

## **CORSIA Eligible Emissions Unit Programme Change Notification Form**

*Version 2.0; Effective from 10 January 2022*

### **Verified Carbon Standard (VCS) Program (March 3<sup>rd</sup>, 2025)**

#### **PART A: ABOUT THIS FORM**

Once an emissions unit programme is approved by the ICAO Council as eligible to supply CORSIA Eligible Emissions Units, the programme commits to notify the ICAO Secretariat of any “material changes” to its “Scope of Eligibility”, *including any unilateral decision to revoke or invalidate a class of CORSIA-eligible emission units within the programme’s Scope of Eligibility*, for further review<sup>1</sup> by the Technical Advisory Body (TAB) that advises the ICAO Council on the eligibility of emissions units for use in CORSIA.

*TAB Procedures*<sup>2</sup> defines a “Material Change” as an update to a programme’s *Scope of Eligibility* that would alter the programme’s response(s) to any questions in its application form and further inquiries from the TAB over the course of the programme’s assessment, including programme-initiated unit invalidation and/or revocation. (paragraph 7.3.).

*TAB Procedures* defines a CORSIA Eligible Emissions Unit Programme’s *Scope of Eligibility* as “the extent and limits of a programme’s eligibility, which is defined, assessed, and granted on the basis of the programme-level governance structures, measures or mechanisms, and procedures that programmes have in place at the time of their initial submission of application materials to the ICAO Secretariat; and any updates to these procedures that are communicated to TAB during the course of its assessment; and as defined in the general or programme-specific eligibility parameters set out in TAB’s recommendations” (paragraph 4.5).

Annually, TAB will indicate deadlines for programmes to notify ICAO of any such material changes. These notifications should be submitted by the next deadline after the material change has occurred; the upcoming deadlines are indicated in the version of the *TAB Work Programme and Timeline* document that is currently effective. This document is available on the CORSIA website<sup>3</sup>.

Material changes should be disclosed using this form. TAB will then consider the need for any further review, in line with *TAB Procedures*. If TAB identifies that the change is indeed material and should be further assessed, it will invite public comments on the consistency of the proposed revision with the Emissions Unit Criteria (EUC) and *Guidelines for Criteria Interpretation*. The ICAO Secretariat will inform the programme of TAB’s decision to more deeply assess the programme’s modification, or its confirmation that the modification is consistent with the CORSIA EUC. The programme will also be

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<sup>1</sup> Any unilateral programme-initiated invalidation and/or revocation of a class of CORSIA-eligible emissions units is considered to be a “material change” to the CORSIA-eligible programme’s *Scope of Eligibility*. Such units are regarded as immediately ineligible for use for CORSIA purposes in light of absence of assurance that it will administer the units consistent with its *Terms of Eligibility*. The units will be reflected as exclusions from the programme’s *Scope of Eligibility* in the ICAO Document “CORSIA Eligible Emissions Units” upon Council’s confirmation of the update. Once a programme notifies ICAO that it wishes to exclude a class of units from its eligibility scope, and in order to provide the most accurate and timely information available prior to Council’s confirmation of the update, the ICAO Document “CORSIA Eligible Emissions Units” will identify in a footnote that the programme requested a change to its *Scope of Eligibility* to exclude certain units subject to a decision by the ICAO Council and, if possible, clearly specify the affected class of units. The programme’s *Scope of Eligibility* that is deemed valid by the ICAO Council will be reflected in the ICAO Document titled “CORSIA Eligible Emissions Units” in a timely manner

<sup>2</sup> In *TAB Procedures*, paragraphs 4.5, 7.3 and 8.2 – 8.6 in particular pertain to the *Scope of Eligibility* and notification and assessment of material changes.

<sup>3</sup> The *TAB Work Programme and Timeline* and *TAB Procedures* documents are available here:  
<https://www.icao.int/environmental-protection/CORSIA/Pages/TAB.aspx>

informed of the date by which the review will be completed. The length of the review should be determined by the severity and scale of the material change.

## **PART B: PROGRAM CHANGE NOTIFICATION(S)**

The Programme is requested to provide the following information regarding any modification(s) to the programme's *Scope of Eligibility* that could constitute a "material change" as described above. Report each change separately by duplicating (copying and pasting) the table below as needed.

**Programme name:** Verified Carbon Standard (VCS)

<b>CHANGE 1: New procedure to change methodologies and requantify VCUs</b>
<b>a. Description of the change (e.g., the addition, modification, deletion undertaken):</b>
<p>Verra released a <a href="#">Methodology Change and Requantification Procedure</a>. This new procedure enables projects registered in the Verified Carbon Standard (VCS) Program to do the following:</p> <ul style="list-style-type: none"> <li>• Update the methodology or methodology version they are using for past verification periods</li> <li>• Update the respective past monitoring and verification reports to align with the methodology/methodology version to which a project updated</li> <li>• Requantify the greenhouse gas (GHG) emission reductions and carbon dioxide removals (reductions and removals) from past verification periods in accordance with that methodology</li> </ul> <p>Once Verra approves the requantification request, each Verified Carbon Unit (VCU) holder has the option to reconcile the number of previously issued VCUs with the number of VCUs quantified under the new methodology.</p> <p>Once a project proponent completes the update, if there is a difference in reductions and removals then each VCU holder would have the option to reconcile their VCUs to reflect the difference (cancel old VCUs and be issued replacements under the new methodology). <u>Projects cannot increase VCUs through use of the procedure, the quantity of VCUs must either stay the same or decrease.</u></p>
<b>b. Rationale for the change:</b>
<p>This Procedure was created to allow VCU holders to reconcile issued VCUs from past monitoring periods and request a label for the reconciled VCUs to indicate that the VCUs meet the requirements of a market label.</p> <p>For example, a project proponent may wish to have VCUs reissued against a revised methodology that meets the requirements of the Integrity Council for Voluntary Carbon Markets (ICVCM) Core Carbon Principles (CCP) so that it may be labelled as such. A project proponent may also use this procedure to requantify and label VCUs from mixed reductions and removals projects, where an updated version of the applied methodology is available that specifies how to separate the reductions and removals.</p> <p>The choice to reconcile VCUs is voluntary and is made by each VCU holder. By submitting a requantification request, the project proponent is automatically choosing to reconcile any VCUs it currently holds, and any reductions and removals approved but not yet issued as VCUs.</p>
<b>c. Where the change is reflected in the Programme's documentation or other resource(s)<sup>4</sup>:</b>
<ul style="list-style-type: none"> <li>• Public <a href="#">announcement</a> on the Verra website of the Procedure</li> </ul>

<sup>4</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.

- Procedure [documentation](#) also publicly available on our website
- [Webinar](#) held by Verra further explaining the Procedure
- New templates to support the procedure
  - [VCS Requantification Notification Template](#)
  - [VCS Requantification Report Template](#)
  - [VCS Requantification Verification Report Template](#)

d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme's current eligibility:

This procedure is new and was therefore not previously reported to nor assessed by the TAB.

It is a voluntary procedure which VCU holders may opt in to use and that would result in more conservative VCU issuances (as requantification can only lead to the same or less VCUs as the original estimate).

e. How the information in "d." would be revised and submitted to any future (re-)assessment process, by updating the information in "d." to reflect any / all modifications to the Programme's original information that result from the change:

There are currently no changes planned. We will inform the TAB in future material change submissions if there are revisions or updates to this procedure.

## **CHANGE 2: New additionality tools**

a. Description of the change (e.g., the addition, modification, deletion undertaken):

Verra released two new tools in the Verified Carbon Standard (VCS) Program to assess the additionality of project activities: [VCS Tool VT0008 Additionality Assessment](#) and [VCS Tool VT0009 Combined Baseline and Additionality Assessment](#).

