KATINGAN PEATLAND RESTORATION AND CONSERVATION PROJECT VERIFICATION REPORT

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Project Title	Katingan Peatland Restoration and Conservation Project
Version	V2
Report ID	17010.04 Ver

Report Title	Katingan Peatland Restoration and Conservation Project Verification Report
Client	PT. Rimba Makmur Utama
Pages	48

Date of Issue	V1: 11 January 2022 V2: 17 January 2022 V3: 01 March 2022
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Summary:

Aster Global Environmental Solutions Inc., was contracted by PT. Rimba Makmur Utama, on 25 March 2021 to conduct the monitoring period verification (VCS: 01 January 2020 – 31 December 2020; 1 year) of *The Katingan Peatland Restoration and Conservation Project* [Validated Project Description (PD) dated 11 May 2016]. The Katingan Project follows the framework of Reducing Emissions from Deforestation and Degradation (REDD) and is achieving Greenhouse Gas (GHG) emission reductions as well as tropical peatland forest protection and conservation through payments for ecosystem services.

The goal of the project as described in the Monitoring Report (MR) Section 2.1.1 includes, "protect and restore 149,800 hectares of peatland ecosystems, to offer local people sustainable sources of income, today and to tackle global climate change – all based on a solid business model."

The verification objective included an assessment of compliance with VCS Version 4 and all associated updates, the selected methodology (VM0007, v1.5), and the validated PD *The Katingan Peatland Restoration and Conservation Project* dated 11 May 2016. Aster Global (herein referred to as the Validation/Verification Body – VVB/Verification Team) assessed the Greenhouse Gas (GHG) emission removals for the monitoring/verification period (VCS: 01 January 2020 – 31 December 2020; 1 year) through Agriculture, Forestry and Other Land Use (AFOLU) criteria. The project activities are categorized as; Reduced Emissions from Deforestation and Degradation (REDD), a combination of REDD+WRC[1] and ARR[2]+WRC; specifically, as Avoiding Planned Deforestation (APD) and Reforestation (ARR), in

[1] Wetlands Restoration and Conservation

[2] Afforestation, Restoration and Revegetation

combination with Conservation of Undrained and Partially Drained Peatland (CUPP) and Rewetting of Drained Peatland (RDP) activities.

The scope of the verification following Section 4.3.4 of ISO 14064-3:2006 included the GHG project implementation; physical infrastructure, activities, technologies and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. *The Katingan Peatland Restoration and Conservation Project* follows the framework of project activities listed above.

The criteria followed the verification guidance documents provided by Verra located at www.verra.org. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant Verra guidance document as of December 2021.

A summary of all VCS findings (23 total) is included in Appendix B. All findings were satisfied to a *reasonable* level of assurance, and there are no restrictions of uncertainty.

After review of all project information, procedures, calculations, and supporting documentation, Aster Global confirms that the monitoring conducted by the Project Proponent, along with the supporting MR, are accurate and consistent with all VCS Version 4 and associated updates, validated PD, and the selected methodology (VM0007). Aster Global confirms that *The Katingan Peatland Restoration and Conservation Project Monitoring and Implementation Report* (v1.0 dated 05 August 2021) has been implemented in accordance with the validated PD.

Aster Global confirms all verification activities, including objectives, scope and criteria, level of assurance, validated PD implementation, and project MR adherence to VCS Version 4 (and all associated updates), as documented in this report are complete. Aster Global concludes without any qualifications or limiting conditions that *The Katingan Peatland Restoration and Conservation Project Monitoring and Implementation Report* (v1.0 dated 05 August 2021) meets the requirements of VCS Version 4 (and all associated updates) for the verification period/reporting period (VCS: 01 January 2020 – 31 December 2020; 1 year).

The GHG assertion provided by PT. Rimba Makmur Utama and verified by Aster Global has resulted in the GHG emissions reduction or removal of 6,430,873 tCO_2 equivalents (CO_2e) by the project during the verification period/reporting period (VCS: 01 January 2020 – 31 December 2020; 1 year). This value is gross of the 10% (643,087 tCO_2e) buffer withholding based on the non-permanence risk assessment tool. This results in 5,787,786 tCO_2e of credits eligible for issuance as VCUs.

1 INTRODUCTION

1.1 Objective

For this project, the verification objective was to ensure implementation of project activities and project compliance with the VCS Program Guide, VCS Standard, selected methodology, and the validated VCS PD. Aster Global assessed the GHG emission removals for the AFOLU project. Specifically, the Project falls under the REDD+ categories Wetlands, Restoration and Conservation (WRC) and Afforestation, Reforestation and Revegetation (ARR).

1.2 Scope and Criteria

The scope of a verification includes the GHG project and baseline scenarios; physical infrastructure, activities, technologies, and processes of the GHG project; GHG sources, sinks and/or reservoirs; types of GHGs; and time periods covered. The geographic verification scope is defined by the project boundary, the carbon reservoir types, management activities, growth and yield models, inventory program, and contract periods. The scope of the project was outlined by the PT. Rimba Makmur Utama (Project Proponent) within the PD and is re-defined as follows for the GHG project:

Baseline Scenario	Degradation/deforestation – threats from expansion of industrial pulpwood (acacia)
Activities/Technologies/ Processes	Protections of largely intact un-drained peat swamp forest – utilizing VCS VM0007
Sources/Sinks/ Reservoirs – REDD	AGB emissions due to deforestation AGB emissions due to degradation AGB emissions due to uncontrolled burning
Sources/Sinks/ Reservoirs – ARR	AGB emissions due to uncontrolled burning
Sources/Sinks/ Reservoirs – WRC	Emissions from microbial decomposition of peat Emissions from dissolved organic content (DOC) Emissions from uncontrolled peat burning
GHG Type	CO_2, CH_4, and N_2O
Time Period	Project Start Date: 01 November 2010 VCS 6th Monitoring Period: 01 January 2020 – 31 December 2020 Please note: In February 2021, Verra granted the project an "extension for baseline renewal." Therefore, the baseline renewal will not occur during this 6th Monitoring period verification but instead will be conducted during the 7th monitoring period verification.
Project Boundary	Project area consists of largely intact un-drained peat swamp forest; 149,800 hectares in Central Kalimantan Province, Indonesia

The criteria followed the verification guidance documents provided by VCS located at *https://verra.org/project/vcs-program/*. These documents include the following:

- *VCS Program Guide (v4.0, 19 September 2019)*
- *VCS Standard (v4.1, 22 April 2021)*
- *VCS Program Definitions (v4.1, 15 April 2021)*
- *AFOLU Non-Permanence Risk Tool (v4.0, 19 September 2019)*
- *Program Validation and Verification Manual (v3.2, 19 October 2016)*
- *VM0007 (v1.5)*
- *Validated PD and previous MRs*

1.3 Level of Assurance

The level of assurance was used to determine the depth of detail the Verification Team used in the Verification and Sampling Plan to determine if there are any errors, omissions, or misrepresentations (ISO 14064-3:2006). The verification team assessed the project's implementation of general principles, data collection and processing, sampling descriptions, documentation, ex post calculations, etc., to provide reasonable assurance to meet the Project Level requirements of the VCS Program. Based on the verification findings, a final evaluation statement reasonably assures the project GHG representations are materially accurate. The evidence used to achieve a reasonable level of assurance is specified in subsequent sections of this report.

1.4 Summary Description of the Project

The project is located in the Katingan and Kotawaringin Timur districts, Central Kalimantan, Republic of Indonesia, and is aimed at reducing and avoiding emissions related to Planned Deforestation and Reforestation in combination with Conservation of Undrained and Partially Drained Peatland and Rewetting of Drained Peatland activities. The project is developed and managed by the ecosystem restoration concession holder P.T. Rimba Makmur Utama (P.T. RMU) (Project Proponent). The goals of the project as described in the sixth Monitoring and Implementation Report (Section 1.1) include, "protect and restore 149,800 hectares of threatened peatland ecosystems, to improve the wellbeing and offer local people sustainable sources of income, to safeguard an area of rich biodiversity, and to tackle global climate change – all based on a solid business model."

During the sixth monitoring period, the project continued and built upon previously established project activities, including "collaboration with multiple stakeholders, awareness training, increase participation of local community on reforestation and agroforestry planting. Community activities included ongoing support of sustainable community-based businesses and microfinance operations, advancing the community participatory planning efforts, assisting village forests application, especially with the legal application, planning and capacity building, as well as providing additional funding for public health clinics and improved sanitation" (MR, Section 1.1).

These activities yielded a total avoided emission of 5,787,786 tCO_2e during the 2020 monitoring period.

2 VERIFICATION PROCESS

2.1 Method and Criteria

The verification assessed the Project's compliance with VCS Version 4 and all associated updates, the selected methodology (VM0007, v1.5), and the validated PD, Version 1.3, dated 11 May 2016. The Verification Team assessed the Greenhouse Gas (GHG) emission removals for the monitoring period/verification period (01 January 2020 – 31 December 2020) using the Agriculture, Forestry, and Other Land-Use (AFOLU) criteria under the categories Reduced Emissions from Deforestation and Degradation (REDD). Specifically, the Project falls under the REDD+ categories Wetlands, Restoration and Conservation (WRC) and Afforestation, Reforestation and Revegetation (ARR). The Verification Team assessed whether the Project Proponent adequately addressed project emissions, unplanned reductions in carbon stocks, and any possible leakage outside of the project boundary.

The non-permanence risk analysis was assessed for this verification. Further, following Section 2.1.2 of the VCS Validation & Verification Manual, V3.2, the objectives of the verification exercise were to evaluate the MR and assess:

- The extent to which methods and procedures, including monitoring procedures, have been implemented in accordance with the validated PD. This includes ensuring conformance with the monitoring plan.
- The extent to which GHG Emission Reductions or Removals reported in the MR are materially accurate.

The criteria followed the verification guidance documents provided by VCS. Unless otherwise indicated, the assessment was performed against the most recent version of the relevant VCS guidance document. Please also see Section 1.2 of this report.

