METHODOLOGY DOCUMENT
MSCI SUSTAINABILITY AND CLIMATE

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MSCI Carbon Project Ratings - Afforestation, Reforestation and Revegetation (ARR) Methodology

Contents

1. Methodology overview

Objective

MSCI Carbon Project Ratings are composite ratings that independently assess the integrity and risks of carbon credit projects across multiple criteria, including their impacts on the climate, environment and society.

A project with a higher rating has a greater likelihood of having a positive emissions impact and a reduced risk of overestimating its emissions impact. It is also more likely that such an emissions impact would have been implemented in a way that supports positive social and/or environmental outcomes and upholds legal and ethical standards. Consequently, a project with a higher rating has a lower likelihood of incurring reputational risks.

This methodology evaluates the integrity of ARR carbon projects by assessing both the risk that credits do not represent claimed climate benefits and the extent to which projects deliver meaningful environmental and social impacts. It provides a framework for the application of project-level analysis across key criteria—including additionality, quantification, permanence, and co-benefits—to capture both risk and impact dimensions of project performance.

Document description

This document describes the detailed project type-specific methodology used to assess Carbon Project Ratings and Pipeline Carbon Project Ratings (but not Preliminary Carbon Project Ratings) for ARR projects. This project type-specific methodology is applied in addition to, and partially in replacement of, the methodology that is described in the overall MSCI Carbon Project Ratings methodology document, "MSCI Carbon Project Ratings and Assessments Methodology." Where an element of the overall methodology is replaced by this project type-specific methodology, it is detailed below. Every element of the overall MSCI Carbon Project Ratings methodology also applies to MSCI Sustainability & Climate's (MSCI S&C's)[1] assessment of Carbon Project Ratings and Pipeline Carbon Project Ratings for ARR projects unless explicitly excluded in this document.

This methodology is subject to MSCI S&C's methodology governance and update process, as outlined in the overall methodology note. This ensures that updates and refinements to the methodology align with evolving best practices, stakeholder input, and the latest data insights. For details on the governance process, methodology updates, and review timelines, please refer to Section 12 of the MSCI Carbon Project Ratings and Assessments Methodology document.

Section 2 introduces the core concept of carbon credit integrity and why its assessment is important to the development of the global carbon credit market. Section 3 introduces and defines ARR projects. Sections 4-8 provide details on the project type-specific methodology, including data sources and assumptions, used in MSCI S&C's Carbon Project Ratings and Pipeline Carbon Project Ratings assessments for ARR projects.

[1] MSCI Sustainability & Climate products and services are provided by MSCI Solutions LLC in the United States, MSCI Solutions (UK) Limited in the United Kingdom and certain other related entities.

2. Introduction to carbon project integrity

What is carbon credit integrity?

Carbon credits have varying quality characteristics. These stem from fundamental differences in project types, but also from which methodologies have been used to define each project and create the credits (these methodologies are among the standards set by carbon crediting programs, and are hereafter called crediting program methodologies) and how rigorously they have been applied. Projects also differ in terms of their potential co-benefits and their legal and ethical characteristics.

This variation in quality was not intended. Standard setting and governance bodies attempted to create a system in which all carbon credits had an equivalent climate benefit (representing a tonne of carbon dioxide equivalent (CO_2e) removed or avoided) which could be used for voluntary or compliance purposes. This effort dates back to the Clean Development Mechanism (CDM) created under the 1997 Kyoto Protocol and has continued with the evolution of the carbon credit market.

A key challenge lies in the quantification of the climate benefit of a project — i.e., whether the carbon credits calculated for a project are genuinely equivalent to mitigating or removing one tonne of carbon dioxide from the atmosphere. This difficulty stems from the calculation method used to determine what would have happened in the absence of a project, i.e., in the "baseline" scenario (sometimes referred to as the "counterfactual" scenario).

Another difficulty is that projects differ greatly in age, size, and technology. The science behind some crediting program methodologies has also evolved over time, as has the enforcement of standards and levels of governance.

Readers should note that, within the carbon markets, the words "quality" and "integrity" tend to be used somewhat interchangeably. Through the rest of this document, we use the word integrity when referring to carbon projects.

The importance of assessing carbon credit integrity

Corporate climate action is critical in the fight against climate change, and carbon credits represent one of the important mechanisms for corporates to mitigate their carbon footprint. However, concerns over carbon credit integrity may have held back, and may continue to hold back, the global carbon credit market from reaching its potential. These concerns center around the perception that many carbon credits are of low integrity and are not delivering the benefits they claim to.

In 2021, the Taskforce for Scaling the Voluntary Carbon Market (TS-VCM) found that credit integrity was at the "heart of buyers' hesitancy,"[2] with 45% of buyers identifying it as a key pain point. Buyer concerns around credit integrity and the related risk of being accused of greenwashing due to the use of low-integrity credits have only grown since then. For example, some 55% of respondents to an April 2023 survey run by the Science-Based Targets Initiative (SBTi) stated that the risk of a greenwashing accusation was stopping them from buying more credits.[3]

Concerns over carbon credit integrity have been central to the creation of two major initiatives: the Integrity Council on the Voluntary Carbon Market (IC-VCM) and the Carbon Credit Quality Initiative

[2] "Taskforce on Scaling Voluntary Carbon Markets: Summary of the Public Consultation Report," IC-VCM, June 3, 2021.