VT0008 and VT0009 provide procedures and requirements for conducting the investment, barrier, and common practice analyses, as well as identifying the baseline scenario where applicable. The tools are based on the approaches of the Clean Development Mechanism (CDM) tools [TOOL01 Tool for the demonstration and assessment of additionality](#) and [TOOL02 Combined tool to identify the baseline scenario and demonstrate additionality](#) and consolidate the following CDM tools and guidelines:

- [TOOL24 Common practice](#)
- [TOOL27 Investment analysis](#)
- [Guidelines for Objective Demonstration and Assessment of Barriers](#)

VT0008 and VT0009 include further updates to align with ICVCM CCP requirements for additionality and other improvements and clarifications.

Projects in the VCS Program must apply VT0008 or VT0009 to determine the baseline scenario and assess additionality as indicated in applicable methodologies. Some methodologies may require the use of another appropriate additionality tool or provide a different approach to assess the baseline and additionality as per the most recent version of the *VCS Methodology Requirements*.

Currently, CDM *TOOL01* and *TOOL02* are still active in the VCS Program. VT0008 and VT0009 will be adopted over time by new and revised methodologies.

The new VCS tools include the following updates:

- A new requirement for the benchmark analysis to demonstrate that carbon credit revenues decisively increase the economic performance of the project and raise the financial indicator (such as Internal Rate of Return) to or above the required financial benchmark
- A new requirement that assumptions, data, and conclusions in the investment analysis must be consistent with information presented to the entities financing and implementing the project
- The removal of the “simple cost analysis,” which was a simplified option used to demonstrate that at least one alternative is less costly than the project activity in the absence of financial or economic benefits other than carbon credit revenues. Going forward, projects should apply an investment comparison analysis.
- A new requirement to provide verifiable evidence to demonstrate each identified barrier to the implementation of the project and proof that that carbon credit revenues are the decisive element in overcoming each identified barrier
- The removal of the “technological barriers,” such as lack of infrastructure for implementation and logistics for maintenance of the technology
- The removal of the “first-of-its-kind” additionality test, according to which a project is additional if it introduces a new technology or practice in the host country, eliminating the need for barrier or investment analysis
- Additional improvements and edits to enhance clarity

**b. Rationale for the change:**

Creation of standalone VCS additionality tools to meet the needs for the VCS Program and align with best practices established by the ICVCM and its Core Carbon Principles (CCP) Framework.

**c. Where the change is reflected in the Programme’s documentation or other resource(s)<sup>5</sup>:**

- VT0008 Additionality Assessment, v1.0, [description](#) and [documentation](#)
- VT0009 Combined Baseline and Additionality Assessment, v1.0, [description](#) and [documentation](#)
- The tools can be publicly found under the “[Methodologies](#)” section of the Verra website

**d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme’s current eligibility:**

These tools are new and were therefore not previously reported to nor assessed by TAB.

While CDM *TOOL01* and *TOOL02* are still active in the VCS Program, the new tools VT0008 and VT0009 will be adopted over time by new and revised methodologies. Certain methodologies have already been updated to use the new tools.

<sup>5</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.

e. How the information in “d.” would be revised and submitted to any future (re-)assessment process, by updating the information in “d.” to reflect any / all modifications to the Programme’s original information that result from the change:

There are currently no changes planned. Any future material changes to these tools will be reported on in future material change submissions.

### **CHANGE 3: New Methodology for Carbon Capture and Storage**

#### **a. Description of the change (e.g., the addition, modification, deletion undertaken):**

Verra has published a new VCS methodology, [VM0049 Carbon Capture and Storage, v1.0](#). This methodology framework is globally applicable and applies to project activities involving carbon capture and storage (CCS). It relies on modules for quantifying emissions related to the capture, transport, and storage segments of a CCS project. These modules can be combined, depending on the specific design of the CCS project or technologies implemented. VM0049 also relies on several tools that provide procedures for performing specific analyses for applicable projects. The methodology falls under Verra’s sectoral scope 16, carbon capture and storage.

CCS activities capture carbon dioxide directly from the atmosphere or from high-emitting industrial sources, followed by transportation (where required) and permanent safe storage underground. The approach has significant potential to remove CO<sub>2</sub> and reduce emissions in diverse and hard-to-abate sectors, such as industrial manufacturing (e.g., cement), oil and natural gas, and power generation.

The following modules are currently available for use under VM0049:

- [VMD0056 CO<sub>2</sub> Capture from Air \(Direct Air Capture\), v1.0](#)

This module provides procedures and requirements to calculate project and leakage emissions generated by direct air capture (DAC) project activities.

- [VMD0057 CO<sub>2</sub> Transport for CCS Projects, v1.0](#)

This module provides procedures and requirements to calculate project and leakage emissions for project activities that transport carbon dioxide (CO<sub>2</sub>) via pipelines, ships/barges, rail, and trucks.

- [VMD0058 CO<sub>2</sub> Storage in Saline Aquifers and Depleted Hydrocarbon Reservoirs, v1.0](#)

This module provides procedures and requirements to calculate project and leakage emissions for project activities that store CO<sub>2</sub> in saline aquifers or depleted hydrocarbon reservoirs.

Several more modules are planned for capture from industrial sources such as power plants, oil and gas production facilities, and ethanol production.

To support these project types, Verra has specific requirements for geologic carbon storage (GCS) project activities. GCS is an umbrella term that broadly refers to carbon capture and storage activities. Any project applying VM0049 must also conform with the [Geologic Carbon Storage Requirements, v4.0](#) and utilize the procedures in the [Geologic Carbon Storage Non-Permanence Risk Tool, v4.0](#).

#### **TAB exclusion of sectoral scope 16**

In the [TAB’s 2024 report](#), the TAB noted CDR projects have ‘particularities regarding their application’ and intersections with several CORSIA eligibility criteria (Safeguards system, No net

harm, Carbon offset credits must be quantified, monitored, reported, and verified, Realistic and credible baselines, Permanence, Leakage, and Only counted once towards a mitigation obligation). As a result, the TAB decided that units generated under Verra's sectoral scope 16, carbon capture and storage, are ineligible for use towards CORSIA. Here below we provide evidence for how Verra's new CCS methodology and underlying modules comply with the aforementioned criteria.

#### *Safeguards system*

CCS projects must conform with all applicable VCS Program rules to be eligible for registration and VCU issuance. Thus, these projects must comply with the requirements in section 3.19 (Safeguards) of the VCS Standard, v4.7.

In addition to these safeguards, GCS projects have distinct considerations for ownership (see section 2.2 of the GCS Requirements, v4.0) and regulatory oversight (see section 3.1 of the GCS Requirements, v4.0). For example, CCS projects must be located in a jurisdiction where regulatory oversight is provided by the government.

#### *No net harm*

Again, CCS projects must conform with all applicable VCS Program rules to be eligible for registration and VCU issuance. Thus, these projects must comply with the requirements in section 3.19 (Safeguards) of the VCS Standard, v4.7, including sections 3.19.1-3 (*No net harm*), whereby all projects must assess any potential negative impacts of project activities and design and implement measures to mitigate them.

#### *Carbon offset credits must be quantified, monitored, reported and verified*

Any project applying VM0049 must comply with all relevant VCS Program rules and requirements. This includes rules to ensure the conservativeness of GHG accounting and that emission reductions or removals are not overestimated. VM0049 is aligned with the rules contained within the VCS Methodology Requirements, which cover methodological components such as the baseline scenario, quantification of emission reductions and removals, monitoring, and leakage.

In addition to the typical monitoring requirements of the VCS Program, the GCS Requirements include specific criteria for monitoring CCS projects. All CCS projects must have a specific CCS monitoring program document with performance metrics based on systematic risk analysis and identification of potential leakage pathways. The plan must include remedial plans in the event of a leak.