In the verification process, there is a risk that potential errors, omissions, and misrepresentations will be found; therefore, a risk-based approach was used to guide the collection of appropriate and sufficient evidence to support a *reasonable* level of assurance. A risk-based approach means that the verification team focused on items that might result in a material misstatement of the reported GHG assertion.

A project specific Verification and Sampling Plan was developed to guide the verification auditing process to ensure efficiency and effectiveness. The purpose of the Verification and Sampling Plan was to document the risk assessment for determining the nature and extent of verification procedures necessary to ensure the risk of auditing error was reduced to a *reasonable* level. The Verification and Sampling Plan methodology was derived from our verification process stated above. Specifically, the Verification and Sampling plan utilized the VCS guidance documents and ISO 14064-3 standard. Any modifications applied to the Verification and Sampling plan were made based upon the conditions observed for monitoring to detect the processes with highest risk of material discrepancy.

A detailed field plan was also developed to guide the verification site visit and is embedded within the Verification and Sampling Plan. For the field sampling effort, direct measurement, observation, interviews, and review of the monitoring period emission reductions in the key areas were determined to be the greatest risk, followed by ground-truthing and review of project activities. Field sampling and techniques were based on the project parameters/scope and best professional judgment of the verification team to meet a *reasonable* level of assurance as directed by the professional judgment of the Lead Verifier.

Because the biomass inventory (REDD) was validated and has not changed, inventory plots were not selected for detailed review/re-measurement. For the peat component (WRC), monitoring period stratification was assessed via Geographic Information System (GIS).

Fires did not occur during this reporting period. Review of remote sensing data was undertaken of the project area to aid the verification team in establishing a *reasonable* level of assurance that no areas of *ex post* disturbance occurred for the quantification of project emissions confirmed by remote sensing-based analysis.

Please see Section 2.3 and 2.4 of this report for more details regarding the site visit, as it was held despite the COVID-19 global pandemic.

2.2 Document Review

A detailed review of all project documentation was conducted as part of the desktop verification to ensure consistency with, and identify any s from, the VCS Program requirements, the methodology (VM0007), and the validated PD. The initial review focused on the validated PD and MR relative to the field conditions observed and interviews with project management staff. Project details, implementation status, data and parameters, and quantification of GHG emission reductions and removals were thoroughly examined. Key supporting documents were also reviewed. These included monitoring data (i.e., remote sensing/GIS data), Standard Operating Procedures (SOPs), financial analyses, boundaries, maps and aerial images, fire-specific monitoring data, biomass and carbon calculation spreadsheets, and responses to Clarification Requests (CLs).

The VCS AFOLU Non-Permanence Risk Tool was used by the Project Proponent to assess overall project risk. The verification team reviewed the Non-Permanence Risk Report provided with the verification supporting documentation and confirmed that the Project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. Each risk factor was thoroughly assessed for conformance. Any identified Non-conformance reports (NCR) and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B. The final score was calculated to be 2%, and the project utilized the minimum risk rating of 10% as required by the VCS Non-Permanence Risk Tool.

For a listing of all documents received from the Project Proponents for this verification, please see Appendix A.

2.3 Interviews

Interviews were performed during the verification site inspection and as part of the overall verification process, which was additional to that provided in the PD, MR and any supporting documents. The verification team met with individuals with various roles in the project. This included a series of interviews with on-site and in-country staff that support the mission of the project and other conservation objectives.

Due to the COVID-19 global pandemic, the core Aster Global verification team was unable to travel to Indonesia as they had in previous years 2017 (VCS), 2018 (VCS+CCB) and 2019 (VCS). However, the site visit was performed in the conventional manner with interviews and observations of the project's monitoring period activities performed by Aster Global's Indonesian subcontractor Ms. Dwi Rosaria Widiyarini (Ms. Rosa) for the 2019 and 2020 monitoring period. PT. RMU had specific COVID-19 safety protocols. The Project Proponents, technical consultants, and Ms. Rosa were aware of safety risks and mitigated risks, including implementation of the PT. RMU company-wide health and safety protocol. This included COVID-19 testing for all personnel traveling to the project site, required social distancing, masking, and cleanliness protocols.

Onsite interviews and informal discussions were conducted with PT RMU project staff, technical consultant Permian Global, community members, and leaders of the local communities.

A video conference call via MS Teams was performed on 05 August 2021 to ensure the verification team was familiar with and able to use the project's database to locate supplemental information. Any questions about files or data were discussed at that time. The participants were Janice McMahon, Caitlin Sellers, and Taek Joo Kim (Aster Global); Big Antono and Eva Pintado (Permian Global); and D. Puji Lestari (PT. RMU).

2.4 Site Inspections

The verification site inspection followed the Verification and Sampling Plan process and was conducted on 16-22 August 2021 by Ms. Dwi Rosaria Widiyarini (Ms. Rosa). The verification site visit was a required tool to help the verification team reach *reasonable* level of assurance for verification of this monitoring period. It also allowed the verification team to understand application of the methodology on-site, confirm the implementation of project activities, and to identify possible sources of error to focus desktop verification efforts.

The objectives of the on-site inspections performed were to:

- Conduct a risk-based review of the project area and project activities to check that the project adhered to the requirements of the VCS rules and the methodology during the monitoring period
- Select data samples from ground measurements for verification purposes in order to achieve a *reasonable* level of assurance and meet the materiality requirements of the project following Section 4.1.2 of the VCS Standard
- Check that monitoring was conducted in accordance with the requirements of the validated monitoring plan, the VM0007 methodology and VCS rules

An assessment of risk was considered for the site visit conducted by Ms. Rosa as follows:

Item	Results	Can the Site Visit Achieve Reasonable Assurance?
Identify Risk/Opportunity that may affect effectiveness	The Aster Global verification team had visited the site for the previous 3 years, and there were no significant changes for the reporting period, Therefore the risks are minimal. Ms. Rosa is experienced in VCS projects under the methodology and with the project activities. Visitation of all major project activities occurred. Aster Global staff were available and present for video conference calls and to facilitate	Yes

	communication. We believe the site visit was very effective.	
Does Aster Global and Ms. Rosa have proper tools for the site visit?	After discussions between Ms. Rosa, the client and the verification team, all had the proper tools to carry out the site visit. Notes, photos, GPS points, and other evidence were collected by Ms. Rosa in the field for the core Aster Global audit.	Yes
Does Aster Global and Ms. Rosa have proper competencies for the site visit?	After discussions with Ms. Rosa, the client and the verification team, all had the proper competencies for the site visit.	Yes

A ground inspection was made by Ms. Rosa of the project area accessing the area through the Mentaya River, Katingan River, and southern canal. The following villages were visited, and interviews were conducted therein: Ganepo-Lemiring, Mendawai, Batuah, Serambut, Tampelas, and Telaga. The site visit ground inspection was performed to assess monitoring efforts, including unplanned deforestation activities, unplanned degradation, and community member feedback.

The most likely access points for anthropogenic degradation along the watercourse access points within the Project Area and adjacent lands were discussed and toured as possible to allow the verification team to establish a *reasonable* level of assurance regarding the implementation of project activities, and to further confirm no reported areas of *ex post* disturbance.

During the project site visit, the following activities and interviews were conducted:

VCS activities observed on-site:

- Re-visited the central camp and southern canal area to observe general status: discussions of fire staff, expansions, infrastructure
- Conducted “drive-by” of potential deforestation and burnt areas, but none were observed primarily confirmed via remote sensing desktop-based review
- Conducted community member interviews on land usage, ownership, and conflicts

Topics for interviews with project staff:

- Interviewed project staff to gather information regarding monitoring of the project and evidence of conformance with specific requirements of the methodology
- Discussed boundary demarcation
- Discussed forest protection and law enforcement concerning illegal logging, gold mining, etc.
- Reviewed and discussed possibility of illegal expansion of other concessions
- Confirmed organizational structure and operation
- Confirmed data management, compilation, and storage.

WRC ($GHG_{WPS-WRC}$)

- Discussed on-going efforts related to WRC
- Discussed canal blocking/planned peatland re-wetting locations and plans
- Discussed ditch expansion and/or new discoveries
- Discussed peat and water level surveys and monitoring.

REDD ($\Delta C_{WPS-REDD}$)

- Reviewed any areas of aboveground stock changes due to deforestation and degradation; took pictures and GPS points if new deforestation or degradation was observed while traveling around the site
- Discussion of instances of monitoring period degradation/illegal logging, stump surveys, and transition/threshold from degradation to deforestation status
- No carbon plots were re-measured. Therefore, there were no biomass plots to re-visit while on-site.

Fire

- Confirmed no fires occurred in 2020 by visual observation of project areas
- Discussed continued fire prevention and suppression campaign, training, and associated monitoring efforts.

Stakeholder Engagement

- Confirmed meetings occurred by asking participants randomly during field interviews
- Confirmed participation by women
- Confirmed what information was disseminated
- Confirmed stakeholder feedback has been adapted into agreed plans and legal approvals

General

- Discussed accounting adjustments resulting from monitoring (degradation, deforestation)
- Leakage: discussed concession allotments
- Boundary: discussed boundary demarcation progress
- Discussed with the local rangers protection and law enforcement activities regarding poaching, illegal logging, illegal mining, encroachment, etc. (Section 2.1.5 of the MR).

2.5 Resolution of Findings

During the verification process, there was a risk that potential errors, omissions, and misrepresentations would be found. The actions taken when errors, omissions, and misrepresentations were found included: notifying the Project Proponent of the issue(s) identified and expanding our review to the extent that satisfied the Lead Verifier's professional judgment.

The process of resolution of findings involved two formal rounds of assessment by the verification team. Findings were resolved during the verification by the Project Proponent implementing corrective actions such as amending the MR and calculations, as well as providing written responses. This resulted in project documentation that was in conformance with the requirements of the VCS Standard for GHG projects.

Findings were characterized in the following manner:

Non-Conformity Reports (NCRs) were issued as a response to material discrepancies in a part of the project:

- Non-conformity to a VCS guiding document listed in Sections 1.2 and 2.2 above
- Consistency among project documentation or calculations was lacking
- Mathematical formulae were incorrect
- Additional information was required by the verification team to confirm reasonable assurance for compliance

Clarifications (CL) were issued when language within a project document needed extra clarification to avoid ambiguity.

