MED. Therefore, this finding has been resolved and may be closed. b) DNV GL confirmed that Parameter $C_{WP,t}$ was changed to $C_{WP,i,t}$ in the revised MED so now equations are fully consistent. Therefore, this finding has been resolved and may be closed. c) DNV GL confirmed that the following sentence was added: "Once actual extraction data can be obtained from the project site they must be monitored and used for calculations. At each verification event the long-term average is recalculated based on past harvested volumes and most recent forecasts". Moreover, the parameter $V_{ex,ty,j}$ was added to the list of parameters to be monitored. Therefore, the finding has been resolved and may be closed. d) DNV GL confirmed that the word "Deforestation" was changed to "harvesting", so the MED is now correct and in line with the scope of applicability. Therefore, this finding has been resolved and may be closed. e) DNV GL confirmed that the MED was revised. The MED now states that $C_{XB,i}$ was changed to $C_{XB,i,t}$ to account for time steps, and step 3 says now "Following Step 3 in

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	Corrective Action Request The MED includes procedures in order to estimate the long-term average in GHG benefits in case of ARR projects with harvesting. Apart of the tree stocks, the harvested wood products may be also considered in this estimation. The MED provides procedures to estimate this in Annex I of the MED. Although the team agrees to include this carbon pool in the estimation, the following issues were identified in the defined procedures: a) The output from equation (87) cannot be used in equation (77) since it is expressed per unit of area (tCO2/ha) as evidenced by the fact that equation (86) includes the area of stratum as a divisor. b) Equation (77) requires to use the carbon stocks. It is unclear how these can be determined out from the output of equation (87). c) Annex I states that the extracted volumes have to be sourced from approved timber harvesting plans (Option 1). This is consistent with the fact that parameter $V_{ex,ty,j}$ has to be defined at validation. Although this may be an acceptable approach for ex-ante estimates, for ex-post estimates this should be monitored. d) Under Step 1 of Option 2 it is stated that "Calculate the biomass carbon of the commercial volume extracted prior to or in the process of deforestation". The reference to deforestation seems to be an error. e) The output from equation (88) and Step2 of Option 2 will provide an estimate of extracted long-term wood products. However, it is unclear how to use these estimates in Equation (77). f) According to the procedures for measuring the basic density (D_j) samples have to be oven dried (70°C) to a constant weight in the laboratory. Although this temperature is acceptable for fruits and leaves, wood basic density is determined using 105ºC as drying temperature.	**Corrective Action Request** d) "Deforestation" changed to "harvesting". e) As under b) above, in Annex 1 $C_{XB,i}$ was changed to $C_{XB,i,t}$ to account for time steps. Step 3 says: Following Step 3 in Option 1. f) 70 replaced with 105	Option 1". Therefore, this finding has been resolved and may be closed. f) DNV GL confirmed that now the MED states that samples must be dried (105°C) to a constant weight in the laboratory, which is the common and acceptable practice in the sector. Therefore, this finding has been resolved and may be closed. **CAR15 is closed.**
CAR16	**Element of MED** 8.4.3 Calculation of Verified Carbon Units **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles	**Response #1** (MED Version Draft 20150413) BSL has been removed from the suffix as this applies to both the baseline and project scenarios. To make clear that the long-term average is sets the cap to carbon stocks the language has been aligned with the earlier text related to	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and confirmed that it has been revised. Now it is clear how the procedures for limiting the GHG benefits to the long-term average have to be applied., i.e. "Biomass may be lost due to subsidence following sea level rise. For strata where conversion to open water is expected before t = 100, the maximum

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Corrective Action Request** The MED provides procedures in order to limit the GHG benefit in strata that is converted to open water. However, the MED is unclear on how this limit is applied, i.e. this means that biomass carbon stocks in baseline strata (that may be converted to open water in 100 years) has to be set equal to the long-term average?	harvesting: "Biomass may be lost due to subsidence following sea level rise. For strata where conversion to open water is expected before t = 100, the maximum stock in tree and shrub biomass ($C_{TREE,t}$ and $C_{SHRUB,t}$, respectively) used in *AR-Tool14* is limited to $C_{AVG-TREE}$, calculated in Equation 65." The text has been moved to section 8.2.3 and in section 8.1.2 reference is made to 8.2.3.	stock in tree and shrub biomass ($C_{TREE,t}$ and $C_{SHRUB,t}$, respectively) used in *AR-Tool14* is limited to $C_{AVG-TREE}$, calculated in Equation 65.". DNV GL deems that the MED is now in compliance with the VCS rules and that this finding may be closed. **CAR16 is closed.**
CAR17	**Element of MED** 9.1. Data and parameters available at validation **Requirement** a) Section 4.1.3 VCS standard referring to VCS Methodology Template. b) Section 9.1 of the VCS Methodology template **Evidence** MED Version 1.4 **Corrective Action Request** The VCS Methodology template, Section 9.1, requires to list all parameters that will remain fixed throughout the crediting period and that are used in the equations for quantification of GHG emission reductions and removals in the methodology. The audit team reviewed section 9.1 and found the following issues: a) The following parameters which are fixed and are required for calculation GHG emission reductions are missing: i) $\Delta C_{TREE\_BSL,t}$; ii) $\Delta C_{SHRUB\_BSL,t}$; iii) $_{Uncertainty}$; iv) *allowable_unsert*; v) $C_{peatloss-BSL,i,t}$; vi) All global warming potentials; vii) Parameters listed in Annex I. b) $Depth_{peat,i,t0}$: The name of the parameter is not consistent with other sections of the MED where it is defined as "Average organic soil depth above the drainage limit in stratum i at the project start date; m" c) Equation numbers of some of the parameters are outdated or are missing. d) Parameter values that may be revised at baseline renewal do not include any indication in the "Comments" field	**Response #1** (MED Version Draft 20150413) a) i) to iv) and vi) Clarification from VCS; parameters added to 9.1. v) Not clear why this parameter should be listed in 9.1. Both $Rate_{subs-BSL,i}$ and *VC* are already in 9.1. vii) It seems superfluous to have the parameters listed in the same table format in the Annex also in Chapter 9. b) Definitions made consistent. c) Equations numbers in the main body have been updated. Equation numbers in the tables of Sections 9.1 and 9.2 will be updated once all changes to the methodology have been completed. d) Done **Response #2** (MED Version Draft 20150525) a iv) Parameters now inserted into 9.1. The annex now refers to this sections.	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked whether the identified parameters were added: i)- vi): these parameters were added, so the finding may be closed with regard to these parameters. vii) Parameters haven't been moved from Annex to Chapter 9. Therefore, this part of the finding has not been resolved and remains open. b) DNV GL confirmed that the parameter has been named as ""Average organic soil depth above the drainage limit in stratum i at the project start date; m" which is consistent with other sections of the MED. Therefore, this finding has been resolved and may be closed. c) DNV GL will review the MED once all findings are closed. Therefore, this finding remains open. d) DNV GL checked the MED and found that parameter *VC* $\%C_{soil}$ *BD* $\%OM_{depsed}$ $\%C_{depsed}$ are not to be revised at baseline renewal. However, these seem to be revised at baseline renewal. **Assessment #2** (MED Version Draft 20150525) a) DNV GL checked whether the identified parameters were added: vii) Parameters have been moved from Annex to Chapter 9. Therefore, this finding has been resolved and may be closed. c) DNV GL confirmed that all equation numbers were revised and are correct. Therefore, this finding may be closed. d) DNV GL checked the MED and found that parameters *VC* $\%C_{soil}$ *BD* $\%OM_{depsed}$ $\%C_{depsed}$ were included in Section 9. Therefore, this finding may be closed. **CAR17 is closed.**
CAR18	**Element of MED**	**Response #1** (MED Version Draft 20150413)	**Assessment #1** (MED Version Draft 20150413)