Finally, projects using VM0049 and its modules must be validated and verified by an independent VVB accredited to sectoral scope 16. These projects follow the same procedures for validation and verification as any other VCS project.

#### *Realistic and credible baselines*

All VCS methodologies include procedures to establish a conservative baseline. At the Program level, when developing the baseline scenario, assumptions, values, and procedures must be selected that ensure GHG emission reductions and carbon dioxide removals are not overestimated.

For DAC projects using VMD0056, there are two feasible baseline scenarios. First, a scenario where no DAC facility would operate, meaning no CO<sub>2</sub> emissions would be captured. Second, a scenario where a facility exists, but where there would be no increase in atmospheric CO<sub>2</sub> capture capacity. Projects must provide evidence to support the baseline scenario, which must be validated/verified by a VVB.

#### *Permanence*



To safeguard against the risk of CO<sub>2</sub> loss from a GCS project, Verra has taken a multi-staged approach. The first approach is to prevent projects without the proper oversight, design, monitoring programs, and closure plans, by having strict eligibility criteria in the GCS Requirements document. The next approach is to minimize the probability and impact of reversals by requiring strict on-going monitoring approaches, and to have updates to reservoir models and geologic evaluations throughout the duration of the project to better inform the proponents of the risk of reversals based on updated information. For the final approach, Verra manages the residual risk of reversals through the Verra Registry with a GCS pooled buffer account that holds a percentage of all GCS project credits. Buffer credits are cancelled to cover carbon known to be lost.

All GCS projects must prepare a non-permanence risk report using the GCS Non-Permanence Risk Tool (NPRT) at validation and each verification. The GCS NPRT assesses the following risks: regulatory framework risk, political risk, land and resource tenure risk, closure financial risk, and design risk. The overall risk rating is converted to a percentage to determine the number of buffer credits that must be deposited in the GCS pooled buffer account. Where an event occurs that qualifies as a loss event, the project proponent must follow the loss event reporting requirements set out in the VCS Program document *Registration and Issuance Process*. As such, Verra has robust procedures in place to monitor, mitigate, and compensate any material incidence of non-permanence.

#### *Leakage*

VM0049 includes procedures to quantify leakage emissions as a result of the project activity. Any leakage source that is estimated to equal more than 2% of net project reductions and removals over the project lifetime must be accounted for.

#### *Only counted once towards a mitigation obligation*

All VCS projects must comply with section 3.23 (Double Counting and Participation under Other GHG Programs) and 3.24 (Double Claiming, Other Forms of Credit, and Scope 3 Emissions) of the VCS Standard, v4.7. VM0049 meets all of these double counting provisions in the same way as the rest of the VCS Program.

In conclusion, any project applying VM0049 must follow all relevant rules and requirements of the VCS Program. To account for any GCS-specific matters, these projects must further comply with the GCS Requirements, v4.0 and account for risks of non-permanence using the GCS NPRT, v4.0. Considering the rigor of these requirements, Verra strongly feels that the TAB should reconsider its exclusion of sectoral scope 16 under CORSIA.

#### **b. Rationale for the change:**

CCS has significant potential to reduce and remove emissions in diverse and hard to abate sectors. Verra's new CCS methodology will enable new projects that can support the energy transition and achieve a net zero future.

#### **c. Where the change is reflected in the Programme's documentation or other resource(s)<sup>6</sup>:**

The methodology is available at: <https://verra.org/methodologies/vm0049-carbon-capture-and-storage/>

#### **d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme's current eligibility:**

<sup>6</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.

Previous material change submissions highlighted the release of the GCS Requirements and the GCS NPRT.

e. How the information in “d.” would be revised and submitted to any future (re-)assessment process, by updating the information in “d.” to reflect any / all modifications to the Programme’s original information that result from the change:

There are currently no changes planned. Any future material changes to VM0049 will be communicated in subsequent material change forms.

#### **CHANGE 4: New Methodology for Energy Efficiency and Fuel-switch Measures in Cookstoves**

a. Description of the change (e.g., the addition, modification, deletion undertaken):

Verra has published a new methodology [VM0050 Energy Efficiency and Fuel-Switch Measures in Cookstoves, v1.0](#).

VM0050 is a comprehensive and robust new methodology that provides a high-integrity approach to quantifying emission reductions from energy efficiency and fuel-switch measures (i.e., involving the replacement of fossil fuels and non-renewable biomass) in cookstoves.

The methodology covers a broad set of activities and scenarios. It consolidates elements of existing cookstove methodologies and features several updates, including the following:

- Streamlined monitoring approaches such as direct measurement techniques (e.g., stove use monitors, fuel weight sensors, electricity meters) that strengthen the reliability and accuracy in determining project fuel/energy consumption and stove use
- Additional clarifications and guidance on sampling and measurement procedures
- Updated approaches to determining the fraction of non-renewable biomass (fNRB)
- Updated default values for various ex ante parameters like baseline device efficiency and the wood-to-charcoal conversion factor

Verra issued a [correction and clarification](#) to VM0050, v1.0 in February 2025. These include clarification on how to characterize stove conditions during project surveys and a correction on the frequency of baseline surveys.

b. Rationale for the change:

VM0050 reflects best practices of project design and implementation. It consolidates and strengthens existing and previous methodologies, addressing issues that have been raised about these earlier approaches. It incorporates streamlined monitoring approaches, scientifically robust methods of determining key parameters, and updated default values for various ex ante parameters. As a result, this methodology represents an approach that advances clean cookstove use as a climate solution and provides critical support to local communities today.

VM0050 replaces VMR0006 Energy Efficiency and Fuel Switch Measures in Thermal Applications, v1.2 and VMR0011 Switch from Non-Renewable Biomass For Thermal Applications by the User, v1.0, which are being inactivated.

c. Where the change is reflected in the Programme’s documentation or other resource(s)<sup>7</sup>:

The methodology is available here: <https://verra.org/methodologies/vm0050-energy-efficiency-and-fuel-switch-measures-in-cookstoves-v1-0/>

<sup>7</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.



d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme's current eligibility:

VM0050 will replace the following methodologies: VMR0006, v1.2 and VMR0011, v1.0.

e. How the information in "d." would be revised and submitted to any future (re-)assessment process, by updating the information in "d." to reflect any / all modifications to the Programme's original information that result from the change:

There are currently no changes planned. Any future material changes to VM0050 will be communicated in subsequent material change forms.

## **CHANGE 5: Release of New Electricity Tools**

a. Description of the change (e.g., the addition, modification, deletion undertaken):

*VT0010 Emissions from Electricity Consumption and Generation, v1.0*

Verra released [VT0010 Emissions from Electricity Consumption and Generation, v1.0](#) in November 2024.

VT0010 provides procedures and requirements to estimate baseline, project, and leakage emissions from electricity consumption and generation.

This tool is intended for use with VCS-approved methodologies and eligible projects where estimations of emissions from electricity use are required. The tool provides different options for proponents depending on the applicable electricity system and data availability.

VT0010 includes the following key features:

- It allows for both direct measurements and estimation methods, providing flexibility in monitoring electricity consumption.
- It includes flexible procedures for calculating the emission factor (EF) for electricity consumption. Projects can calculate the EF using VCS Tool VT0011 Electricity System Emission Factors for national or regional grid emission factors. This range of options allows project proponents to apply the most accurate and appropriate data source for their specific context.
- It is adaptable to different project types and provides procedures for various scenarios:
  - Scenario A: projects using electricity from a national or regional grid
  - Scenario B: projects using electricity from offsite low-carbon power plants through purpose-built wheeling arrangements
  - Scenario C: projects supplied by shared power plants
  - Scenario D: projects using dedicated power plants

VT0010 is designed to meet the requirements of the Core Carbon Principles (CCPs) Assessment Framework of the Integrity Council for the Voluntary Carbon Market (ICVCM).