Opportunities for Improvement (OFI) were issued to the Project Proponents when an opportunity for improvement was identified.

During the verification, twenty-three (23) VCS findings were identified. Detailed summaries of each VCS finding, including the issue raised, responses, and final conclusions, are provided in Appendix B VCS NCRS/CLS/OFI SUMMARY. All NCRs/CLs were satisfactorily addressed and closed.

2.5.1 Forward Action Requests

There was one Forward Action Request raised during the verification period regarding any future grievances received during formal and informal meetings. The Project Proponent explained that past grievances were all addressed verbally and immediately during the stakeholder meetings, and therefore no formal written responses were made or disseminated to address each grievance individually. However, the project does maintain a written record of the grievances and how they were addressed in its meeting logs, which is available on the project database. The verification team believes the project has met the letter of the VCS rule for addressing grievances but is issuing a Forward Action request for future verification events requesting that grievances, when documented, are provided a written response in line with the intent of the VCS requirement.

2.6 Eligibility for Validation Activities

Aster Global Environmental Solutions, Inc. holds the required accreditation for the sectoral scope. Thus, this section in not applicable.

3 VALIDATION FINDINGS

3.1 Participation under Other GHG Programs

The verification team is not aware of project involvement in other forms of environmental credits from its activities. The project has not been registered, and is not seeking registration, under any other GHG programs. The Katingan Project currently only seeks carbon credits under the VCS program. This was confirmed through a risk-based internet review and interview with Project Proponents. Therefore, the verification team deems the project eligible to participate under the VCS Program.

3.2 Methodology Deviations

No methodology deviations were applied to the project during this monitoring period.

3.3 Project Description Deviations

There are three PD Deviations that have been described within the MR. All three PD Deviations have been applied in previous monitoring periods. In-line with the Section 3.18 of the VCS Standard v4.1, all three PD Deviations have been adequately described and justified. Please see the table below for more information.

Project Description Deviation	Verification Team Findings
"The PD monitoring plan describes the use of multispectral Landsat imagery to monitor and quantify any forest disturbances. Due to the frequent cloud cover around the Katingan project and the revisit time of the sensor the data's availability is poor and unpredictable. The team therefore opted to use data from the Advanced Land Observing Satellite Phased Array L-band Synthetic Aperture Radar 2 sensor (ALOS PALSAR 2) to monitor forest disturbances as it collects data unhampered by cloud cover. This data provides an accurate method of quantifying forest disturbance. Additional detail on the cross calibration of Landsat and ALOS Palsar2 is provided in Section 3.3.3.1 in Monitoring Report 2016."	-The deviation does not impact the applicability of the methodology as the intent is to monitor forest deforestation or disturbance which the new sensor provides -Project additionality is not impacted -The baseline scenario of acacia plantation conversion remains unaffected as the deviation affects monitoring efforts -Project remains in compliance with the methodology as PALSAR data is an improvement in monitoring data for the period -As satellite-based sensors often have a limited design lifespan the verification team also confirms this change in disturbance monitoring data is appropriate for future verification periods where L band radar satellite data are employed
"*A* Participatory Rural Appraisal (PRA) was conducted in 2020, and, per M-MON, applies during the current period. At the time the PRA was conducted in 2020 the project elected to conservatively assume that illegal logging had occurred, and used the PRA to determine penetration distance. For more details see previous monitoring report (Section 3.2.2.2.2) and Section 5.2.2.2 below.*"*	-The deviation does not impact the applicability of the methodology -Project additionality is not impacted -The baseline scenario of acacia plantation conversion remains unaffected as the deviation affects monitoring efforts -The deviation does not impact the applicability of the methodology as the intent is to monitor forest degradation as a result of illegal harvesting -The project did not complete a Participatory Rural Appraisal (PRA) to evaluate degradation during emission years 2012 and 2014 because the project assumed degradation took place. Please see first Verification Report and first Monitoring Report for additional details. The emissions resulting from the limited field survey following M-MON was included in the accounting for first monitoring period, year 2015. For this Monitoring Period, a PRA was conducted and the project made the conservative assumption to assume that illegal logging occurred and the PRA was used to determine penetration distance. The VVB confirmed that an adequate description and justification has been included in the MR for these PD deviations and they are appropriate.

"The annual Global Forest Watch data's publishing data varies from year to year and is often not available at time of monitoring report submission. When unavailable, the most conservative value is used instead. The 2020 Global Forest Watch data was available for this report so this deviation did not apply during this monitoring period. Additional detail is provided in Section 5.3.1."	-The deviation does not impact the applicability of the methodology as the intent is to monitor concession clearing activities -Project additionality is not impacted -The baseline scenario of acacia plantation conversion remains unaffected as the deviation affects leakage monitoring efforts -Project remains in compliance with the methodology as applying the most aggressive annual concession clearing value is the most conservative application of leakage monitoring data for the period -The VVB notes that for this Monitoring period the project employed current Global Forest Watch data -The VVB notes that following VM0007 accounting methods, monitored leakage must exceed baseline leakage for inclusion in final emission reduction estimates

3.4 Grouped Project

The Katingan Project is not a Grouped Project.

4 VERIFICATION FINDINGS

4.1 Project Implementation Status

The project activities and Monitoring Plan, as described in the validated PD, have been fully initiated. There are no remaining issues from the validation. As this is the sixth verification, activities have been implemented, and the verification team observed progress during the verification site visit compared to the previous verifications.

The verification team requested to visit examples of all activities during the various site inspections and subsequently confirmed the implementation of items related to climate. Climate objectives achieved included avoiding the emission of 6,430,873 tCO_2e.

For this period, the verification team confirmed the project has continued to build upon activities conducted during the last monitoring period and introduce new activities as required. The verification team witnessed on site on-going conservation and reforestation efforts focused on fire prevention and awareness training and seedling nursery development.

The possibility of any material discrepancies between project implementation and the PD was evaluated through the overall audit process, including interviews and documentary review. The implementation status of the monitoring plan and the completeness of monitoring, including the suitability of the implemented monitoring system, were confirmed through review of VM0007 adopted procedures and comparison of monitoring results against the validated PD.

There were no methodology deviations or PD deviations during this relating to monitoring period (please see Section 3.2). The GHG emission reductions generated by the project are not included in an emissions trading program other than the VCS program. The Project Proponent has not received or sought any other form of environmental credit as confirmed through a risk-based review by the verification team (see Section 3.1).

Sustainable development contributions are applicable to this project. The project actively supports many UN SDGs as reported in Table 3 of the MR, which was confirmed through site visit interviews and document review, and as part of the verification. The goals of the project activities - to protect and restore 149,800 hectares of peatland ecosystems; to offer local people sustainable sources of income; and to tackle global climate change - are clearly and directly related to increasing the well-being of the local communities. Verifiers concluded that the project has been implemented as described in the validated PD.

4.2 Safeguards

4.2.1 No Net Harm

Based on the conservation and restoration nature of the project, there are no potential negative environmental or socio-economic impacts expected. Project activities are designed to preserve and protect the forests in the project area. Additionally, the project has achieved CCB validation and verification.

Potential negative environmental or socio-economic impacts could occur if the project fails. Because of this, the project manages risks in a variety of ways and continuously works with the communities to ensure project activities continue after the project's lifetime.

The verification team did not observe any negative impacts during the site visit or desk review and is reasonable assured there are no expected negative environmental or socio-economic impacts.

4.2.2 Local Stakeholder Consultation

Local stakeholders were consulted and informed during the project design, and the project has implemented a participatory model to ensure there is ongoing communication with the community. The Project Proponent provided access to a database that contained various pictures and documents, including event and meeting logs and photographic evidence. Site visit observations further confirmed the Project Proponent has taken appropriate account of any input. The verification team concluded the project continues to communicate the necessary relevant and required project information to stakeholders during the monitoring period.

4.3 AFOLU-Specific Safeguards

There are no expected negative socio-economic impacts because of project activities. Both natural and human-induced risks to community well-being are lowered with the implementation of project activities. Potential risks identified by the Project Proponent include job loss for community members with at-risk occupations that do not align with the project's goals, such as gold miners and illegal loggers. The verification team confirms that these potential risks are mitigated by including those affected by job loss in trainings for new economic opportunities.

Ownership and land use rights were confirmed during validation and did not change during the verification period. This was confirmed through project documentation and site visit observations and interviews.

Ongoing communication and consultation with local stakeholders were evident in site visit observations and project documentation.

After a review of the assessment provided by the Project Proponent, the verification team agrees that there are generally no negative impacts on local stakeholders, and any potential risks are mitigated through project activities.

4.4 Accuracy of GHG Emission Reduction and Removal Calculations

Aster Global conducted an intensive review of all input data, parameters, formulae, calculations, conversions, statistics and resulting uncertainties and output data to ensure consistency with the VCS Standard, the validated PD, and VM0007. Data with associated conversion factors, formulas, and calculations were provided by the Project Proponent in spreadsheet format to ensure all formulae were accessible for review. The verification team recalculated subsets of the analyses to confirm correctness and assess if data transposition errors occurred to achieve a reasonable level of assurance and to meet the materiality requirements of the project, as required by the VCS Standard. The Project Proponent also provided answers to questions on calculations to ensure the verification team understood the approach and could confirm its consistency with VM0007 and the PD.