CAR ID	Corrective action request	Response by project proponents	DNV's assessment of response by project proponents
	9.1. Data and parameters available at validation **Requirement** a) Section 4.1.3 VCS standard referring to VCS Methodology Template. b) Section 9.2 of the VCS Methodology template **Evidence** MED Version 1.4 **Corrective Action Request** The VCS Methodology template, Section 9.1, requires to list all parameters that will be monitored directly themselves. The audit team reviewed section 9.2 and found the following issues: a) The following parameters which are monitored are missing: i) NER_{WRC_ERROR}; ii) Parameters listed in Annex I that are to be monitored b) Equation numbers of some of the parameters are outdated or are missing.	a) Clarification from VCS; parameter added to 9.2. ii) It seems superfluous to have the parameters listed in the same table format in the Annex also in Chapter 9. b) Equation numbers will be updated once all changes to the methodology have been completed. **Response #2** (MED Version Draft 20150525) a ii) Parameters now inserted into 9.2. The annex now refers to this sections.	a) i) DNV GL confirmed that parameter NER_{WRC_ERROR} was added to Section 9.2. Therefore, this finding has been resolved. ii) DNV GL confirmed that Parameters have not been moved from Annex to Chapter 9. Therefore, this finding has not been resolved and remains open. b) DNV GL will review the MED once all findings are closed. Therefore, this finding remains open. **Assessment #2** (MED Version Draft 20150525) a) ii) DNV GL confirmed that parameters have been moved from Annex to Chapter 9. Therefore, this finding has been resolved and may be closed. b) DNV GL confirmed that all equation numbers were revised and are correct. Therefore, this finding may be closed. **CAR18 is closed.**

Clarification requests

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
CL1	**Element of MED** General - Peatland **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in Section 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** The MED is applicable to tidal wetlands as indicated in Section 2, Section 4 and as confirmed by the fact that the main assumption of the methodological options is that it is a tidal wetland. According to the definition of Organic Soil in Section 3 Definitions, the term peat is used to refer to organic soil. With this terminology in mind, the audit team read through the MED. The team found that there are continuous references to peatland (e.g. applicability condition and that the MED relies partially on Modules that are for accounting of GHG emissions/removals from peatland. The team searched in the bibliography (e.g. 2013 Wetland supplement, Google) to understand whether peatland would comply with the definition of tidal wetland and found that generally peatland is considered as an inland wetland (yet its origin may be in some cases a tidal wetland) not as a tidal forest. Please clarify (and provide evidence with the clarification) why peatland is being considered within the framework of the MED and make any adjustments to the MED if needed.	**Response #1** (MED Version Draft 20150413) The definition of organic soil mentions that the term *peat* is used to refer to organic soil. 'Peat' occurs in various parameters but in all instances it refers to organic soil. We found 1 occurrence of peat that may cause confusion and we changed this one to organic soil: applicability condition #9.	**Assessment #1** (MED Version Draft 20150413) DNV GL confirmed that the reference to peat has been corrected throughout. Moreover, DNV GL hold phone calls with MED proponents and confirmed that it is common practice in the sector to refer as peat to the organic matter horizon, and confirmed that peatlands are also present in tidal areas. Therefore, DNV GL deems that the MED is now clear in that organic soils (called peat in some cases) are eligible if they are part of tidal wetlands. Therefore, this finding has been resolved and may be closed. **CL1 is closed.**
CL2	**Element of MED** 4. Applicability conditions **Requirement** Section 4.1.3 VCS Version 3.5 referring to VCS Methodology Template which includes instructional text for formulating the applicability conditions. **Evidence**	**Response #1** (MED Version Draft 20150413) a) Harvesting is meant in the sense of harvesting timber. Condition ii is intended to avoid market leakage. See CAR3. b) Commercial purposes i.e. trade (added to the text). c*) Modified to:* Project activities may lower the water table only where the project converts open	**Assessment #1** (MED Version Draft 20150413) a) DNV GL checked the revised MED and found that the word "timber" was not added. Therefore, the applicability condition remains unclear so the MED is not in compliance with the VCS rules. Therefore, this finding has not been resolved and remains open. b) DNV GL checked the revised MED and found that the word "trade" was added. Therefore, the applicability condition is clear so the MED is in compliance with the VCS rules. Therefore, this finding has been resolved and may be closed. c) DNV GL checked the revised MED and confirmed that Condition 7 has been