*VT0011 Electricity System Emission Factors, v1.0*

Verra released [VT0011 Electricity System Emission Factors, v1.0](#) in February 2025.

This tool provides procedures and requirements to estimate the grid emission factor of an electricity system. It is used in conjunction with CDM Tool 7, v7.0 and was revised to align the tool with the

ICVCM CCPs. This tool is intended for use with VCS-approved methodologies and Tools where estimations of grid emission factors are required. It provides a calculation framework for projects that supply electricity to the grid and projects that increase electricity consumption from the grid.

Specifically, VT0011 revises CDM TOOL07 to:

- update the calculation of the build margin (i.e., the average carbon dioxide emissions per unit of net electricity generation from the most recently built power plants)
- increase build margin weight in the combined margin (i.e., the weighted average of the operating margin and build margin emission factors)
- ensure conservative assumptions both for projects supplying electricity and for projects increasing electricity consumption

#### b. Rationale for the change:

VT0010 enables consistency in how VCS methodologies that account for electricity emissions measure electricity consumption in the baseline, project, and leakage scenarios. The tool is designed to be referenced by various VCS methodologies, providing a uniform structure for electricity-related emissions across projects.

VT0011 improves upon the existing CDM Tool 7 and ensures that projects use conservative assumptions.

#### c. Where the change is reflected in the Programme's documentation or other resource(s)<sup>8</sup>:

The tools are available here: <https://verra.org/methodologies/vt0010-emissions-from-electricity-consumption-and-generation-v1-0/> and <https://verra.org/methodologies/vt0011-electricity-system-emission-factors-v1-0/>

d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme's current eligibility:

N/A

e. How the information in "d." would be revised and submitted to any future (re-)assessment process, by updating the information in "d." to reflect any / all modifications to the Programme's original information that result from the change:

There are currently no changes planned. Any future material changes to VT0010 and VT0011 will be communicated in subsequent material change forms.

### CHANGE 6: Revisions and Inactivations of Methodologies

#### a. Description of the change (e.g., the addition, modification, deletion undertaken):

Verra has approved the following revisions to CDM methodologies:

Methodology Name	Unique Methodology/Protocol Identifier	Sectoral Scope
VMR0004 Improved Efficiency of Fleet Vehicles, v2.0	<a href="#">VMR0004, v2.0</a>	Scope 7

<sup>8</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.

VMR0012 Production of Geopolymer Cement, v1.0	<a href="#">VMR0012, v1.0</a>	Scope 6
VMR0010 Electricity Supply for Ships, v1.0	<a href="#">VMR0010, v1.0</a>	Scope 3, Scope 7

Verra has activated the following CDM methodologies for use under the VCS:

Methodology Name	Unique Methodology/Protocol Identifier	Sectoral Scope
AM0123 Renewable energy generation for captive use, v1.0	<a href="#">AM0123, v1.0</a>	Scope 1

Verra has approved the following REVISED VCS methodologies or modules:

Methodology Name	Unique Methodology/Protocol Identifier	Sectoral Scope
VM0042 Methodology for Improved Agricultural Land Management	<a href="#">VM0042, v2.1</a>	Scope 14
VM0039 Methodology for Use of Foam Stabilized Base and Emulsion Asphalt Mixtures in Pavement Application, v1.1	<a href="#">VM0039, v1.1</a>	Scope 6
VM0001 Refrigerant Leak Detection, v1.2	<a href="#">VM0001, v1.2</a>	Scope 11

Verra has inactivated the following methodologies:

Methodology Name	Unique Methodology/Protocol Identifier	Sectoral Scope
CDM AM0065: Replacement of SF6 with alternate cover gas in the magnesium industry	<a href="#">AM0065</a>	Scope 4
VM0022 Quantifying N2O Emissions Reductions in Agricultural Crops through Nitrogen Fertilizer Rate Reduction, v1.1	<a href="#">VM0022</a>	Scope 14
VMR0006 Energy Efficiency and Fuel Switch Measures in Thermal Applications, v1.2	<a href="#">VMR0006, v1.2</a>	Scope 3
VMR0011 Switch from Non-Renewable Biomass For Thermal Applications by the User, v1.0	<a href="#">VMR0011, v1.0</a>	Scope 1
VMR0001 Revisions to ACM0008 to Include Pre-drainage of Methane from an Active Open Cast Mine as a Methane Emission Reduction Activity, v1.0	<a href="#">VMR0001, v1.0</a>	Scope 8

VMR0002 Revisions to ACM0008 to Include Methane Capture and Destruction from Abandoned Coal Mines, v1.0	<a href="#">VMR0002, v1.0</a>	Scope 8
VMR0003 Revisions to AMS-III.Y to Include Use of Organic Bedding Material, v1.0	<a href="#">VMR0003, v1.0</a>	Scope 13
VM0014 Interception and Destruction of Fugitive Methane from Coal Bed Methane (CBM) Seeps, v1.0	<a href="#">VM0014, v1.0</a>	Scope 1
VM0026 Methodology for Sustainable Grassland Management (SGM), v1.1	<a href="#">VM0026, v1.1</a>	Scope 14

**b. Rationale for the change:**

*Revisions and Activations of CDM Methodologies:*

VMR0004 revises the underlying CDM methodology to introduce the option to monitor individual vehicles using telematics systems, which provide continuous tracking of odometer readings, fuel consumption, and operational time.

VMR0010 revises the underlying CDM methodology to expand the scope to include off-shore electricity supply systems such as power buoys that provide electricity to ships waiting off-shore to dock.

VMR0012 revises the underlying CDM methodology to integrate a discount factor to account for uncertainty related to the displacement of virgin materials caused by project activity.

AM0123 was released in September 2023 and, upon receiving several stakeholder requests, Verra reviewed and decided to activate it for use in the VCS Program. Verra released [clarifications](#) for use of the methodology under the VCS.

*Revised VCS Methodologies:*

Revising methodologies ensures they are aligned with the best available science and the latest program requirements. The VM0010 and VM0042 revisions differentiate between VCUs based on GHG reductions and VCUs based on carbon dioxide removals. Verra's labels for mitigation outcome types were included in our April 2024 material change submission. VM0039 was revised to incorporate a discount factor to account for upstream displacement. VM0001 was revised to expand its scope and to use the most recent version of VT0008 to demonstrate additionality.

*Inactivated Methodologies:*

Methodologies may be inactivated for a variety of reasons. VM0022 was inactivated due to low use and its overlap with the VM0042 methodology. Similarly, AM0065, VMR0001, VMR0002, VMR0003, and VM0014 were all inactivated due to low use and redundancy. VMR0006 and VMR0011 were inactivated because these methodologies have been replaced by the new VM0050 methodology.

c. Where the change is reflected in the Programme's documentation or other resource(s) <sup>9</sup> :
All methodologies are available on the <a href="#">VCS Methodologies website</a> .
d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme's current eligibility:
This material change provides an updated status to the TAB on the above methodologies.
e. How the information in "d." would be revised and submitted to any future (re-)assessment process, by updating the information in "d." to reflect any / all modifications to the Programme's original information that result from the change:
There are currently no changes planned. We will inform the TAB of any further updates in future material change submissions.