An overview of all the data and parameters monitored, along with verification team findings, are included in the table below. This is not an exhaustive list of all MRV parameters that are available for verification, but all were data checked as part of the comprehensive desktop review:

Data Unit / Parameter	Accuracy of GHG emission reductions and removals	*Whether methods and formulae set out in the PD have been followed*	*Appropriateness of default values*
$\Delta C_{WPS-REDD}$	Verification team confirmed the net GHG emissions in the REDD project scenario up to year t* were correct by recalculating and checking input values. The value was traced to the quantification of carbon stock changes for the baseline, project emission/removals and, ultimately net GHG emission reductions during the monitoring period.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed	Not applicable.
$\Delta C_{LK-AS,planned}$	The net greenhouse gas emissions due to activity shifting leakage for projects preventing planned deforestation was confirmed by the verification team through an independent check on source data from Global Forest Watch. As NewR exceeds AdefLK, leakage is negative and therefore excluded from accounting and therefore 0.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed	Not applicable.
ΔC_{LK-ME}	Net greenhouse gas emissions due to market-effects leakage is not	Not applicable.	Not applicable.

	applicable, as project activities do not include timber production and therefore 0.		
$\Delta C_{WPS-ARR}$	Net GHG emissions in the ARR project scenario up to year t* was found to be not applicable this period, as no ARR activities have begun and therefore 0.	Not applicable.	Not applicable.
ΔC_{LK-ARR}	Net GHG emissions due to leakage from the ARR project activity up to year t* is not applicable as no displacement of pre-project agricultural activities (LK-ARR) is expected. The project will be planting a relatively small area in comparison to adjacent communities' agroforestry activities. Further, the project is actively facilitating community forestry activities, which are by definition not leakage, therefore set to 0.	Not applicable.	Not applicable.
$GHG_{WPS-WRC}$	Net GHG emissions in the WRC project scenario up to year t* was confirmed through sourcing of values from the validated PD. Independent re-calculation was performed to confirm correctness of values applied and confirmed.	This parameter was reviewed and re-calculated using methods set forth in the methodology and the PD and confirmed.	Default factors were confirmed correctly obtained from the IPCC for Dissolved Organic Carbon (DOC).
GHG_{LK-ECO}	Net GHG emissions due to ecological leakage from the WRC project activity up to year t are not applicable this period. Ecological leakage was not applicable as no peat re-wetting activities occurred during the monitoring period and confirmed during the site visit and therefore set to 0.	Not applicable.	Not applicable.

Radar data was used to assess the forest cover during this monitoring period. The final selection of data sources applied to LU/LC change analysis for this monitoring period used ALOS PALSAR 2 radar data together with the visual assessments of high-resolution multispectral imagery from PlanetScope. ALOS PALSAR 2 and PlanetScope high-resolution imagery were confirmed to be a suitable data source to meet M-MON requirements. An accuracy assessment was run to ensure the overall accuracy was at least 90%. A total of 145 points were randomly created for both forest and non-forest classes and compared with high-resolution imagery from PlanetScope. The resulting classification had an accuracy of 93.75%. The accuracy assessment requirements per M-MON are satisfied. The audit team found this approach to be reasonable and independently confirmed accuracy assessment control points for correctness.

The audit team confirmed that analysis methods are in line with best practice for remote sensing. All data was confirmed to employ the appropriate resolution following M-MON requirements. The verification team visually reviewed the stratification analysis results independently and confirmed that data sources were found to be in good agreement.

The project has monitored degradation through implementation of Participatory Rural Appraisal (PRA) in 2019. The results of the survey indicated potential for illegal tree extraction, which was subsequently confirmed to occur and resulting in a formal degradation survey using methods from the previous degradation survey. The PRA was not completed for the 2020 period in accordance with the requirement of M-MON. The PRA will be completed again in 2022.

For this monitoring period, the project elected to conservatively include degradation and forego a T-SIG significance test. For all monitored project emissions included in accounting for this monitoring period the project elected to forego a T-SIG significance test. It was conservatively assumed that all emissions sources be included in carbon accounting.

Activity shifting leakage was confirmed through sourcing of the data from Global Forest Watch. As noted in Section 3.2.3 of the MR, tree cover loss was assumed a surrogate for deforestation. As NewR exceeds AdefLK, leakage is negative and therefore excluded from accounting. The audit team confirmed that this is reasonable. Project case leakage must exceed baseline leakage to be included in carbon accounting for activity shifting leakage.

Ecological leakage was not applicable as no peat re-wetting activities occurred during the monitoring period and confirmed during the site visit. No leakage following the displacement of pre-project agricultural activities (LK-ARR) is expected as the project will be planting a relatively small area in comparison to adjacent communities' agroforestry activities. Further, the project is actively facilitating community forestry activities, which are not leakage. ARR crediting is not claimed this period, but the project reports that ARR crediting is planned to start in 2021.

Uncertainty calculations for all project activities were reviewed at length as prescribed by the methodology and confirmed to result in a correct estimate of uncertainty. No uncertainty deduction was required for this monitoring period.

The methods and formulae set out in the PD for calculating baseline emissions, project emissions, and leakage were confirmed to have been followed. The total end of the 2020 monitoring period carbon stocks in all project activities for all relevant pools resulting from carbon stock changes were correctly quantified. Analysis of project inventory data used appropriate formulae, conversions, and parameters, supported by scientific literature. Where ranges of parameters or other types of formulaic uncertainty exist, appropriately conservative values were used in data analysis.

In conclusion, the quantification methods for GHG emission reductions and removals have been performed correctly and in accordance with the validated PD and VM0007 v1.5.

4.5 Quality of Evidence to Determine GHG Emission Reductions and Removals

During this verification assessment, the evidence provided by the Project Proponent was sufficient in both quantity and quality to support the determination of GHG emission removals reported by the project. Throughout the verification, the Project Proponent demonstrated a commitment toward conservativeness and took all measures appropriate to ensure the reliability of evidence provided.

The threshold for materiality with respect to the aggregate of errors, omissions and misrepresentations relative to the total reported GHG emission reductions and/or removals was met for this project as defined in the Verification and Sampling Plan. Materiality is a concept that errors, omissions and misrepresentations could affect the GHG reduction assertion and influence the intended users (ISO 14064-3:2006). As defined by VCS Version 4, the materiality is 1% for this large project.

The evidence provided to determine emission reductions reported in the MR included values, notations, units, and sources. This evidence has been cross-checked with supplied emission reduction calculation spreadsheets. The procedure for data recording, transfer and final transposition was also verified and complied with the monitoring plan outlined in the PD. The verification team confirmed through cross-checks that adequate monitoring mechanisms are in place where the required parameters need to be monitored.

The verification team was provided access to the project's central database where monitoring data is compiled for quantification steps and reporting. The database clearly organizes project methods and data for efficiency. In addition, the verification team was provided access to the project's cloud-based file storage facility. These tools ensure accurate information flow for monitoring efforts. Section 4.3.1 of the MR provides additional detail on project data management methods and structure.

Interviews conducted (oral evidence) are outlined in Section 2.3 above, and the final documents received from the Project Proponent supporting the determination of GHG removals can be viewed in Appendix A.

4.6 Non-Permanence Risk Analysis

The Katingan Peatland Restoration and Conservation Project Monitoring and Implementation Report utilized the AFOLU Non-Permanence Risk Tool to assess risk according to internal risk, external risk, natural risk, and mitigation measures for minimizing risk. The verification team reviewed the Non-Permanence Risk Report following VCS AFOLU Requirements Section 3.7.3 and confirmed that the project adheres to the requirements set out in the VCS AFOLU Non-Permanence Risk Tool. At all levels, the verification team evaluated the rationale, appropriateness, and justifications of risk ratings chosen by the Project Proponent. Each risk factor was thoroughly

assessed for conformance. Any identified NCR and/or CL findings related to the AFOLU Non-Permanence Risk Tool/Report are presented in Appendix B.

Risk Factor	Rationale & Quality	Conclusion
Internal Risks		
Project Management	The management team office was visited during the site visit and staff has not changed substantially since validation. The team includes individuals with the required experience, and the project has an adaptive management plan in place.	A risk rating of **-4** is appropriate given the rationale provided and all statements made are substantiated.
Financial Viability	Financial documents provided by the Project Proponent demonstrate that the project breakeven point is less than 4 years from the current assessment.	A risk rating of **0** is appropriate given the rationale provided.
Opportunity Cost	The project has provided a New Present Value (NPV) analysis demonstrating that the project scenario is 11.9% more profitable than the baseline scenario.	A risk rating of **0** is appropriate given the rationale provided.
Project Longevity	The project lifetime is 60 years and there are legal agreements that cover the project area for the entirety of the project.	A risk rating of **0** is appropriate given the rationale provided.
	Total Internal Risks	The project has a total Internal Risk score of **0.**
External Risks		
Land Tenure	The land is owned by the government with the project having project ownership.	A risk rating of **2** is appropriate given the rationale provided.

	MOUs were signed with the communities in the area.	
Community Engagement	Stakeholder consultation is ongoing throughout the project lifetime. The Project has been validated and verified against the CCB y Standard.	A risk rating of **-5** is appropriate given the rationale provided.
Political Risk	Indonesia has a governance score of -0.19.	A risk rating of **0** is appropriate given the rationale provided.
	Total External Risks	The project has a total External Risk score of **0.**
Natural Risks		
Natural Risk	Risk of natural fire, pests, disease, extreme weather, and geological factors are low and there are mitigation efforts in place.	A risk rating of **2** is appropriate given the rationale provided.
	Total Natural Risks	The project has a total Natural Risk score of **2.**
Overall Risk Rating = 2 **Non-Permanence Risk Rating = 10**		

In summary, Project Proponents have accounted for risk factors in a reasonable manner and have reached an overall risk rating that encompasses all risks of non-permanence. The project has applied the minimum Non-Permanence Risk Rating of 10%. As required, risk will be reassessed and given risk scores at each verification period.

5 VERIFICATION CONCLUSION

After review of all project information, procedures, calculations, and supporting documentation, Aster Global confirms that the monitoring conducted by the Project Proponent, along with the supporting MR, are accurate and consistent with all VCS Version 4, the validated PD, and the selected methodology (VM0007). Aster Global confirms that The Katingan Peatland Restoration and Conservation Project Monitoring and Implementation Report (v1.0 dated 05 August 2021) has been implemented in accordance with the validated PD.

Aster Global confirms all verification activities, including objectives, scope and criteria, level of assurance, validated PD implementation, and project MR adherence to VCS Version 4 (and all associated updates), as documented in this report are complete. Aster Global concludes without any qualifications or limiting conditions that The Katingan Peatland Restoration and Conservation Project Monitoring and Implementation Report (v1.0 dated 05 August 2021) meets the requirements of VCS Version 4 (and all associated updates) for the verification period/reporting period (VCS: 01 January 2020 – 31 December 2020; 1 year).