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
	MED Version 20150413 **Clarification request** According to the guidance of the VCS Methodology Template applicability conditions must be specified clearly and in a manner that allows an easy determination of whether the activity being undertaken by a potential project proponent is eligible. The audit team checked the applicability conditions of the MED and found the following issues: a) Under condition 2 it is not clear what is meant by "harvesting". Harvesting is often used to refer to the harvest of wood products but if the MED only refers to harvesting of wood products it would not be considering other potential sources of leakage not related to this activity. Please specify clearly the meaning of "harvesting". b) Under condition 2 it is not clear what is meant by "commercial purposes". Please specify clearly the meaning of "commercial purposes". c) Under condition 7 it is not clear the meaning of "maintains wetland conditions as a component of a restoration project". Please provide clarity to the MED in order to ensure that this condition is consistently applied.	water to tidal wetlands, or improves the hydrological connection to impounded waters. **Response #2** (MED Version Draft 20150525) a) "timber" has been added	revised. Condition 7 now reads "Project activities may lower the water table only where the project converts open water to tidal wetlands, or improves the hydrological connection to impounded waters", which is clearer on the conditions where water table may be lowered. Therefore, this finding has been resolved and may be closed. **Assessment #2** (MED Version Draft 20150525) a) DNV GL checked the revised MED and confirmed that the word "timber" was added. Therefore, this finding has been resolved and may be closed. **CL2 is closed.**
CL3	**Element of MED** 5.1.2. Soil organic carbon depletion time (SDT) **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** The VCS rules require the MED to be in compliance with the principles of accuracy (or at least conservativeness). Section 5.1.2 states that SDT may be calculated based on a soil organic carbon loss of ≥95% of Cmin,i,t0, however, no reference is provided in order to support this threshold. The team checked the	**Response #1** (MED Version Draft 20150413) a) There is no reference, only the assumption of an asymptotic decrease that may never reach zero; we therfore just set a cut-off point. b) Added: "ie, when $C_{i,t} \leq 0.05 \times C_{i,t0}$.". **Response #2** (MED Version Draft 20150525) We now propose to remove the entire sentence with the 0.05 and instead amend the next sentence "Extrapolation of $Rate_{Closs\text{-}BSL,i}$ over the project crediting period must account for the possibility of a non-linear decrease of soil organic carbon over time, including the tendency of organic carbon concentrations to approach steady-state equilibrium. For this reason a complete loss of soil organic carbon may not occur in mineral soils.	**Assessment #1** (MED Version Draft 20150413) a) DNV GL did not receive any additional evidence. DNV GL checked other sources such as Cifuentes et al. (2014) (c.f. page 26), and found that the values provided differ from the 95% proposed in the MED, e.g. it provides figures that range from 92% (89-96%) to 86% or even 67% (yet that seems degradation).Please provide evidence in order to justify the 95% threshold. b) DNV GL checked the revised MED and confirmed that the MED provides a new equation that clarifies clearly how to apply the 95%. Therefore, this finding has been resolved and may be closed. **Assessment #2** (MED Version Draft 20150525) a) DNV GL checked the revised MED and confirmed that it has been revised. The 0.95 has now been removed, and the estimation of the percentage in mineral soils has to be determined in a project by project basis. Therefore, this finding has been resolved and may be closed. **CL3 is closed.**

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	2006 IPCC GL and found that degraded soil in equilibrium does not necessarily contain a 95% of Cmin,i,t0. Moreover, it is not clear whether the period of this loss is 100 years and whether decay is linear. a) Please clarify (and provide evidence) why this threshold has been defined. b) Please clarify how this threshold would be applied in order to estimate the SDT in the baseline scenario.	This steady-state equilibrium must be determined conservatively." by adding the latter part of it.	
CL4	**Element of MED** 6.2 Reassessment of the Baseline Scenario **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in Section 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** The MED states in Section 6.2 that for the re-assessment of the baseline "the historic reference period must be extended to include the original reference period and all subsequent monitoring periods up to the beginning of the current monitoring period. The fire reference period must not be extended, as this is a fixed 10-year period ending 5 years before the project start date". The audit team reviewed the whole methodology and did not find any mention to "reference period", and did not find any specific reference to a sort of historical period used to determine historical emissions from fires. Please clarify what is meant by reference period, and make the necessary adjustments to the MED if needed.	**Response #1** (MED Version Draft 20150413) Added to the procedure in section 6.2: ", when applying the *Fire Reduction Premium* approach in Section 8.2.7," The reference period in used in VMD0046 referred to I the procedure.	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and confirmed that the following sentence was added: "when applying the Fire Reduction Premium approach in Section 8.2.7,", so now it is clear the link to the 10 year period. Therefore, this finding has been resolved and may be closed. **CL4 is closed.**
CL5	**Element of MED** 6.2 Baseline Scenario **Requirement** Section 4.6.9 VCS Version 3.5 sets that the maximum adoption potential is the total adoption of a project activity that could currently be achieved given current resource availability,	**Response #1** (MED Version Draft 20150413) Text has been modified to provide a clearer explanation. Addressed in revised additionality section. Stems from a misunderstanding by assessor of what the 100 year floodplain means.	**Assessment #1** (MED Version Draft 20150413) DNV GL hold a phone call with the MED developers who explained and clarified all the issues that were raised in the finding. DNV GL confirmed that the value is not a projection but a real value of areas that were inundated in the past. DNV GL now is confident on the additionality section and is able to confirm that it is in accordance to the VCS rules. Therefore, this finding has been resolved and may be closed.