[3] "Beyond Value Chain Mitigation (BVCM) Research," SBTI_press_release, September 1, 2023.

(CCQI). The IC-VCM aims to create minimum standards of integrity with a set of Core Carbon Principles (CCPs), and the CCQI has developed a scoring system for certain project types. Both initiatives primarily assess integrity at the project-type level (primarily based on a project's methodology used) or at the project-registry level (a project registry is an organization that registers mitigation activities and issues carbon credits for the emission reductions or removals achieved by the mitigation activities). Neither initiative assesses integrity at the individual-project level.

MSCI S&C's assessment methodology draws on the IC-VCM's and CCQI's approach to assessing integrity, building on their principles to apply a more in-depth evaluation of integrity at the individual-project level.

The key components of carbon project integrity assessment

Market approaches to assessing carbon project integrity typically focus on three main issues:

A. **Emissions impact integrity:** How much CO_2e has been reduced/removed?

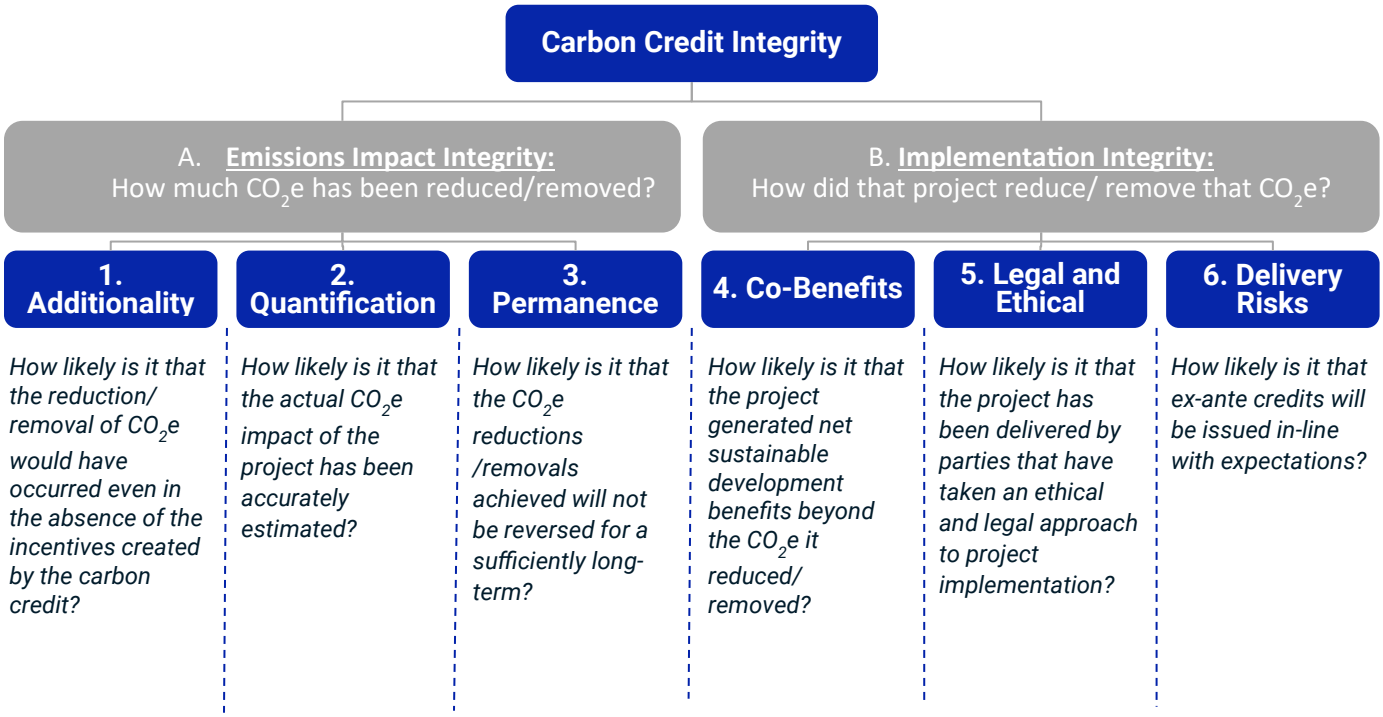
B. **Implementation integrity:** How did that project reduce/remove that CO_2e?

C. **Usage integrity:** How are the credits then reviewed and used?

Emissions impact integrity and implementation integrity can each be further broken down into three main areas of common concern. These are summarized Figure 1 and outlined in detail below.

Emissions impact integrity, implementation integrity and usage integrity are each described in more detail in the overall MSCI Carbon Project Ratings methodology document "MSCI Carbon Project Ratings and Assessments Methodology."