The GHG assertion provided by PT. Rimba Makmur Utama and verified by Aster Global has resulted in the GHG emissions reduction or removal of 6,430,873 tCO_2 equivalents by the project during the verification period/reporting period (VCS: 01 January 2020 – 31 December 2020 - 1 year). This value is gross of the 10% (643,087 tCO_2e) buffer withholding based on the non-permanence risk assessment tool. This results in 5,787,786 tCO_2e of credits eligible for issuance as VCUs.

Verification period: 01 January 2020 to 31 December 2020

Verified GHG emission reductions and removals in the above verification period:

Year	Baseline emissions or removals (tCO_2e)	Project emissions or removals (tCO_2e)	Leakage emissions (tCO_2e)	Net GHG emission reductions or removals (tCO_2e)	Buffer pool allocation	VCUs eligible for issuance
2020	6,791,056	360,183	0	6,430,873	643,087	5,787,786

APPENDIX A: DOCUMENTS RECEIVED FROM PROJECT PROPONENT

Name	Received
2021-07-08 Katingan NPV Analysis_60-Year Projection_Updated to end-2020.xlsx	7/19/2021
2021-07-08 Political Risk_ World Bank Indicators_VCS_NPRA.xlsx	7/19/2021
2021-07-19 Katingan Financial Model_60-Year Projection_Updated to end-2020.xlsx	7/19/2021
CMO-Pink-Sheet-July-2021.pdf	7/19/2021
Katingan Project Sixth Monitoring Report 2020.docx	7/19/2021
MR_2020_Appendix_2_Climate_MRV_Tracker.xlsx	7/19/2021
MR-2020 Appendix_1_NPRA.docx	7/19/2021
Summary Katingan Project Sixth Monitoring Report 2020_Eng.docx	7/19/2021
Summary Katingan Project Sixth Monitoring Report 2020_Id.docx	7/19/2021
wetransfer-3943bc.zip	7/19/2021
Extension Request Response - Katingan 22FEB2020.pdf	8/4/2021
Katingan Project Sixth Monitoring Report 2020.docx	8/4/2021
PALSAR_2021	8/4/2021
PLNET2021_Q1	8/4/2021
wetransfer_katingan-2020-remote-sensing-data_2021-08-04_1530.zip	8/4/2021
merge_HH_HV_res20clip_rep (1).tif	8/4/2021
merge_HH_HV_res20clip_rep.tif	8/4/2021
merge_HH_HV_res20clip_rep.tif.ovr	8/4/2021
mosaic_q1_2021_utm49s.aux	8/4/2021
MOSAIC_Q1_2021_UTM49S.tfw	8/4/2021
MOSAIC_Q1_2021_UTM49S.tif	8/4/2021
MOSAIC_Q1_2021_UTM49S.tif.aux.xml	8/4/2021
MOSAIC_Q1_2021_UTM49S.tif.ovr	8/4/2021
MOSAIC_Q1_2021_UTM49S.tif.xml	8/4/2021
AGB_stratification.zip	8/5/2021
ARR and agroforestry 2020.zip	8/5/2021

deforestation_2020.zip	8/5/2021
Master_Spreadsheet_2020(1).xlsx	8/5/2021
PLD_Stratification_2020.zip	8/5/2021
Monitoring_Result_2020(1).xlsx	2021-09-13 (from database)
17010.04_Katingan_Round1_Findings_Response 2021-10-25.xlsx	10/26/2021
Katingan Project Sixth Monitoring Report 2020_Revised 26-10-2021.pdf	10/26/2021
MR-2020 Appendix_1_NPRA v4.docx	10/26/2021
PALSAR_Accuracy_Assessment_2020	10/26/2021
PALSAR_Accuracy_Assessment_2020.zip	10/26/2021
accuracy assesment 2020.xlsx	10/26/2021
points_forest.cpg	10/26/2021
points_forest.dbf	10/26/2021
points_forest.prj	10/26/2021
points_forest.sbn	10/26/2021
points_forest.sbx	10/26/2021
points_forest.shp	10/26/2021
points_forest.shp.xml	10/26/2021
points_forest.shx	10/26/2021
points_nonforest.cpg	10/26/2021
points_nonforest.dbf	10/26/2021
points_nonforest.prj	10/26/2021
points_nonforest.sbn	10/26/2021
points_nonforest.sbx	10/26/2021
points_nonforest.shp	10/26/2021
points_nonforest.shp.xml	10/26/2021
points_nonforest.shx	10/26/2021
2021-10-25 Katingan NPV Analysis_60-Year Projection_Updated to end-2020 revised.xlsx	11/3/2021
DPL_17010.04_Katingan_Round2_Findings.xlsx	12/6/2021
Katingan Project Sixth Monitoring Report 2020_Revised 06-12-2021.docx	12/6/2021
Leakage_data	12/6/2021
MR 2020 Appendix 1 NPRA v4.docx	12/6/2021
hansen_data_GFW.tfw	12/6/2021
hansen_data_GFW.tif	12/6/2021
hansen_data_GFW.tif.aux.xml	12/6/2021

hansen_data_GFW.tif.ovr	12/6/2021
hansen_data_GFW.tif.xml	12/6/2021
leakage_2020.xlsx	12/6/2021
Wood_Fiber_Concessions_HT.cpg	12/6/2021
Wood_Fiber_Concessions_HT.dbf	12/6/2021
Wood_Fiber_Concessions_HT.prj	12/6/2021
Wood_Fiber_Concessions_HT.sbn	12/6/2021
Wood_Fiber_Concessions_HT.sbx	12/6/2021
Wood_Fiber_Concessions_HT.shp	12/6/2021
Wood_Fiber_Concessions_HT.shp.xml	12/6/2021
Wood_Fiber_Concessions_HT.shx	12/6/2021
Katingan Project Sixth Monitoring Report 2020_Revised 16-12-2021.docx	12/16/2021

APPENDIX B: FINDINGS

Item Number	1
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.1.2 Projects shall apply methodologies eligible under the VCS Program. Methodologies shall be applied in full, including the full application of any tools or modules referred to by a methodology, noting the exception set out in Section 3.13.1. The list of methodologies and their validity periods is available on the Verra website.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR, Section 1.8
Aster Global Initial Findings - Round 1 (27 September 2021)	This was confirmed in validation. VM0007 is approved under the VCS Program. However, Section 1.8 of the MR states the project is applying the "latest" version of the methodology, when a newer version has been approved.
Round 1 NCR/CL/OFI (27 September 2021)	OFI: In the MR, please change the wording of "latest" to "previous" for clarity.
Round 1 Response from Project Proponent (26 October 2021)	We have edited the wording in section 1.8 into "the previous"
Note From Project Proponent	Section 1.8
Aster Global Findings - Round 2 (22 November 2021)	Section 1.8 has been revised for clarity and accuracy to state "The Katingan Project applies the previous version of approved VCS methodology VM0007 (version 1.5), including all applicable modules as detailed in this report." This item is addressed.

Item Number	2
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.1.3 Projects and the implementation of project activities shall not lead to the violation of any applicable law, regardless of whether or not the law is enforced.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	N
Evidence Used to Assess	MR

Aster Global Initial Findings - Round 1 (27 September 2021)	During the previous reporting period, the project's Monitoring Report (MR) listed 50 different laws and regulations that are relevant to project activities. The list of the laws affecting the project and its activities was provided to the verification team, and assurances were made that the project was acting within these laws. However, this list was not noted in the current 2020 MR.
Round 1 NCR/CL/OFI (27 September 2021)	CL: In the MR, please include a list of relevant laws to which the project is adhering for the 2020 period.
Round 1 Response from Project Proponent (26 October 2021)	The lists are now provided on section 2.4, and are fully update to the end of 2020.
Note From Project Proponent	See section 2.4
Aster Global Findings - Round 2 (22 November 2021)	The verification team noted the newly added Section 2.4, which contains an updated list of national and local laws relevant to the project through 2020. The list of laws appears robust and compares to those listed in previous verification periods. Non-compliance with any laws was not noted during verification review nor the field visit. Thus, the verification team is assured the project activities are not leading to a violation of applicable laws. However, the Table of Contents does not appear to be updated to include Section 2.4.
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please update the Table of Contents.
Round 2 Response from Project Proponent (06 December 2021)	Table of Contents have been updated
Aster Global Final Findings	The latest version of the MR now includes section 2.4 in the Table of Contents. No further actions is needed. This item is addressed.

Item Number	3
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.2.15 Where an event occurs that is likely to qualify as a loss event (see the VCS Program document Program Definitions for definition of loss event), the project proponent shall notify Verra within 30 days of discovering the likely loss event. Where VCUs have been previously issued, a loss event report shall be prepared and submitted to the Verra registry, as follows:
Applicability to Project (Y or N/A)	Y

Requirement Met (Y, N or Pending)	Pending
Evidence Used to Assess	MR, 2.1.5
Aster Global Initial Findings - Round 1 (27 September 2021)	MR Section 2.1.5: "Despite these efforts, in 2020, 261.17 ha of the project area was deforested by illegal logging during the monitoring period. The emissions from this loss are accounted for in Section 4. In line with methodology requirements, emissions losses from degradation (short of deforestation) are accounted for in every other year, and so will be assessed for the period 2020-2021 at the end of the 2021 monitoring period." Although 261.17 hectares were deforested by illegal logging in 2020, this is likely not considered a loss event by VCS definitions, as the project totals over 149,800 hectares. However, it is unclear where the project has completed the analysis of whether this amounted to more than 5% of previously verified emissions reductions. No other losses were reported or observed. This was further confirmed during the site visit.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please complete and provide an analysis of whether the illegal deforestation (261.17 hectares) constituted less than 5% of previously verified emissions reductions.
Round 1 Response from Project Proponent (26 October 2021)	The total previously verified emission reductions is 32,149,391. The emissions due to illegal logging in the 2020 monitoring period were 91,334, which is 0.28% of the previously verified emission reductions.
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	The audit team confirmed the calculation for "91,334". Further, the verification team located the verified VCUs from each previous verification report to confirm the previous VCU value. Since the calculated loss value is well under the 5% threshold, this item is addressed.