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	technological capability, level of service, implementation potential, total demand, market access and other relevant factors within the methodology's applicable geographically defined market. **Evidence** MED Version 20150413 **Clarification request** The MED bases the maximum adoption potential on the the area of coastal floodplain that would flood under a 100-year coastal flood event for 1990 according to FEMA's report "Projected Impact of Relative Sea Level Rise on the National Flood Insurance Program". The team reviewed the report and would need the folowing clarifications: a) It is not clear where the figure of 50,492 km^2 comes from. Please clarify how we can extract this figure from the report. b) The value used seems to be a projection of the area of coastal floodplain that will be flooded under a 100-year return period. Since it is a 100 year projection, it is not clear that this represents the maximum adoption potential that could currently be achieved. Please clarify the rational for considering this as a proxy of the maximum potential that coudl currently be achieved. c) The MED states that this "this area includes many but not all former tidal wetland areas that were diked or drained for agriculture and other uses. This area does not include current tidal wetlands". However, the value seems to be a projection of future (from 1990) flooded areas. Please clarify how it can be concluded that this area does include all former tidal wetland areas and does not include current tidal wetlands		**CL5 is closed.**
CL6	**Element of MED** 8.1 Baseline Emissions **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness.	**Response #1** (MED Version Draft 20150413) The footnote explaining the basis for the default value used a wrong unit for the peak aboveground biomass. The correct unit is g d.m. m^{-2}. **Response #2** (MED Version Draft 20150525) The correct unit is kg d.m. m^{-2}; factor x10 removed from footnote.	**Assessment #1** (MED Version Draft 20150413) DNV GL checked the revised MED and found that it is not correct. g/m2 means 10000/1000000 =1/100 tC/ha, which is different to a factor of 10. **Assessment #2** (MED Version Draft 20150525) DNV GL checked the revised MED and confirmed that the factor of 10 has been removed and that the units are now correct. Therefore, this finding has been resolved and may be closed.

CL ID	Clarification request	Response by project proponents	DNV's assessment of response by project proponents
	Evidence MED Version 20150413 **Clarification Request** Section 8.1.3 provides a default value of 3 t C ha^{-1} for herbaceous cover. In order to estimate this value, a multiplier of 10 is applied. Please clarify the meaning of the 10.		**CL6 is closed.**
CL7	**Element of MED** 8.1.4.2.3 Default factors **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** a) Equation (31) sets a default value sourced from Poffenbarger *et al*. 2011, which was estimated from the meta-analysis conducted by Chmura *et al.* 2003. The team reviewed the former study and found that the default value is based on data from salt marshes and it does not include mangrove forests. Please clarify if the use of this value by mangrove forests would be accurate or at least conservative. b) 8.1.4.2.3 Default factors state that IPCC emission factors "may also be used to estimate CO2 emissions from the SOC pool for non-tidal wetlands". Since this is a MED applicable to tidal wetlands it is not clear why this paragraph refers to non-tidal wetlands. Please provide the necessary clarifications.	**Response #1** (MED Version Draft 20150413) a) The assessors are correct that this value was generated using only marsh data—this was an oversight on our part and we appreciate the assessors catching this error. We have re-analyzed the raw marsh and mangrove data from the Chmura et al. 2003 study and the median is 1.46. We have therefore changed the default value in the methodology to 1.46 and clarified that his value is only for use in mangrove and marsh systems. Note that we did not subdivide marsh and mangrove systems because Chmura et al. did not find evidence of a statistically different rate of carbon sequestration between these systems. The Poffenbarger reference has been removed here because it is extraneous—the data are in the Chmura study. b) This confusion is likely caused by the word "also" in this sentence, which has been removed from the methodology. Non-tidal wetlands are allowable in the baseline scenario, thus they are included in this sentence. **Response #2** (MED Version Draft 20150525) Not sure what the issue is. The IPCC default values may also be applicable in the with-project in some cases. Like, what if there's a strata that is in agriculture for the first 10 years of the project and then converts to wetland—then the IPCC emission factors could be used for these first 10 years.	**Assessment #1** (MED Version Draft 20150413) a) DNV GL agrees with the MED developer's response. According to Chmura, there are no significant differences between the GHG removal factors of Mangroves and marshes, so a value of 1.46 is reasonable. This value has been defined by default in the MED. This default value is in line with the VCS rules. Therefore, this finding has been resolved and may be closed. b) DNV GL agrees with this, but would like to note that it is not clear that this value may be applied in the project scenario. Please clarify if this default value may be applied to the project scenario. **Assessment #2** (MED Version Draft 20150525) DNV GL now understands that either in the baseline or project scenario a wetland could be transformed to a non-wetland. Therefore, this finding may be closed since this finding is no longer relevant. **CL7 is closed.**
CL8	**Element of MED** 8.1.4.2.7 Deduction for allochthonous carbon **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request**	**Response #1** (MED Version Draft 20150413) A) non-wetland systems (e.g. agriculture) are likely to be common in the baseline scenario. B) There is allochthonous carbon deposition on organic soils—it is substantially lower than it is for mineral soils, but it is not zero. A second important factor is that there is export of organic carbon from tidal wetland soils and a portion of this export is not returned to the atmosphere. In our methodology, we allow a zero deduction for organic soils because the allochthonous carbon deposition is low and the carbon export is relatively high. The net balance between these processes in organic soils is likely a net negative emissions; which is why we believe that it is conservative to assume a net zero emissions in the with-project scenario (i.e. zero allochthonous	**Assessment #1** (MED Version Draft 20150413) a) DNV GL now understands that either in the baseline or project scenario a wetland could be transformed to a non-wetland. Therefore, this finding may be closed since this finding is no longer relevant. b) DNV GL agrees that the net balance of deposition and exportation in organic soils may be zero. DNV GL confirmed that this is consistent with the procedures of VM0024 Appendix I of the VCS methodology "Methodology for Coastal Wetland Creation" which allows the assumption that allochthonous carbon may be assumed to be zero in all cases. Therefore, the MED is in compliance with VCS rules and this finding may be closed. c) DNV GL agrees with this, but would like to note that it is not clear that this value may be applied in the project scenario. Please clarify if this default value may be