<b>CHANGE 7: New Methodology for Improved Management in Paddy Rice Production Systems</b>
a. Description of the change (e.g., the addition, modification, deletion undertaken):
<p>Verra released VM0051 Improved Management in Rice Production Systems, v1.0 in February 2025. VM0051 applies to projects implementing improved water and crop management practices in flooded rice systems to reduce greenhouse gas emissions.</p> <p>VM0051 adopts the latest scientific principles to ensure the robust quantification of greenhouse gas emission reductions resulting from improved management practices in flooded rice systems. It also incentivizes the adoption of innovative management practices in rice production systems, such as the cultivation of improved rice varieties and the use of methanotrophic bacteria to further reduce methane emissions.</p> <p>VM0051 incorporates a number of important features that improve upon the inactivated CDM AMS-III.AU methodology, including the following:</p> <ul style="list-style-type: none"> <li>• New and strengthened criteria for demonstration of additionality (e.g., regulatory surplus, use of remote sensing data)</li> <li>• A broader range of eligible project activities (e.g., the use of methanotrophs, shortened cultivation periods, avoided residue burning, the use of short-duration or low-emission rice cultivars, use of improved N-fertilizer management to reduce N<sub>2</sub>O)</li> <li>• Safeguards to avoid soil organic carbon (SOC) losses due to the implementation of project activities</li> <li>• A requirement to monitor and quantify N<sub>2</sub>O emissions as well as CO<sub>2</sub> emissions from fossil fuels and energy consumption</li> <li>• A dynamic baseline setting approach that accounts for potential impacts due to actual weather conditions</li> <li>• Expanded guidance for project area stratification and quantification of emission reductions</li> <li>• Flexible quantification approaches, including the use of biogeochemical models for emission reduction estimates</li> <li>• Best practice guidance for the use of digital monitoring, reporting, and verification (MRV), including remote sensing and machine learning/artificial intelligence, to streamline validation and verification of project data</li> </ul>

<sup>9</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.

**b. Rationale for the change:**

This methodology replaces the CDM methodology AMS-III.AU.: Methane emission reduction by adjusted water management practice in rice cultivation, v4.0, which Verra inactivated in March 2023. As stated, VM0051 provides robust and innovative procedures to quantify credible emission reductions resulting from improved rice management practices.

**c. Where the change is reflected in the Programme's documentation or other resource(s)<sup>10</sup>:**

The methodology is available here: <https://verra.org/methodologies/improved-management-in-rice-production-systems/>

**d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme's current eligibility:**

VM0051 replaces the inactivated CDM AMS-III.AU methodology in the VCS Program.

**e. How the information in "d." would be revised and submitted to any future (re-)assessment process, by updating the information in "d." to reflect any / all modifications to the Programme's original information that result from the change:**

There are currently no changes planned. We will inform the TAB of any future material changes in future material change submissions.

**CHANGE 8: Revised methodology for REDD**

**a. Description of the change (e.g., the addition, modification, deletion undertaken):**

To drive improvements in accounting of project activities, Verra published [VM0048 Reducing Emissions from Deforestation and Forest Degradation, v1.0](#) which was updated to include a correction and clarification in July 2024. Verra has also published module [VMD0055 Estimation of Emission Reductions from Avoiding Unplanned Deforestation](#), updated to v1.1 in October 2024. This methodology replaces other REDD methodologies, starting with those that account for Avoided Unplanned Deforestation (AUD).

VM0048 projects may be developed as standalone activities, be nested in a JNR program, or be nested under other program such as FCPF or ART Trees. Verra proposes for VM0048 to be accepted within CORSIA:

Where projects are nested or exist within any CORSIA-approved REDD+ Program (e.g., ART, FCPF, JNR scenarios 2a and 3). If this concept is accepted by CORSIA, Verra will draft appropriate guidance in the CORSIA Label Guidance to ensure that only such units are labeled.

VM0048 strengthens the robustness of accounting, in particular as related to the following EUC:

<sup>10</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.



*2. Eligibility Criterion: Carbon offset credits must be based on a realistic and credible baseline. Offset credits should be issued against a realistic, defensible, and conservative baseline estimation of emissions. The baseline is the level of emissions that would have occurred assuming a conservative “business as usual” emissions trajectory i.e., emissions without the emissions reduction activity or offset project. Baselines and underlying assumptions must be publicly disclosed.*

As noted above, VM0048 completely changes the approach to setting project baselines. Instead of setting these ‘bottom up’, by the project proponent, Verra will allocate risk-adjusted jurisdictional activity data. This ensures that projects are based on a realistic and credible ‘business as usual’ scenario that reflects deforestation dynamics across the entire jurisdiction and is aligned with national accounting.

- 1. Eligibility Criterion: Permanence – Carbon offset credits must represent emissions reductions, avoidance, or carbon sequestration that are permanent. If there is risk of reductions or removals being reversed, then either (a) such credits are not eligible or (b) mitigation measures are in place to monitor, mitigate, and compensate any material incidence of non-permanence.*

VM0048 uses the same permanence approach as all other VCS AFOLU projects, and all other material changes submitted with respect to permanence also apply to VM0048.

- 2. Eligibility Criterion: A system must have measures in place to assess and mitigate incidences of material leakage. Offset credits should be generated from projects that do not cause emissions to materially increase elsewhere (this concept is also known as leakage). Offset credit programs should have an established process for assessing and mitigating leakage of emissions that may result from the implementation of an offset project or program.*

VM0048 includes provisions to estimate emissions from different leakage sources including: 1) Activity-shifting leakage; 2) Market-effect leakage; and 3) Emissions from leakage prevention activities. In addition, where VM0048 projects are nested within JNR, ART, FCPF or other jurisdictional REDD programs, jurisdictional monitoring and accounting also provides additional assurance that any leakage not captured at the project level is captured in jurisdictional accounting.

- 3. Eligibility Criterion: Are only counted once towards a mitigation obligation. Measures must be in place to avoid: a) Double issuance (which occurs if more than one unit is issued for the same emissions or emissions reduction). b) Double use (which occurs when the same issued unit is used twice, for example, if a unit is duplicated in registries). c) Double claiming (which occurs if the same emissions reduction is counted twice by both the buyer and the seller (i.e., counted towards the climate change mitigation effort of both ICAO document — CORSIA Emissions Unit Eligibility Criteria - 4 - an airline and the host country of the emissions reduction activity)). In order to prevent double claiming, eligible programs should require and demonstrate that host countries of emissions reduction activities agree to account for any offset units issued as a result of those activities such that double claiming does not occur between the airline and the host country of the emissions reduction activity.*

VM0048 meets all of these double counting provisions in the same way as the rest of the VCS program, and all prior and current material changes submitted are relevant to VM0048. In addition, in a nested context, VM0048 ensures no double counting between jurisdictional and project accounting in two ways:

- 1) VM0048, in particular VMD0055, accounts for activities by estimating jurisdiction-wide activity data and allocating it to project areas based on deforestation risk across the jurisdiction. This ensures projects are aligned with national accounting and receive an appropriate “share” of activity data.

2) When nested in JNR, ART, FCPF or other approved programs, each program includes specific rules to ensure any credits issued to activities within the jurisdiction are not double counted, for example:

\* [JNR Requirements](#), v4.0, Section 3.7.2 “Jurisdictional proponents shall not seek credit for GHG emission reductions credited to lower-level activities. They shall deduct from their net GHG benefit (i.e., the total change in GHG emissions with respect to the registered FREL minus leakage) any GHG emission reductions achieved or anticipated during the same period by all projects and lower-level jurisdictional programs that encompass the same jurisdictional boundary (i.e., covering the same or overlapping area(s), carbon pools and GHG sources) as set out in Section 3.18.6.”