Item Number	4
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.4.3 The project proponent shall use the VCS Monitoring Report Template or an approved combined monitoring report template available on the Verra website, as appropriate, and adhere to all instructional text within the template.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	N

Evidence Used to Assess	MR
Aster Global Initial Findings - Round 1 (27 September 2021)	It appears the project is not using the most updated VCS MR template.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please ensure the most recent VCS MR template is being used.
Round 1 Response from Project Proponent (26 October 2021)	The MR was written using the latest template
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	The Project appears to be using the MR template from VCS V3.4, as noted on the cover page and footers. The latest template is V4.0 from the Verra website located here: https://verra.org/wp-content/uploads/2019/09/VCS-Monitoring-Report-Template-v4.0.docx
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please ensure the most recent VCS MR template is being used.
Round 2 Response from Project Proponent (06 December 2021)	The most recent template is being used. There was a problem with the footers in the first couple of sections (they had been copied across from the old version); it has been fixed now.
Aster Global Final Findings	The audit team confirms that the correct template is used. However, the footers have not been corrected and still state v3.4. A subsequent email was sent to the Project Proponent, and they provided a revised MR using the correct version. This item is addressed.

Item Number	5
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.10.4 WRC projects shall demonstrate that:
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Pending
Evidence Used to Assess	MR
Aster Global Initial Findings - Round 1 (27 September 2021)	It is unclear under which of the following two categories the project falls, and if the significance of associated GHG emissions has been quantified.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please clarify under which category the project activity falls and if the significance of associated GHG emissions has been quantified.

Round 1 Response from Project Proponent (26 October 2021)	[1] For the project scenario, few parts the project area will be affected by the drainage located outside the project area. Buffer zone agreements with the surrounding stakeholders have been established to ensure that drainage outside the project area would not cause significant hydrological impacts inside the project area or the area eligible for crediting. [2] During this monitoring period, and as per the project's implementation plan the project did not initiate rewetting activities. Therefore, ecological leakage (LK-ECO) is deemed zero.
Note From Project Proponent	[1] PDD Page 91, [2] MR report Section 5.3.3 Page 115
Aster Global Findings - Round 2 (22 November 2021)	The MR briefly details the 1 km buffer zone around the conservation areas of stratum P1L1D0CF in Table 7. Page 91 of the PDD and Section 5.3.3 of the MR were noted, but it is still unclear how the established buffer zone was monitored. Further, it is unclear where details of the binding buffer zone agreements with stakeholders are located or described.
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please address the Finding.
Round 2 Response from Project Proponent (06 December 2021)	New canals inside and outside the project area, especially in buffer zone area, were monitored periodically using satellite images and field surveys. In MR 2020, section 4.3.3.3 reported that there was no new canals inside the project area nor in buffer zone. Agreements were included in the MoUs signed between the villages and the project, stating that the communities will support restoration activities conducted by the project. While we don't have MoUs with the palm oil plantations, it is clear that their palm oil concession boundaries are more that 1 km away from the project boundaries. These plantations also have to comply to government regulations prohibiting peat drainage (Government Regulation no 57 2016 article 26 1(b))
Aster Global Final Findings	The audit team confirmed via visual inspection of the recent Google Earth (Imagery data 09/21/2021) that no new canals were present inside and outside the project area, especially in buffer zone. The audit team also confirmed that the WB area for the current monitoring period has not been changed from "Master_Spreadsheet_2019.xlsx". This item is closed.

Item Number	6
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	1) There is no hydrological connectivity to adjacent (non-project) areas; or
Applicability to Project (Y or N/A)	Y

Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR
Aster Global Initial Findings - Round 1 (27 September 2021)	See above.
Round 1 NCR/CL/OFI (27 September 2021)	See above.
Round 1 Response from Project Proponent (26 October 2021)	
Note From Project Proponent	[1] PDD Page 91, [2] MR report Section 5.3.3 Page 115
Aster Global Findings - Round 2 (22 November 2021)	This criterion is not applicable, as it appears the project is adhering to the criterion in Section 3.10.4, 3)a. This specific item is addressed.

Item Number	7
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	2) It is not possible for hydrologically connected areas to have a negative impact on the hydrology within the project area that could cause a significant increase in GHG emissions; or
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR
Aster Global Initial Findings - Round 1 (27 September 2021)	See above.
Round 1 NCR/CL/OFI (27 September 2021)	See above.
Round 1 Response from Project Proponent (26 October 2021)	
Note From Project Proponent	[1] PDD Page 91, [2] MR report Section 5.3.3 Page 115
Aster Global Findings - Round 2 (22 November 2021)	This criterion is not applicable, as it appears the project is adhering to the criterion in Section 3.10.4, 3)a. This specific item is addressed.

Item Number	8
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.14.4 All GHG emission reductions shall be converted to CO2e using 100-year global warming potential (GWP) values. For GHG emission reductions occurring on or after 1 January 2021, all ex-ante estimates and ex-post calculations shall be converted to CO2e using GWP values from the IPCC Fifth Assessment Report (AR5). 9 See Table 2 for the GWP values for methane and nitrous oxide established in AR5.10 For GHG emission reductions occurring on or before 31 December 2020, all ex-ante estimates and ex-post calculations may be converted to CO2e using either the GWP values from the IPCC Fourth Assessment Report (AR4) or those from AR5. Projects that complete validation on or before 31 July 2021 may use GWP values from AR4 for ex-ante emission reduction estimates, though such projects shall use GWP values from AR5 for ex-post calculations. Table 2: Selected GWP values from the IPCC Fifth Assessment Report, Table 8.A.1 Eligible GHG Chemical Formula 100-year GWP value Carbon dioxide CO2 1 Methane CH4 28 Nitrous oxide N2O 265
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR
Aster Global Initial Findings - Round 1 (27 September 2021)	As this new VCS Standard requirement was issued post verification period, it is likely GWP values from the Fourth Assessment Report were utilized (see "FIRE_WRC_2020" tab, cell C19 of Master Spreadsheet 2020, where N2O is 310). However, the VVB is noting this new requirement to the Project Proponent for their use and implementation, if desired.
Round 1 NCR/CL/OFI (27 September 2021)	OFI: Please note the revised N2O GWP potential value of 265 "may" be used in ex post calculations, if desired.
Round 1 Response from Project Proponent (26 October 2021)	Combustion factors for N2O will be used if deforestation from biomass burning occurs in the project scenario. However, no fires occurred and hotspot detected inside the project area in 2020. GWP AR5 will be used for next monitoring period (2021)
Note From Project Proponent	See PD Table 27 Page 93 and MR 2020 Section 5.2.2.3 Page 99
Aster Global Findings - Round 2 (22 November 2021)	As there were no fires in the 2020 period, the N2O combustion factor was not applicable. The project states it will use the conversion factor of 265 from the Fifth Assessment Report for the 2021 monitoring period, in line with the new VCS requirement. This item is addressed.

Item Number	9

VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.16.4 The project proponent shall take due account of all and any input received during the local stakeholder consultation and through ongoing communications, which means it will need to either update the project design or justify why updates are not appropriate. The project proponent shall demonstrate to the validation/verification body what action it has taken in respect of the local stakeholder consultation as part of validation, and in respect of ongoing communications as part of each subsequent verification.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR
Aster Global Initial Findings - Round 1 (27 September 2021)	The project maintains a thorough database recording all events. The verification team reviewed the database for Subsection 2.2.1 evidence, but none was noted. The verification team did note General, Technical and Implementation Guidelines but was looking for proof of implementation (meeting logs, etc.).When clicking on the Attachments in the final column under "Events," the files were not supported and could not be opened.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please review the Finding and provide evidence of stakeholder consultation and ongoing communications which may have resulted in input from stakeholders. Please demonstrate where "due account" was taken of any input received.
Round 1 Response from Project Proponent (26 October 2021)	Consultations with various stakeholders have been conducted with taking into account every feedback seriously. For example, one of the cases was mentioned on section 2.2.1 (third paragraph, point no 2) about the development of MoU and partnership agreement, that involved continuous consultations. The links into the attachment files under "Events" have been repaired. Please see these links for an example of consultation series being taken place at Asem Kumbang village to develop a partnership agreement: http://database.ptrmu.com/validation2021/view_lampiran_docstorelist.php?showmaster=view_events&fk_ID=9334 ; http://database.ptrmu.com/validation2021/view_lampiran_docstorelist.php?showmaster=view_events&fk_ID=9335 : http://database.ptrmu.com/validation2021/view_lampiran_docstorelist.php?showmaster=view_events&fk_ID=9336
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	The links to various pictures and documents, including event logs, etc., were corrected, and the verification team now has access. It is evident on-going communications are occurring and due account has been taken. This item is addressed.

Item Number	10

VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.16.12 The project proponent shall identify likely natural and human-induced risks to local stakeholder well-being expected during the project lifetime and outline measures needed to mitigate these risks.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR, 2.2.1
Aster Global Initial Findings - Round 1 (27 September 2021)	The verification team was not able to locate the comprehensive list of likely natural and human-induced risks to local stakeholder well-being expected during the project lifetime and an outline of measures used to mitigate these risks during the monitoring period.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please provide a discussion of natural and human-induced risks to local stakeholders that may have occurred during the current monitoring period and an outline of measures used to mitigate these risks.
Round 1 Response from Project Proponent (26 October 2021)	As the project is a conservation and restoration project, the project activities have lowered both the natural and human-induces risks to the community well-being. A discussion has been added on section 2.1 No Net Harm, second paragraph
Note From Project Proponent	Section 2.1, second paragraph
Aster Global Findings - Round 2 (22 November 2021)	Section 2.1 of the MR now states that the project is not expected to increase any natural or human-induced risks to the community. It provides examples of how any risks (like potential job loss) are mitigated by project activities. The verification team agrees with the assessment that there are generally no increases in risks. This item is addressed.

Item Number	11
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.16.13 The project proponent shall identify the risks for local stakeholders to participate in the project, including project design and consultation. Risks should include trade-offs with food security, land loss, loss of yields and climate change adaptation. The project shall be designed and implemented to avoid trade-offs and manage the identified risks to local stakeholders.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR, 2.2.1
Aster Global Initial Findings - Round 1 (27 September 2021)	The verification team was not able to locate where these risks and trade-offs were clearly identified in project documentation in accordance with VCS Standard Version 4 requirements.