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	The team reviewed Section 8.1.4.2.7 and would need the following clarifications: a) It is mentioned that "for strata with non-wetland systems" the deduction may be zero. It is not clear why the reference to non-wetland systems is made considering that this MED is applicable to wetlands. Please clarify what is meant by "non-wetland" systems (e.g. Open water?). b) It is mentioned that "for strata with organic soils" the deduction may be zero. Please provide the evidence in order to demonstrate that there is no sedimentation or deposition of allochthonous organic matter on organic soils. c) It is mentioned that "for strata with seagrass systems" the deduction may be zero. The evidence provided is Duarte et al. (2011). The team checked this reference and found that there is a significant portion of the total sequestered carbon that is not produced by the same system (i.e. it is allochthonous). Please provide the evidence in order to demonstrate that there is no sedimentation or deposition of allochthonous organic matter on seagrass systems.	deduction). This balance holds whether you consider recalcitrant or total allochthonous carbon. Note that in Appendix I of the VCS methodology "Methodology for Coastal Wetland Creation" a similar rationale is used to justify that allochthonous carbon may be assumed to be zero in all cases; our methodology is more conservative in that we do not allow this assumption for mineral soils in the with-project scenario. C) We are not suggesting that subtidal areas suitable for seagrass restoration do not receive allochthonous C_{org} deposition. In fact, much of the C_{org} deposited within a given subtidal area possibly derives from a different subtidal area (*i.e.* it is allochthonous), because currents constantly re-suspend, transport, and redeposit C_{org} (Bauer et al. 2013; Hyndes et al. 2014). The 'zero allochthonous CO_2 emissions' allowed for the baseline scenario for seagrass systems is to prevent a double penalty regarding the calculation of project CO_2 emissions, whereby the seagrass project must assume a low CO_2 respiration rate for the baseline scenario (deducting allochthonous CO_2 emissions) but then measure a higher CO_2 respiration rate in the 'with project' scenario. The community respiration rate in the 'with project' scenario will include respiration of both seagrass (autochthonous) C_{org} fixed by the plants and allochthonous C_{org} deposited in the meadow during the project period. By trapping suspended particles, seagrass canopies increase allochthonous C_{org} deposition within meadow areas (Duarte et al. 2013). Kennedy et al. (2010) confirm that a significant proportion of the C_{org} in seagrass beds is actually allochthonous. Much of this allochthonous C_{org} is subsequently respired from the bed, contributing to high community respiration rates observed in seagrass meadows (e.g. Hume et al. 2011; Rheuban et al. 2014). In fact, this respiration of allochthonous C_{org} in seagrass meadows possibly explains why the net ecosystem metabolism (NEM) of a mature, restored meadow might appear seasonally (and even annually) net heterotrophic (Rhueban 2013; Rheuban et al. 2014). In seagrass systems, the deduction of the "layer with soil organic carbon indistinguishable from the baseline SOC concentration" from the carbon estimates functions to subtract out allochthonous carbon. For this reason, seagrasses may claim a deduction of zero such that the allochthonous carbon is not deducted twice (see section 5.5). We have added the following footnote in the MED: For seagrass systems, this zero deduction may only be used when the 'layer with soil organic carbon indistinguishable from the baseline SOC concentration' method is used with field-collected data on carbon stock changes (Duarte 2011, Greinier et al. 2013) References: Bauer, JE, W-J Cai, PA Raymond, TS Bianchi, CS Hopkinson, PAG Regnier. 2013. The changing carbon cycle of the coastal ocean. *Nature* 504:61-70. Duarte, CM , H Kennedy, N Marbà, I Hendricks. 2013. Assessing the capacity of seagrass meadows for carbon burial: Current limitations and future strategies.	applied to the project scenario. **Assessment #2** (MED Version Draft 20150525) c) DNV GL now understands that these methods could be applied to either the baseline or project scenarios. Therefore, this finding may be closed since this finding is no longer relevant. **CL8 is closed.**