\* ART- Trees v1.0, Section 13.1: “To mitigate the risk of double issuance, TREES requires the disclosure of any issued emission reductions in the same accounting area, including credits from projects, which will be deducted from TREES issuance volume, checks of duplicate registration under other programs (including offset programs) and requirements for disclosure of other registrations, as well as for cancellation of the units on one registry prior to re-issuance on another.” Additionally, ART [primer on nesting](#) lays out multiple possible scenarios for how ART jurisdictions could approach nesting project.

\* FCPF Methodological Framework Section 6.2, “An ER transaction registry shall ensure that each ER is appropriately issued, serialized, transferred, retired, and/or canceled; provide clear linkages to other information included in an ER Programs and Projects Data Management System; and ensure that ERs are not issued, counted, or claimed by more than one entity.”

#### **b. Rationale for the change:**

The early approaches to baseline setting at the project level were based on “reference regions”—forest areas that share a range of characteristics with the project area, such as the presence of drivers of deforestation, distance to transportation networks, ecology, and policy regimes. These approaches were developed by the world’s leading forest carbon experts and academics. They underwent extensive public consultation and review by auditors and were consistent with prevailing science at the time. These approaches were based on the idea that patterns in deforestation seen in the historical period in the reference area would provide a representative baseline land use scenario for the project area. However, in watching project proponents apply, and validation/verification bodies audit, the use of these methodologies, Verra noted that:

- Reference regions can be difficult to match appropriately, especially for long periods over the life of a project. Various methodologies also included different provisions for setting reference areas.
- As governments developed national and subnational approaches, there could be discrepancies in estimates of climate impact due to different methodological approaches.

As a first step, VMD0055, the module within VM0048 for Unplanned Deforestation, requires the development of activity data (i.e., the average number of hectares expected to be deforested over the subsequent six years) across an entire jurisdiction in alignment with jurisdictional approaches to REDD+. The VMD0055 approach assumes that the average historical rate of deforestation within the jurisdiction over the previous 10 years will continue over the subsequent six years, with no allowance for upward or downward trends.

Predicted deforestation activity data is then spatially allocated throughout the jurisdiction based on the relative risk of deforestation in each pixel, determined largely by the distance to the edge of the forest and localized deforestation rates within subnational administrative units. More complex risk mapping models may also be used where they are demonstrably more accurate.

This top-down allocation approach will assist in consistent baseline setting across the jurisdiction and between Verra AUD projects and will reduce the potential for any perceived or actual conflicts of interest at the project proponent level. The allocation approach also improves accuracy and conservativeness at the national and global level. Furthermore, the approach is consistent with

UNFCCC national-level accounting for REDD+ and Nationally Determined Contributions under the Paris Agreement by aiming to harmonize accounting across scales.

This new approach is further enhanced through centralized activity data collection and the mapping of deforestation risk using globally consistent accuracy standards. Technological improvements—particularly in remote sensing—that have occurred since the original REDD methodologies were released have made it feasible for Verra, using contracted data service providers, to take the innovative approach of allocating activity data to project proponents for their use. While Verra encourages governments and other carbon market stakeholders to submit high-quality datasets to support this effort, the development of the activity data and risk maps and the allocation of activity data will be completed by third parties. Verra and independent experts will provide final approval of the data.

This improved approach will ensure robust project accounting that can be nested in any jurisdictional program.

In July 2024, a [clarification](#) was issued for VM0048 to update the definition of forest to align with the Integrity Council for the Voluntary Carbon Market's (ICVCM) Core Carbon Principles Assessment Framework. In Section 3.1, the definition of forest was updated to read as: "Forest. In addition to the definition set out in the VCS Program Definitions and the requirements of the VCS Methodology Requirements, for this methodology, 'forest' must include woody vegetation with a canopy cover of at least 10 percent, as used in the relevant country's international reporting to the UNFCCC."

In October 2024, VMD0055 v1.1 was released, with the following updates from v1.0:

- Fully aligned procedures with most recent version of VT0007.
- Clarified spatial resolution and mapping requirements, mapping terminology, and the scope of the jurisdictional sampling frame.
- Clarified carbon pools and sources that must be included in the project's accounting.
- Clarified the duration for which a project may use allocated activity data.
- Corrected minor editorial and typographical errors in text and some equations.

c. Where the change is reflected in the Programme's documentation or other resource(s)<sup>11</sup>:

The methodology is available at <https://verra.org/methodologies/vm0048-reducing-emissions-from-deforestation-and-forest-degradation-v1-0/>.

The module is available at <https://verra.org/methodologies/vmd0055-estimation-of-emission-reductions-from-avoiding-unplanned-deforestation-v1-1/>

d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme's current eligibility:

Verra previously proposed two options for VM0048 to be accepted within CORSIA:

- 1) For any project activity (standalone or nested, noting that this methodology uses a jurisdictionally-derived baseline approach that significantly improves project integrity, as described below); or,

<sup>11</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.

- 2) Where projects are nested in any CORSIA-approved REDD+ Program (e.g., ART, FCPF, JNR scenarios 2a and 3). If this concept is accepted by CORSIA, Verra will draft appropriate guidance in the CORSIA Label Guidance to ensure that only such units are labeled.

With this submission we are proposing only option 2 above.

e. How the information in “d.” would be revised and submitted to any future (re-)assessment process, by updating the information in “d.” to reflect any / all modifications to the Programme’s original information that result from the change:

The methodology and relevant clarification as well as a link to module VMD0055 are available at <https://verra.org/methodologies/vm0048-reducing-emissions-from-deforestation-and-forest-degradation-v1-0/>

There are currently no changes planned. Any future material updates or changes to VCS VM0048 will be communicated in the subsequent Material Change form.

#### **CHANGE 9: Methodology for Afforestation, Reforestation and Revegetation**

a. Description of the change (e.g., the addition, modification, deletion undertaken):

Verra published VCS methodology [\*VM0047 Afforestation, Reforestation and Revegetation, v1.0\*](#) in September 2023.

Verra understands the TAB may be concerned that projects using methodologies such as VM0047 may occur in countries with REDD+ activities but without the projects being nested into a jurisdictional REDD+ program. In such circumstances, detecting cases of overlapping registration and double issuance of VCUs may be challenging, as may be leakage.

The Council decision relating to CORSIA First Phase allowed VCUs issued under VM0047 to projects in non-REDD countries. Verra also proposes for VM0047 approval:

Approve VM0047 with VCS CORSIA Label Guidance for projects nested within JNR, ART, FCPF or other CORSIA-approved jurisdictional programs.

Should this be allowed, Verra would prepare appropriate guidance in the CORSIA Label Guidance to ensure that only appropriate credits are labeled.

We note there are already precedents and experience in which labels are applied on the basis of specific project characteristics rather than specific meth. The VCS scope of eligibility already has labelling according to project size and sustainable development reporting. Labelling for JNR credits is based on scenarios and the recipients of credits. CORSIA’s approach to the enforcement of government policy for the first phase will also require project-by-project distinctions to be followed in labelling. This is also not unique to CORSIA, as it is expected that project characteristics will need to be followed under the ICVCM category-level (methodology) approvals.

VM0047 strengthens the robustness of accounting, in particular as related to the following EUC:

*2. Eligibility Criterion: Carbon offset credits must be based on a realistic and credible baseline. Offset credits should be issued against a realistic, defensible, and conservative baseline estimation of emissions. The baseline is the level of emissions that would have occurred assuming a conservative “business as usual” emissions trajectory i.e., emissions without the emissions reduction activity or offset project. Baselines and underlying assumptions must be publicly disclosed.*

As noted above, VM0047 completely changes the approach to setting project baselines. A dynamic performance benchmark improves upon a static, forecasted baseline by adjusting to real-time environmental conditions and specific project factors, rather than relying on predictions established at the project's start. This adaptability ensures that the baseline more accurately represents a real-time

counterfactual scenario, avoiding reliance on potentially outdated or inaccurate forecasts. This method provides a matched, real-time baseline against which the project impacts on carbon stocks can be measured.