Round 1 NCR/CL/OFI (27 September 2021)	CL: Please provide a discussion of risks and trade-offs to participate in the project, and show how the project has been implemented to avoid trade-offs and manage the identified risks to local stakeholders.
Round 1 Response from Project Proponent (26 October 2021)	Trade -off might be faced especially by community members with at-risk occupation (illegal loggers, illegal miners). See section 2.1 No Net Harm, at the third paragraph.
Note From Project Proponent	Section 2.1, third paragraph
Aster Global Findings - Round 2 (22 November 2021)	Section 2.1 of the MR now includes a discussion of trade-offs mainly related to job loss, but describes how they have been addressed by including affected community members in the training and formation of community-identified new economic opportunities. This item is addressed.

Item Number	12
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.16.14 The project proponent or any other entity involved in project design or implementation shall not be involved in any form of discrimination or sexual harassment.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR, 2.2.2
Aster Global Initial Findings - Round 1 (27 September 2021)	The MR states the project "will not be involved in or complicit in any form of discrimination or sexual harassment during the process of project design and implementation."
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please update the statement to show how this has been achieved during the current monitoring period.
Round 1 Response from Project Proponent (26 October 2021)	Despite the project conforms to all relevant Indonesian laws, the project also takes seriously any form of discrimination or sexual harassment, as emphasized on the staff manual handbook (company regulation handbook) chapter XII Harassment. The handbook is available upon request. A workshop was also conducted in 2020 by the HR department to refresh staff's understanding about this policy (see evidence on http://database.ptrmu.com/validation2021/view_lampiran_docstorelist.php?showmaster=view_events&fk_ID=9194). During this monitoring period, no discrimination or sexual harassment were found or reported. New clarifications have been made at the end of the paragraph on section 2.2.2
Note From Project Proponent	See section 2.2.2

Aster Global Findings - Round 2 (22 November 2021)	Section 2.2.2 of the MR now states "The Katingan Project conforms to all relevant Indonesian laws and regulations throughout its lifetime, and thus will not be involved in or complicit in any form of discrimination or sexual harassment during the process of project design and implementation. The prohibition of discrimination or sexual harassment was also emphasized on the manual staff handbook and supplied to each staff during staff onboarding by the HR department. This handbook defines and prohibits all forms of sexual harassment and states that in the case of all forms of harassment that the regulation extends not only to other staff members but to all beneficiaries and counterparts of the project. No staff have been sanctioned or infringement of these regulations, and no such grievance related to these have been reported." None was observed on-site, and the verification team is reasonably assured this criterion has been sufficiently met. This item is addressed.

Item Number	13
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.16.17 The project proponent shall take all appropriate measures to communicate and consult with local stakeholders in an ongoing process for the life of the project. The project proponent shall communicate: 2) The risks, costs and benefits the project may bring to local stakeholders.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	MR Section 2.2.1
Aster Global Initial Findings - Round 1 (27 September 2021)	The Katingan Project has conducted a series of stakeholder consultations throughout the project lifetime. Over 200 separate events were held during this monitoring period, and evidence of these meetings was provided to the verification team through access to the project's database. However, it is unclear where the specific risks, costs and benefits the project may bring to local stakeholders was communicated during the current monitoring period.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Though the MR describes how the risks, costs and benefits the project may bring to local stakeholders were communicated in project design, please include updates for how these communications were ongoing during implementation in the current monitoring period.

Round 1 Response from Project Proponent (26 October 2021)	Risks, costs and benefits in general were simultaneously discussed during the development and renewal of MoU with the community of each village. The MoU renewal that were undertaken every 3 years, showed how the risks and benefits were well communicated and discussed, and resulting in the new MoU being signed between the village and the project. Risks and benefits related specific activities were also informed and discussed prior to the execution of these activities. For example, the implementation of sustainable farming/agroecological farmer school that were promoted by the project always involves discussion with the farmer members about risks, cost, benefits that may appear from this farming practice.
Note From Project Proponent	Section 2.2.1, last paragraph
Aster Global Findings - Round 2 (22 November 2021)	The evidence of MoU discussions is available on the project database. Further, the verification team is reasonably assured that the stakeholders/villages would not have signed the MoUs if the risks, costs and benefits had not been thoroughly discussed. This item is addressed.

Item Number	14
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	3.16.18 The project proponent shall develop a grievance redress procedure to address disputes with local stakeholders that may arise during project planning and implementation, including with regard to benefit sharing. The procedure shall include processes for receiving, hearing, responding and attempting to resolve grievances within a reasonable time period, taking into account culturally-appropriate conflict resolution methods. The procedure and documentation of disputes resolved through the procedure shall be made publicly available. The procedure shall have three stages:
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	PD; MR
Aster Global Initial Findings - Round 1 (27 September 2021)	The Formal Feedback and Grievance Redress Procedure is outlined in the PD. Section 2.2.4 of the MR states that the formal procedure was used five times throughout the monitoring period. However, no documentation of the handling of these grievances was available on the project database.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please provide documentation of the handling of grievances received during the monitoring period.

Round 1 Response from Project Proponent (26 October 2021)	A flow chart describing the procedure of grievance handling was added on section 2.2.4. The log of grievances on the monitoring period was also uploaded on the database (under tab menu "grievance"), with in total 37 grievances have been received in 2020. The statement of "five times formal procedures" was a redactional mistake mentioned on the current MR. There was no formal procedure taken place in 2020, as all grievances could be addressed successfully on the ground.
Note From Project Proponent	See section 2.2.4
Aster Global Findings - Round 2 (22 November 2021)	Section 2.2.4 states "During the monitoring period, 37 grievances were reported, and all of these questions have been addressed successfully without the formal grievance process The issues and resolutions have been logged in the database and disseminated to the affected individuals and communities." The verification team reviewed the database-logged grievances, which appeared to be answered in accordance with the grievance redress procedure. It was still unclear where evidence exists to show how they were disseminated to the affected individuals.
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please provide evidence to demonstrate how the resolved grievances were disseminated to the affected individual.
Round 2 Response from Project Proponent (06 December 2021)	Since the 37 grievances in 2020 were all received verbally during formal and informal meetings and the staff were able to address the questions directly on the spot during that meetings, no further documentation was made/disseminated.
Aster Global Final Findings	The audit team understands that the grievances received in 2020 were all addressed verbally during the meetings, and therefore there is no formal documentation of the complaints. The VCS requirement in Section 3.16.18, 1) requires the project proponent to provide a "written" response. As the grievances are documented in the database, this can be considered "written" for all intents and purposes. Since the grievances were addressed immediately as they were raised at the meetings, this can be considered culturally appropriate. However, the verification team is requesting a Forward Action Request that grievances, when documented, are provided a written response in line with the perceived intent of the VCS requirement.

Item Number	15
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	This document shall be updated from time-to-time and readers should ensure that they are using the most current version of the document.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	N

Evidence Used to Assess	MR-2020 Appendix_1_NPRA.docx
Aster Global Initial Findings - Round 1 (27 September 2021)	A Non-Permanence Risk Assessment was provided to the audit team, however the document uses Version 3.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please provided a Non-Permanence Risk Report updated to Version 4.
Round 1 Response from Project Proponent (26 October 2021)	The revised Non-Performance Risk Report has been updated to Version 4
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	The audit team reviewed the revised Non-Permanence Risk Report and notes that it is still using the Version 3 template.
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please provide a Non-Permanence Risk Report using the VCS Version 4.0 template.
Round 2 Response from Project Proponent (06 December 2021)	We have revised the Non-Permanence Risk Report using the VCS 4.0 template
Aster Global Final Findings	The audit team confirms that the Non-Permanence Risk Report is now using the v4.0 template. This item is addressed.

Item Number	16
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	Table 2 Financial Viability (FV) d) Project cash flow breakeven point is less than 4 years from the current risk assessment
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	N
Evidence Used to Assess	MR-2020 Appendix_1_NPRA.docx
Aster Global Initial Findings - Round 1 (27 September 2021)	The NPV Analysis provided to the audit team shows the project reaching breakeven at year 4, which is less than 4 years from the current risk assessment. However, the audit team was unable to locate where the Total Carbon Sold value in the NPV Analysis worksheet is derived from.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please clarify how the Total Carbon Sold value (443, 539,774 TCO2) in the NPV Analysis worksheet was calculated.

Round 1 Response from Project Proponent (26 October 2021)	The number has been revised to 442,757,577 which is the total carbon sold from 2010-2020 and projected sales from 2021 to 2070. The source of the information is the excel spreadsheet titled "2021-07-19 Katingan Financial Model 60 Year Projection Updated to end 2020.xls" sent to Aster Global July 19, 2021
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	The audit team reviewed the spreadsheets titled: "2021-10-25 Katingan NPV Analysis_60-Year Projection_Updated to end-2020 revised.xlsx" and "2021-07-19 Katingan Financial Model_60-Year Projection_Updated to end-2020.xlsx" but notes that the Total Carbon Sold value of 442,757,577 does not use the actual estimated Verified Carbon Units for 2020.
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please provide updated financial analysis documents using the actual VCUs calculated for 2020 and demonstrating the project breakeven point.
Round 2 Response from Project Proponent (06 December 2021)	The actual VCU for 2020 has not been produced yet since the MR 2020 verification is not yet complete. The 2020 estimated VCU of 6,219,617.4 comes from the PD Section 5.6.6 Calculation of Verified Carbon Units, page 196. The models will be updated post verification once this number is confirmed
Aster Global Final Findings	The audit team understands that the financial model will be updated with actual VCUs for 2020 once the verification is complete. Based on the current model, project breakeven point is less than 4 years from the current assessment. This item is addressed.