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		Ocean & Coastal Management 83:32-38. Hume, AC, P Berg, KJ McGlathery. 2011. Dissolved oxygen fluxes and ecosystem metabolism in an eelgrass (*Zostera marina*) meadow measured with the eddy correlation technique. *Limnology and Oceanography* 56(1):86-96. Hyndes, GA, I Nagelkerken, RJ McLeod, RM Connolly, PS Lavery, MA Vanderklift. 2014. Mechanisms and ecological role of carbon transfer within coastal seascapes. *Biological Reviews* 89(1):232-254. Kennedy, H, J Beggins, CM Duarte, JW Fourqurean, M Holmer, N Marba, JJ Middelburg. 2010. Seagrass sediments as a global carbon sink: Isotopic constraints. *Global Biogeochemical Cycles* 24:1–8. Rheuban, JE. 2013. Oxygen metabolism in restored eelgrass (*Zostera marina L.*) meadows measured by eddy correlation. Thesis submitted to the University of Virginia. 133p. Rheuban, JE, P Berg, KJ McGlathery. 2014. Multiple timescale processes drive ecosystem metabolism in eelgrass (*Zostera marina*) meadows. *Marine Ecology Progress Series* 507:1-13. **Response #2** (MED Version Draft 20150525) c) No, it's applicable to the with-project scenario, and in fact that's where we expect that it will be used. This is just a carbon stock sampling method. It does get a bit unusual in that there is this subtraction of baseline, but it's still a with-project carbon stock sampling method.	
CL9	**Element of MED** 8.1.4.2.7 Deduction for allochthonous carbon **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** a) According to the MED, equations (38) and	**Response #1** (MED Version Draft 20150413) a) In the Craft et al. 1991 paper, this equation is presented in the caption of Fig. 1 solved for organic C. We have solved the same equation for organic matter, which results in our equations. b) This value comes from the following sentence in this publication: "On average, organic matter (OM) makes up to ~0.5–3 wt.% of the sedimented material (typically about 0.7 wt.% in deltaic sediments and 2–3 wt.% in non-deltaic shelf sediments; Hedges and Keil, 1995), such that large deviations from these figures imply either 'extra' sources of organic material (discrete particles of OM) or efficient removal processes." We used the maximum value of 3% organic matter for deltaic sediments as our default to be conservative. We corrected this default value to 3% OM instead of 1.5% C to match the reference. c) As the reviewers correctly pointed out, bulk density cancels out in these equations	**Assessment #1** (MED Version Draft 20150413) a) For DNV GL is not clear how to obtain the equation provided in the MED from the equation provided in the publication, i.e. Is not the same as $\%OM_{soil} = (-0.4 + \sqrt{(0.4^2 + 4 \times 0.0025 \times \%C_{soil})}) / (2 \times 0.0025)$ b) DNV GL found the value in the referred publication and confirmed that it is conservative. However, this value is not conservative in the baseline scenario. Therefore, the MED is still not compliant with the VCS rules. c) DNV GL found the value in the referred publication and confirmed that it is conservative. Therefore, the MED is compliant with the VCS rules.

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	(39) are sourced from Craft et al. (1991). The team reviewed this publication and found an equation that is not identical to the above equations. Please clarify how these equations were derived from Craft et al. (1991). b) The MED provides a default value of %Cdepsed equal to 1.5, which is sourced from Andrews et al. (2011). However, the team was not able to find the value and found that %Cdepsed are very variable and that in some cases it is equal to the %C of autochthonous soil. Please clarify where the 1.5 is sourced from and justify that it is accurate/conservative to use such a default value to any project. c) The MED provides a default equation to estimate the Bulk Density sourced from Anisfeld et al. (1999). The team reviewed the study and found that the study only refers to salt marshes and found that this relation between %OM and BD can vary with other factors such as the type of sediments and the compaction. Please clarify if the application of this equation to all tidal wetlands and to all project circumstances will lead to accurate or conservative estimates of ER.	and is therefore not necessary. We have therefore removed it from this portion of the methodology. This has allowed us to simplify the allochthonous carbon equations—see section 8.1.4.2.7. The new equations provide the same result as the previous draft but are simplified and do not require bulk density. The key equation is: $\%OM_{autoch} = (\%OM_{soil} - \%OM_{depsed})/(1-(\%OM_{depsed}/100))$ This equation was developed by combing and simplifying the following equations (these are not in the methodology, but are given here to assist in understanding the above equation): $\%Soil_{min} = 100 - \%OM_{soil}$ (The percent mineral fraction of the soil mass is 100 minus the percent organic matter fraction) $\%Soil_{alloch} = \%Soil_{min} / (1-(\%OM_{depsed}/100))$ (The percent of the soil mass that is allochthonous material is the percent of soil mineral material, all of which is allochthonous, divided by 1-(%OMdepsed/100), which is the percentage of the soil mass that is not allochthonous deposited organic matter.) $\%OM_{alloch} = \%Soil_{alloch} * (\%OM_{depsed}/100)$ (The percentage of soil that is autochthonous organic matter of the soil mass is $\%Soil_{alloch} * (\%OM_{depsed}/100)$. This is conservative in that it assumes that all organic matter deposited as allochthonous material is retained in the system. Note that this means that if the $\%OM_{depsed}$ is greater than $\%OM_{soil}$, the deduction will be greater than 100%. This is logical because such values violate the assumption that all of the $\%OM_{depsed}$ is retained in the system—if true then this value should never be larger than $\%OM_{soil}$.) $\%OM_{autoch} = \%OM - \%OM_{alloch}$ (This is a simple subtraction.) Information on related variables were updated in Chapter 9. **Response #2** (MED Version Draft 20150525) a) This is a solution to the formula: Rewritten as: 0 = 0.0025 * OM%^2 + 0.40 * OM% - C% so that the quadratic equation can be used (where LOI = OM% and C% has been subtracted from each side of the equation) We solved for OM% using the quadratic equation using the following inputs from this	**Assessment #2** (MED Version Draft 20150525) a) DNV GL now understands that the equation of the MED is the result of solving a quadratic equation. DNV GL confirmed that it is correct. Therefore, this finding is no longer relevant and it may be closed. b) DNV GL confirms the statement made by the MED proponent. It is correct that a higher value is conservative in the project scenario, and the MED allows to use a zero in the baseline scenario. Therefore, the MED is in compliance with the VCS rules and this finding may be closed as it has been resolved. **CL9 is closed.**