*5. Eligibility Criterion: Permanence – Carbon offset credits must represent emissions reductions, avoidance, or carbon sequestration that are permanent. If there is risk of reductions or removals being reversed, then either (a) such credits are not eligible or (b) mitigation measures are in place to monitor, mitigate, and compensate any material incidence of non-permanence.*

VM0047 uses the same permanence approach as all other VCS AFOLU projects, and all other material changes submitted with respect to permanence also apply to VM0047.

*6. Eligibility Criterion: A system must have measures in place to assess and mitigate incidences of material leakage. Offset credits should be generated from projects that do not cause emissions to materially increase elsewhere (this concept is also known as leakage). Offset credit programs should have an established process for assessing and mitigating leakage of emissions that may result from the implementation of an offset project or program.*

Leakage module [VMD0054](#) for ARR methodology VM0047, incl includes provisions to estimate emissions from different leakage sources, including 1) Activity-shifting leakage, 2) Market-effect leakage,) Emissions from leakage prevention activities. In addition, where VM0047 projects are nested within JNR, ART, FCPF, or other jurisdictional REDD programs, jurisdictional monitoring and accounting also provide additional assurance that any leakage not captured at the project level is captured in jurisdictional accounting.

*7. Eligibility Criterion: Are only counted once towards a mitigation obligation. Measures must be in place to avoid: a) Double issuance (which occurs if more than one unit is issued for the same emissions or emissions reduction). b) Double use (which occurs when the same issued unit is used twice, for example, if a unit is duplicated in registries). c) Double claiming (which occurs if the same emissions reduction is counted twice by both the buyer and the seller (i.e., counted towards the climate change mitigation effort of both ICAO document — CORSIA Emissions Unit Eligibility Criteria - 4 - an airline and the host country of the emissions reduction activity)). In order to prevent double claiming, eligible programs should require and demonstrate that host countries of emissions reduction activities agree to account for any offset units issued as a result of those activities such that double claiming does not occur between the airline and the host country of the emissions reduction activity.*

VM0047 meets all of these double counting provisions in the same way as the rest of the VCS program, and all prior and current material changes submitted are relevant to VM0047. In addition, in a nested context, VM0047 ensures no double counting between jurisdictional and project accounting in two ways:

1) VM0047 assesses additionality through a dynamic performance benchmark. This ensures projects are truly additional and are adding carbon stock beyond business as usual and beyond any legal requirements. The methodology requires matching project areas to remotely sensed control plots that have the same geographic, environmental, and policy contexts to control for, and prevent projects from double counting.

2) When nested in JNR, ART, FCPF or other approved programs, each program includes specific rules to ensure any credits issued to activities within the jurisdiction are not double counted, for example:

\* [JNR Requirements](#), v.40, Section 3.7.2 “Jurisdictional proponents shall not seek credit for GHG emission reductions credited to lower-level activities. They shall deduct from their net GHG benefit (i.e., the total change in GHG emissions with respect to the registered FREL minus leakage) any GHG emission reductions achieved or anticipated during the same period by all projects and lower-

level jurisdictional programs that encompass the same jurisdictional boundary (i.e., covering the same or overlapping area(s), carbon pools and GHG sources) as set out in Section 3.18.6.”

\* ART- Trees v1.0, Section 13.1: “To mitigate the risk of double issuance, TREES requires the disclosure of any issued emission reductions in the same accounting area, including credits from projects, which will be deducted from TREES issuance volume, checks of duplicate registration under other programs (including offset programs) and requirements for disclosure of other registrations, as well as for cancellation of the units on one registry prior to re-issuance on another.”

\* FCPF Methodological Framework Section 6.2, “An ER transaction registry shall ensure that each ER is appropriately issued, serialized, transferred, retired, and/or cancelled; provide clear linkages to other information included in an ER Programs and Projects Data Management System; and ensure that ERs are not issued, counted, or claimed by more than one entity.”

**b. Rationale for the change:**

Verra’s ARR methodology improves upon previous Clean Development Mechanism (CDM) AR approaches by using a dynamic performance benchmark instead of static baselines, which better reflects the BAU, without project scenario.

For large-scale projects, VM0047 employs a dynamic baseline that adjusts based on observations of matched control areas through remote sensing. This ensures that additionality and baseline adjustments are updated at every verification and represent a real-time, matched counterfactual baseline.

For smaller-scale projects, VM0047 supports a census-based approach where no land-use change occurs due to project activities. Projects must meet stringent criteria and complete a thorough census of all planting units, individually marked and recorded. This method allows for sampling of the census for extrapolation of biomass growth at the level of individual planting units, rather than across the entire project area, ensuring conservative estimations of changes in carbon stocks.

Where applied within approved REDD+ programs, VM0047 ensures robust baseline setting that should ensure ARR activities are strongly additional compared to business as usual, are well aligned with national programs and can be effectively nested.

**c. Where the change is reflected in the Programme’s documentation or other resource(s)<sup>12</sup>:**

The methodology is available at <https://verra.org/methodologies/vm0047-afforestation-reforestation-and-revegetation-v1-0/>

**d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme’s current eligibility:**

Verra previously proposed three options for VM0047 to be accepted within CORSIA:

- 1) **Option 1:** Approve VM0047 for application in any location. This methodology takes a standardized baseline approach that significantly improves project integrity, as described below.
- 2) **Option 2:** Approve VM0047 as a single methodology, with VCS CORSIA Label Guidance applying the two scenarios identified in Option 3 (i.e., Verra would not create alternative

<sup>12</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.



versions of the methodology, but would only grant the label in (a) in a non-REDD+ country and/or (b) nested scenarios.

3) **Option 3:** Approve VM0047 for application differently, based on whether it is applied in a REDD+ Country or not. For example, Verra could create two versions of the methodology as follows:

- a. VM0047a —Verra would publish a new version of VM0047 that includes an applicability condition restricting its use to non-REDD+ countries.
- b. VM0047b —Where applied within REDD+ countries, VM0047b could be accepted by CORSIA where projects are nested in JNR, ART, FCPF or other CORSIA-approved jurisdictional programs.

With this submission we are proposing only option 2 above, noting that VM0047 is already allowed under CORSIA in non-REDD+ countries.

e. How the information in “d.” would be revised and submitted to any future (re-)assessment process, by updating the information in “d.” to reflect any / all modifications to the Programme’s original information that result from the change:

The methodology is available at <https://verra.org/methodologies/vm0047-afforestation-reforestation-and-revegetation-v1-0/>

There are currently no changes planned. Any future material updates or changes to VCS VM0047 will be communicated in the subsequent Material Change form.

## **CHANGE 10: Methodology for Improved Forest Management**

a. Description of the change (e.g., the addition, modification, deletion undertaken):

Verra published a VCS methodology, *[VM0045 Methodology for Improved Forest Management Using Dynamic Matched Baselines from National Forest Inventories](#)* in October 2022 and updated in March 2024. VM0045 is currently only applicable in the United States (given that the only performance benchmark defined is for the United States). In the future, it will be expanded for global application.

Similarly with Change 9 concerning VM0047 (Afforestation, Reforestation and Revegetation), Verra understands the TAB may be concerned that projects using methodologies such as VM0045 may occur in countries with REDD+ activities but without the projects being nested into a jurisdictional REDD+ program.

The Council decision relating to CORSIA First Phase allowed VCUs issued under VM0045 to projects in non-REDD countries. Verra also proposes for VM0045 approval:

Approve VM0045 with VCS CORSIA Label Guidance for projects nested within JNR, ART, FCPF or other CORSIA-approved jurisdictional programs.