Item Number	17
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	Table 3 Opportunity Cost d) NPV from the most profitable alternative land use activity is expected to be between 20% more than and up to 20% less than from project activities; or where baseline activities are subsistence-driven, net positive community impacts are demonstrated
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Pending
Evidence Used to Assess	MR-2020 Appendix_1_NPRA.docx
Aster Global Initial Findings - Round 1 (27 September 2021)	An NPV analysis was provided to the audit team demonstrating how the project scenario is 11.9% more profitable than the baseline scenario. The audit team notes that the commodity price for Palm Oil is listed as 725, but reported as 752 in the World Bank source provided.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please confirm the Commodity Price for Palm Oil.

Round 1 Response from Project Proponent (26 October 2021)	The Commodity Price for Palm Oil in the NPV analysis has been corrected to 752. This correction does not chance the fact that project scenario is 11.9% more profitable than the baseline scenario
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	The Commodity Price for Palm Oil in the NPV analysis has been corrected. This item is addressed.

Item Number	18
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	5.2.3 Duration of the Monitoring Periods Baseline projections must be annual and be available for each proposed future verification date.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Pending
Evidence Used to Assess	MR; PD
Aster Global Initial Findings - Round 1 (27 September 2021)	It is unclear where this is located.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please clarify where "Baseline projections must be annual and be available for each proposed future verification date" occurs in the MR.
Round 1 Response from Project Proponent (26 October 2021)	They are on section 5.1 of the MR, as well as in section 5.3 of the PD.
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	Although it would have been helpful if the previous response had specified exactly where this requirement was met, the verification team was able to locate the annual baseline projections in Tables 42, 44, 46, 47, 48 & 51 of the PD; and Tables 10, 13, 15, 17 & 20 of the MR. It can be assumed that because they are listed in the MR, that they are "available for each proposed future verification date." Further, the upcoming baseline revision will ensure these values are re-stated annually for future verification events. This item is addressed.

Item Number	19
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	5.2.3 Duration of the Monitoring Periods Data on baseline deforestation and degradation rates, as well as on the hydrological layout and climatic variables in the peatland areas,

	must be presented as well as data collection for future baseline revision.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Pending
Evidence Used to Assess	MR; PD
Aster Global Initial Findings - Round 1 (27 September 2021)	It is unclear where this is located.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please clarify where "Data on baseline deforestation and degradation rates, as well as on the hydrological layout and climatic variables in the peatland areas, must be presented as well as data collection for future baseline revision" occurs in the MR.
Round 1 Response from Project Proponent (26 October 2021)	They are on section 5.1 of the MR, as well as in section 5.3 of the PD.
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	It is unclear on the intent of this VM0007 item in relation to the MR reporting, especially the requirement the data "must be presented as well as data collection for future baseline revision." Since the items were presented and approved in the original PD and will be updated in the next verification period at baseline revision, this item can be considered addressed.

Item Number	20
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	5.1.1 Processing LU/LC Change Data The remotely sensed data collected must be prepared for analysis. Minimum pre-processing involves geometric correction and geo-referencing and cloud and shadow detection and removal.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Y
Evidence Used to Assess	4.3.3.1 Remote Sensing 5.1.2.2 Satellite Imagery Analysis, Katingan Project Sixth Monitoring Report 2020.docx

Aster Global Initial Findings - Round 1 (27 September 2021)	PlanetScope, ALOS PALSAR 2, and Landsat for the monitoring period went through specific pre-processing efforts. Remote sensing imagery (only PlanetScope and ALOS PALSAR 2) was provided for verification. Walkthrough call has not been done like previously.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please provide a walk-through to depict how you processed LU/LC change data.
Round 1 Response from Project Proponent (26 October 2021)	ALOS PALSAR 2 and PlanetScope data was used for the monitoring report (Landsat was only used occasionally for day to day monitoring activities). The PlanetScope data was a mosaic (Planet basemap) which was already pre-processed; Planet offers the option to obtain the data as surface reflectance. The mosaic was produced with data from a 3-month period (first quarter of 2021) therefore minimising the amount of clouds (besides, PALSAR 2 data is not affected by clouds). The PALSAR 2 image was purchased with a 2.1 processing level, which means that it was already georeferenced and geometrically corrected. The image was filtered to remove noise (Lee Sigma filter 7x7 window) and then classified. For the classification, first an image segmentation was applied and then a supervised classification (Random Forest) was used. The results of these 2 processes were combined to produce the forest/non forest map.
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	Upon reviewing the remote sensing imageries (PlanetScope and ALOS PALSAR2) and finding response, the verification team is reasonably assured that the pre-processing of LU/LC change meets the requirement set by the methodology. This item is addressed.

Item Number	21
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	5.1.2 Post-processing and accuracy assessment The overall classification accuracy of the outcome of the previous steps must be 90% or more.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Pending
Evidence Used to Assess	4.3.3.1 Remote Sensing, Katingan Project Sixth Monitoring Report 2020.docx
Aster Global Initial Findings - Round 1 (27 September 2021)	93.75% classification accuracy has been reported. However, the verification team was unable to locate the calculation that yielded the 93.75% classification accuracy.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please provide the classification exercise calculation for the verification team to reproduce.

Round 1 Response from Project Proponent (26 October 2021)	We are sending the shapefiles with the points used for the assessment (which were allocated at random) and the spreadsheet with the calculation.
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	Upon reviewing the shapefile and spreadsheet of the accuracy assessment, the verification team is reasonably assured the project meets the required criterion. However, the audit team notes that adding a separate section in the MR describing the accuracy assessment, including the confusion matrix and a map showing the accuracy assessment points over the project area, would provide some needed clarity in the MR.
Round 2 NCR/CL/OFI (22 November 2021)	OFI: Please review the Finding and provide the clarifying information in the relevant section of the report.
Round 2 Response from Project Proponent (06 December 2021)	A description of the accuracy assessment has been added to section 4.3.3.1
Aster Global Final Findings	The audit team noted that a description on accuracy assessment is added in section 4.3.3.1. The audit team is assured that this addresses Round 2 findings.

Item Number	22
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	6.1.3 STEP 3: All areas deforested by the baseline agent of deforestation must be monitored. Areas of deforestation may be anywhere in the host country. There is no requirement to track international leakage. See Equation 6 on Page 9.
Applicability to Project (Y or N/A)	Y
Requirement Met (Y, N or Pending)	Pending
Evidence Used to Assess	MR Section 5.3.1, Table 30 PDD Table 70
Aster Global Initial Findings - Round 1 (27 September 2021)	The verification team confirmed Equation 6 is equivalent to Equation 30 in the MR. Table 70 from the PDD remains unchanged in Table 30 of the MR. It is unclear how "the total area of monitored deforestation by the baseline agent of the planned deforestation in stratum i in year t (ha)" was calculated. Also, it appears D54 of tab "MRV Tracker - Supporting Detail" in the Monitoring Result 2020 spreadsheet does not equate to the combined values of Table 30 from the MR. Note the Greenpeace website link was not valid.

Round 1 NCR/CL/OFI (27 September 2021)	CL: Please clarify the source data for AdefLK,i,t, clarify the different values reported, and correct the Greenpeace web link.
Round 1 Response from Project Proponent (26 October 2021)	Table 70 from the PDD shows the NewRi,t values for each year, while table 30 of the MR shows the comparison between the NewRi,t and AdefLK,i,t values. As described in page section 5.3.1 of the MR, AdefLK,i,t was estimated using tree cover loss data from Global Forest Watch. There was a mistake in table 30 of the MR, the AdefLK,i,t values for 2018 were wrong; they have now been corrected according to the 2018 MR. The Greenpeace link refer to a concession shapefile which was used for the PDD and not for the MR (it was a mistake), it has been removed from the MR.
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	1) The Greenpeace website is excluded in the updated MR "Katingan Project Sixth Monitoring Report 2020_Revised 26-10-2021.pdf". 2) The update of Table 30 is confirmed. This is Table 29 in the updated MR "Katingan Project Sixth Monitoring Report 2020_Revised 26-10-2021.pdf". 1) & 2) items are closed. 3) Please provide the dataset referred (so, the two Global Forest Watch data) in "Section 5.3.1, Katingan Project Sixth Monitoring Report 2020_Revised 26-10-2021.pdf" and the associated calculations using that dataset. Please provide the revised "Monitoring_Result_2020(1)" spreadsheet, as the version on the database appears the same as the previously downloaded version.
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please address in line with findings.
Round 2 Response from Project Proponent (06 December 2021)	We are sending the data related to leakage. The "Monitoring_Result_2020" spreadsheet has not changed, since the mistake was in Table 30 of the MR, not in the "Monitoring_Result_2020" sheet.
Aster Global Final Findings	The audit team confirmed the receipt of GIS and imagery files referred in Section 5.3.1 and the associated calculations in "leakage_2020.xlsx". This item is addressed.

Item Number	23
VCS Standard VCS Version 4.1 Requirements Document 22 April 2021, v4.1	6.2 Data and Parameters Monitored The total area of deforestation by the baseline agent or class of agent of the planned deforestation in stratum i at time t (AdefLK,i,t)
Applicability to Project (Y or N/A)	Y

Requirement Met (Y, N or Pending)	N
Evidence Used to Assess	
Aster Global Initial Findings - Round 1 (27 September 2021)	More specifications are needed to confirm how this parameter was derived.
Round 1 NCR/CL/OFI (27 September 2021)	CL: Please address in line with findings.
Round 1 Response from Project Proponent (26 October 2021)	As described in page section 5.3.1 of the MR, AdefLK,i,t was estimated using tree cover loss data from Global Forest Watch and the shapefile of Indonesia forest concessions also from GFW. The total deforestation occurred in all HTI concessions in the country was estimated and reported.
Note From Project Proponent	
Aster Global Findings - Round 2 (22 November 2021)	Please provide the dataset referred (so, the two Global Forest Watch data) in "Section 5.3.1, Katingan Project Sixth Monitoring Report 2020_Revised 26-10-2021.pdf" and the associated calculations using that dataset.
Round 2 NCR/CL/OFI (22 November 2021)	CL: Please address in line with findings.
Round 2 Response from Project Proponent (06 December 2021)	We are sending the data.
Aster Global Final Findings	The audit team confirmed the receipt of GIS and imagery files referred in Section 5.3.1 and the associated calculations in "leakage_2020.xlsx". This item is closed.