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		equation: a = 0.0025 b = 0.40 c = -1 b) We used the maximum value, that's conservative for the project scenario. For the baseline, conservative would be zero. Greater amounts of allochthonous carbon are conservative in the with-project scenario because they are subtracted from carbon sequestration rates. This is why the maximum value of 3% was used. In the baseline scenario, zero is the conservative value for allochthonous carbon estimates, which project proponents may use.	
CL10	**Element of MED** 8.1.4.3.4 Default factor **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** The MED defines a default factor of methane emission rate in equation (45) for estimating methane emissions in all tidal wetland systems. This value is sourced from Poffenbarger et al. 2011. The team reviewed this publication and found that the study only refers to tidal marshes and the study area is located in a temperate region. It is not clear that the value from this study may be extrapolated to other sites. This is evident from Andrews et al. (2011) who indicate that methanogenesis in other-than-marsh wetlands is affected by other factors than salinity such as nutrient and organic loading from anthropogenic sources. Please clarify if the use of this value for other tidal wetland systems and its extrapolation out of the study site would lead to accurate (or at least conservative) estimates of GHG benefits.	**Response #1** (MED Version Draft 20150413) This is true that the Poffenbarger et al. 2011 used data only from salt marshes. There aren't similar data available for other tidal wetland systems to generate a similar analysis as the one presented in the Poffenbarger et al. paper. Nonetheless, we felt confident in extrapolating the results from this study to other systems because the biogeochemical controls on methane generation at this salinity are controlled primarily by sulfate availability rather than vegetation type. In polyhaline wetlands (>18 ppt), all of the conditions are present across wetland types for methane emissions including organic matter availability, highly anaerobic redox potential, and sufficient temperature. The reason that these systems generate very low methane emissions is due to high levels of sulfate, which allows sulfate-reducing bacteria to out-compete methanogens for available carbon substrate. Salinity is used as a proxy for sulfate. Although we don't have sufficient data from non-marsh systems, there is no reason to believe that vegetation differences (mangroves or seagrasses) would substantially affect this sulfate-based biogeochemical control. These emissions are very low (the >18 ppt is less than 1% of the default value for carbon sequestration; the >20 ppt is twice as low). This statement from the Andrews et al. 2011 paper refers to the paper Kristensen, E., Bouillon, S., Dittmar, T., Marchand, C., 2008. Organic carbon dynamics in mangrove ecosystems: a review. Aquatic Botany 89, 201–219. This paper does not clarify whether the systems that are affected by nutrient and organic loading are polyhaline or if this loading generating methane emission rates substantially larger than our default values.	**Assessment #1** (MED Version Draft 20150413) DNV GL agrees that the vegetation factor is not a relevant factor in methane emissions, so although the Poffenbarger et al. (2011) values are sourced from salt marshes, it is not expected that factors (such as vegetation) other than salinity will affect the values. Therefore, DNV GL agrees that these values are acceptable for other vegetation types. Hence, this finding is no longer relevant and may be closed. **CL10 is closed.**
CL11	**Element of MED** 8.1.4.4.4 Default factors **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles	**Response #1** (MED Version Draft 20150413) a) Yes, these values may be applied to other wetland systems other than marshes. The underlying principle here is that nitrous oxide emissions are primarily driven by denitrification operating in a partially anaerobic soil microsite (site with limited oxygen). Some oxygen limitation is needed to allow for denitrifying microbial	**Assessment #1** (MED Version Draft 20150413) a)b) DNV GL agrees that oxygen is a factor but also availability of Nitrogen and probably temperature. According to the Andrews: "because denitrification rates increase as nitrate concentrations (from anthropogenic inputs) increase, and the relative proportions of ammonium and N2 decline at the expense of N2O. While N2O

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	set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** Section 8.1.4.4.4 provide a number of equations to estimate baseline N2O emissions. The N2O emission rates are sourced from Smith et al. 1983. The team reviewed this publication and would like to seek the following clarifications: a) According to Smith et al. 1983 the study was conducted on different types of marshes. However, according to the MED such values may be applied to any type of wetland except for seagrass systems. Please clarify whether these values may be applied to other wetland systems other than marshes (do not affect the accuracy or conservativeness of emission reductions). b) The team reviewed other publications such as Andrews et al. (2011) (c.f. Table 9) and found that the reported values of an example in Essex coast, (E. England) differ significantly. Therefore, it is not clear that the values from Smith et al. (1983) can be extrapolated from the area of study to other areas, specially those values referring to open water systems. Please clarify (and provide evidence) that these values can be extrapolated (do not affect the accuracy or conservativeness of emission reductions).	communities to compete with aerobic organisms for available organic matter; however, if oxygen availability is too low then the denitrification process will not stop at N2O, rather it will "complete" the process to generate N2 gas. In agricultural systems, these microsites are created following rainfall events such that there is sufficient water to allow for slightly anaerobic conditions to develop but the period of saturation in these microsites is limited, which prevents the process from continuing past N2O to generate N2. Wetlands are generally not favorable for nitrous oxide emissions because of limited oxygen availability in anaerobic zones—in these systems most of nitrate undergoing denitrification is denitrified all the way to N2 gas. However, denitrification is even more complete in aquatic (open water) systems because there is even less oxygen availability, causing more complete denitrification. There is limited data measuring the difference in nitrous oxide rates between wetland and open water systems (presumably because overall the emission rates are quite low). b) The Smith et al. 1983 is the only published data we were able to find that made a suitable comparison between tidal wetland and aquatic systems. While it is true that this comparison was only between marshes and open water, there is no reason to believe that the biogeochemical control (oxygen availability) would be substantially different in non-marsh tidal wetland systems. **Response #2** (MED Version Draft 20150525) The with-project scenario would not affect temperature or nitrogen availability. A project is only going to affect oxygen availability (by changing the water level). There are limited data on nitrous oxide rates from wetland and open water systems, so we can't provide a citation or quantitatively confirm that the default values don't vary substantially as other factors vary (e.g. temperature or nitrogen availability). However, we have the basic knowledge of the biogeochemistry to understand that oxygen availability is a dominant factor, which is already reflected in the default values. High nitrogen availability would also likely have a substantial affect nitrous oxide emissions, which is why we don't allow projects to use the default values when receiving high nitrogen inputs. Basic wetland nitrogen biogeochemistry, we don't expect that other factors, such as vegetation type and temperature, to have a substantial effect on nitrous oxide emissions in comparison to the dominant control of oxygen availability.	is always a minor product of nitrification and denitrification, probably accounting for <2% of the N species produced, it becomes increasingly important at higher nitrate concentrations", other factors that intervene in these reactions is the temperature. Therefore, DNV GL is unsure you may apply the default value without a clear indication of the factors that have to be considered in order to ensure that it is applicable to each project. **Assessment #2** (MED Version Draft 20150525) DNV GL agrees that oxygen is the most relevant factor and that with the revisions to address CL12 it will be ensured that the default factors are widely applicable. Therefore, DNV GL deems that the default factors are compliant with the VCS rules. Hence, this finding is no longer relevant and may be closed. **CL11 is closed.**
CL12	**Element of MED** 8.1.4.4.4 Default factors **Requirement** a) Section 4.3.24 of the AFOLU Requirements Version 3.4 requiring to account for N2O b) Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Clarification request** Section 8.1.4.4.4 of the MED provides	**Response #1** (MED Version Draft 20150413) The justification for not requiring seagrass projects to account for N2O emissions follows the same logic as the response to CL11—nitrate has a negligible or less likely chance of being emitted as N2O in seagrass systems as it does in the baseline scenario. The quotation presented by the assessors refers to a comparison between aquatic systems "not influenced by river plumes" versus those that are; these river plumes presumably carry nitrate, which leads to increased N2O emissions. In this case, the system "not influenced by river plumes" would not be the baseline scenario—the baseline scenario for a seagrass project would be the estuarine or fjord system that is influenced by river plumes but without seagrasses. We have not found any evidence nor is there a scientific reason to believe that seagrasses should significantly increase N2O emissions in this comparison. N2O emissions may be conservatively excluded in all baseline scenarios (section	**Assessment #1** (MED Version Draft 20150413) DNV GL does not agree with the MED developer since it is implying that "In this case, the system "not influenced by river plumes" would not be the baseline scenario—the baseline scenario for a seagrass project would be the estuarine or fjord system that is influenced by river plumes but without seagrasses". Why there is no seagrass in the baseline scenario? There could be strata with seagrass in the baseline scenario, yet with less vegetation. Therefore, this finding has not been resolved and remains open. **Assessment #2** (MED Version Draft 20150525) DNV GL confirmed that the MED has been revised. It now specifies clearly that the default values may be used but only if the project area is not affected by river plumes. Therefore, this finding has been resolved and may be closed. **CL12 is closed.**