Should this be allowed, Verra would prepare appropriate guidance in the CORSIA Label Guidance to ensure that only appropriate credits are labeled.

We note again that there are already precedents and experience in which labels are applied on the basis of specific project characteristics rather than specific meth. The VCS scope of eligibility already

has labelling according to project size and sustainable development reporting. Labelling for JNR credits is based on scenarios and the recipients of credits. CORSIA's approach to the enforcement of government policy for the first phase will also require project-by-project distinctions to be followed in labelling. This is also not unique to CORSIA, as it is expected that project characteristics will need to be followed under the ICVCM category-level (methodology) approvals.

VM0045 strengthens the robustness of accounting, in particular as related to the following EUC:

2. Eligibility Criterion: Carbon offset credits must be based on a realistic and credible baseline. Offset credits should be issued against a realistic, defensible, and conservative baseline estimation of emissions. The baseline is the level of emissions that would have occurred assuming a conservative "business as usual" emissions trajectory i.e., emissions without the emissions reduction activity or offset project. Baselines and underlying assumptions must be publicly disclosed.

VM0045 uses a dynamic performance benchmark to establish a crediting baseline and assess additionality. This approach compares project performance to a matched, real-time counterfactual scenario, avoiding reliance on potentially outdated or inaccurate forecasts.

5. Eligibility Criterion: Permanence – Carbon offset credits must represent emissions reductions, avoidance, or carbon sequestration that are permanent. If there is risk of reductions or removals being reversed, then either (a) such credits are not eligible or (b) mitigation measures are in place to monitor, mitigate, and compensate any material incidence of non-permanence.

VM0045 uses the same permanence approach as all other VCS AFOLU projects, and all other material changes submitted with respect to permanence also apply to VM0045.

6. Eligibility Criterion: A system must have measures in place to assess and mitigate incidences of material leakage. Offset credits should be generated from projects that do not cause emissions to materially increase elsewhere (this concept is also known as leakage). Offset credit programs should have an established process for assessing and mitigating leakage of emissions that may result from the implementation of an offset project or program.

VM0045 includes provisions to estimate emissions from different leakage sources including: 1) Activity-shifting leakage, and 2) Market-effect leakage. In addition, where VM0045 projects are nested within JNR, ART, FCPF or other jurisdictional REDD programs, jurisdictional monitoring and accounting also provides additional assurance that any leakage not captured at the project level is captured in jurisdictional accounting.

7. Eligibility Criterion: Are only counted once towards a mitigation obligation. Measures must be in place to avoid: a) Double issuance (which occurs if more than one unit is issued for the same emissions or emissions reduction). b) Double use (which occurs when the same issued unit is used twice, for example, if a unit is duplicated in registries). c) Double claiming (which occurs if the same emissions reduction is counted twice by both the buyer and the seller (i.e., counted towards the climate change mitigation effort of both ICAO document — CORSIA Emissions Unit Eligibility Criteria - 4 - an airline and the host country of the emissions reduction activity)). In order to prevent double claiming, eligible programs should require and demonstrate that host countries of emissions reduction activities agree to account for any offset units issued as a result of those activities such that double claiming does not occur between the airline and the host country of the emissions reduction activity.

VM0045 meets all of these double counting provisions in the same way as the rest of the VCS program, and all prior and current material changes submitted are relevant to VM0045. In addition, in a nested context, VM0045 ensures no double counting between jurisdictional and project accounting in two ways:

1) VM0045 assesses additionality through a dynamic performance benchmark. This ensures projects are truly additional and are adding carbon stock beyond business as usual and beyond any legal requirements. The methodology requires matching project to remotely sensed control plots that

have the same geographic, environmental, and policy contexts to control for, and prevent projects from double counting.

2) When nested in JNR, ART, FCPF or other approved programs, each program includes specific rules to ensure any credits issued to activities within the jurisdiction are not double counted, for example:

\* [JNR Requirements](#), v.40, Section 3.7.2 “Jurisdictional proponents shall not seek credit for GHG emission reductions credited to lower-level activities. They shall deduct from their net GHG benefit (i.e., the total change in GHG emissions with respect to the registered FREL minus leakage) any GHG emission reductions achieved or anticipated during the same period by all projects and lower-level jurisdictional programs that encompass the same jurisdictional boundary (i.e., covering the same or overlapping area(s), carbon pools and GHG sources) as set out in Section 3.18.6.”

\* ART- Trees v1.0, Section 13.1: “To mitigate the risk of double issuance, TREES requires the disclosure of any issued emission reductions in the same accounting area, including credits from projects, which will be deducted from TREES issuance volume, checks of duplicate registration under other programs (including offset programs) and requirements for disclosure of other registrations, as well as for cancellation of the units on one registry prior to re-issuance on another.”

\* FCPF Methodological Framework Section 6.2, “An ER transaction registry shall ensure that each ER is appropriately issued, serialized, transferred, retired, and/or cancelled; provide clear linkages to other information included in an ER Programs and Projects Data Management System; and ensure that ERs are not issued, counted, or claimed by more than one entity.”

**b. Rationale for the change:**

Verra’s new IFM methodology improves upon previous approaches by using a dynamic performance benchmark instead of static baselines, which better reflects the BAU, without project scenario. Eligible projects must adopt at least one new Improved Forest Management (IFM) practice and may combine multiple practices in the same area. The methodology utilizes a comprehensive monitoring and accounting framework to capture the GHG impacts of IFM practices aimed at either avoiding emissions or enhancing sequestration.

Where applied within approved REDD+ programs, VM0045 ensures robust baseline setting that should ensure new IFM activities are strongly additional compared to business as usual, are well aligned with national programs and can be effectively nested.

**c. Where the change is reflected in the Programme’s documentation or other resource(s)<sup>13</sup>:**

The methodology is available at <https://verra.org/methodologies/methodology-for-improved-forest-management/>.

**d. Information originally submitted to and assessed by TAB that would be altered as a result of this change (copy and paste in the field below); including any and all relevant descriptions or explanations provided by the Programme in its Application Form and accompanying materials and/or in response to any further inquiries from TAB during the course of the assessment(s) that informed TAB recommendations on the Programme’s current eligibility:**

Verra previously proposed three options for VM0047 to be accepted within CORSIA:

- 1) **Option 1:** Approve VM0045 for application in any location. This methodology takes a standardized baseline approach that significantly improves project integrity, as described below.
- 2) **Option 2:** Approve VM0045 as a single methodology, with VCS CORSIA Label Guidance applying the two scenarios identified in Option 3 (i.e., Verra would not create alternative

<sup>13</sup> If documents or resources evidencing the change are not publicly available, please include this information in an attachment to this form and clearly identify any business-confidential information.

versions of the methodology, but would only grant the label in cases (a) and/or (b) described for option 3.

3) **Option 3:** Approve VM0045 for application differently, based on whether it is applied in a REDD+ Country or not. For example, Verra could create two versions of the methodology as follows:

- a. VM0045a —Verra would publish a new version of VM0045 that includes an applicability condition restricting its use to non-REDD+ countries.
- b. VM0045b —Where applied within REDD+ countries, VM0045b could be accepted by CORSIA where projects are nested in JNR, ART, FCPF or other CORSIA-approved jurisdictional programs.

With this submission we are proposing only option 2 above, noting that VM0045 is already allowed under CORSIA in non-REDD+ countries.

e. How the information in “d.” would be revised and submitted to any future (re-)assessment process, by updating the information in “d.” to reflect any / all modifications to the Programme’s original information that result from the change:

The methodology is available at <https://verra.org/methodologies/methodology-for-improved-forest-management/>

There are currently no changes planned. Any future material updates or changes to VCS VM0045 will be communicated in the subsequent Material Change form.