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	procedures in order to account for project N2O emissions. As part of the procedures it states that "seagrass restoration projects do not require N2O emission accounting", yet the MED does not provide any evidence for this assumption. The team conducted a bibliography search in order to confirm the validity of this statement. According to Voss et al. (Nitrogen processes in coastal and marine ecosystems) it seems that "the highest concentrations of N2O occur in estuaries and fjords, whereas in open coastal waters (i.e. shelf waters not influenced by river plumes) N2O concentrations are close to the expected equilibrium with the atmosphere". This indicates that coastal areas not influenced by river plumes, emissions are negligible. However, it is not clear if seagrass systems are only present in these areas. Therefore, please clarify (and provide evidence) why seagrass restoration projects do not require accounting of N2O emissions. Besides, it is not clear if this requirement refers only to project emissions or to both baseline and project emissions.	8.1.4.4). The statement that seagrass restoration projects do not require N2O emission accounting is in section 8.2.4.4. **Response #2** (MED Version Draft 20150525) We intended to say the following: If the project area is "affected by river plumes" then it will be affected in both the baseline and the with-project scenario and the project shouldn't increase N2O emissions due to those river plumes. If the project area is not "affected by river plumes" then it won't be affected in both the baseline and the with-project scenario.	

Observations

OBS ID	Observation	Response by project proponents	DNV's assessment of response by project proponents
OBS1	**Element of MED** 5.3. Carbon pools **Requirement** Section 4.3.1 of AFOLU Requirements Version 3.4 **Evidence** MED Version 20150413 **Observation** According to Section 4.3.1 (Table 2), the dead wood pool must be accounted if significant (and not conservative to exclude) in ARR activities and it is optional for WRC activities. The MED does not require to account for the dead wood pool, which is conservative. However, a clear opportunity for improvement could be to include the dead wood pool as this may be significant (i.e. 6% of aboveground biomass). The MED could easily include procedures for accounting for this carbon pool by referring to the CDM tool "Estimation of carbon stocks and change in carbon stocks in dead wood and litter in AR CDM project activities" V3.0.0, thus allowing project developers to include this carbon pool.	**Response #1** (MED Version Draft 20150413) The benefit from dead wood may become interesting in the longer run and only in forested wetlands. We will include dead wood when converting the restoration methodology into a REDD+ one.	**Assessment #1** (MED Version Draft 20150413) No response is required. **OBS1 is closed.**
OBS2	**Element of MED** 8.4.2 Estimation of uncertainty **Requirement** Section 4.1.4 VCS Version 3.5 sets that methodologies shall be guided by the principles set out in 2.4.1 of VCS Version 3.5. Which includes the principle of accuracy and conservativeness. **Evidence** MED Version 20150413 **Observation** According to the VCS rules, methodology elements shall provide a means to estimate a 90 or 95 percent confidence interval. In accordance, the MED provides procedures in order to combine uncertainties and provide estimates at 90 or 95 confidence interval. The audit team would like to indicate the following opportunities for improvement: a) In order to ensure a consistent uncertainty	**Response #1** (MED Version Draft 20150413) a) This seems self-evident from this section, because it says that project proponents need to estimate uncertainty for carbon stock changes and GHG emissions. We have copied the procedures from approved methodologies. Is this essential? b) Sentence added.	**Assessment #1** (MED Version Draft 20150413) No response is required. **OBS2 is closed.**

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	determination it would be good to explain the type of uncertainty to be considered in the estimations. For instance, whether measurement uncertainty or model uncertainty has to be considered too. b) In order to make equations (68) – (72) consistent with the 2006 IPCC GL and ensure that no accounting issues occur (cancellation of values) it should be clearly stated that the denominators of these equations have to be expressed in absolute values.		