Figure 1: Key components of carbon project integrity



3. Introduction to ARR projects

What are ARR projects?

The world lost one-third of its forest in the last millennium,[4] and this decline is still continuing due to deforestation. Alongside protecting areas from further deforestation (as targeted through carbon credit projects known as REDD+), reforestation and afforestation projects can play a pivotal role in maintaining and increasing the world's forest cover. A study by NASA found that increasing the earth's forest cover by 25% could absorb 200 gigatonnes (Gt) of CO_2 from the atmosphere (for context, global emissions tend to average between 30-40 Gt per year).[5] Companies, communities, and cities have hence started working towards this ambition through aggressive tree planting pledges and initiatives.

ARR stands for **afforestation, reforestation and revegetation**, representing different types of projects aimed at converting non-forested land to forested land:

- **Reforestation** involves planting trees in areas that were previously forested.
- **Afforestation** involves planting trees in areas in which there were no trees before, thus creating new forests.
- **Revegetation** involves replanting the soil of disturbed land.

By creating new forests or restoring old forests, these projects can absorb carbon dioxide while protecting and enhancing important wildlife habitats and ecosystems. As a result, ARR projects are known as nature-based "removal" carbon projects.

Market Overview

ARR projects represent one of the fastest-growing project types within the voluntary carbon market. As of October 2023, 346 registered ARR projects had issued over 150 Mt CO_2 of carbon credits.[6]

As a proportion of nature restoration projects overall, the numbers of ARR projects and issuances have grown rapidly since 2017, with ARR becoming the largest project subtype within the nature restoration project type in 2021, as shown in **Figure 2.**

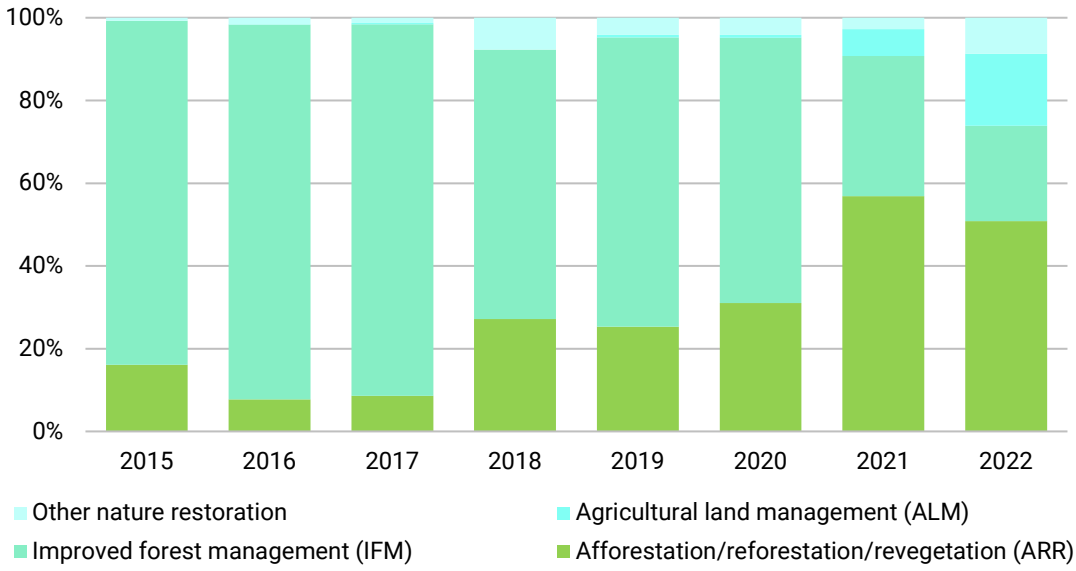
A high number of ARR projects in registry registration pipelines means that their importance is expected to grow. Issuances from known ARR projects are expected to reach 100 Mt CO_2 per year in 2030, which would represent the second largest project subtype within the voluntary carbon market.

[4] Our World In Data (2021). *"The world has lost one-third of its forest, but an end of deforestation is possible."* https://ourworldindata.org/world-lost-one-third-forests

[5] NASA (2019). *"Examining the Viability of Planting Trees to Help Mitigate Climate Change."* https://climate.nasa.gov/news/2927/examining-the-viability-of-planting-trees-to-help-mitigate-climate-change/

[6] Registries included: Verra, Gold Standard, Climate Action Reserve, American Carbon Registry, Puro Earth, Plan Vivo, Clean Development Mechanism (NDC Eligible), BioCarbon, EcoRegistry, Climate Forward, Pacific Carbon Standard, and UK Woodland Carbon Code.

Figure 2: Proportion of annual issuances by nature restoration project subtype



Key Integrity Considerations

While the promise of ARR projects is high from both a carbon and biodiversity perspective, the execution and quantification of these projects involves a number of challenges. Assessing the integrity of ARR projects requires a detailed analysis of the project's design, execution, and assumptions, with risks primarily found in four main areas:

- **Baseline Reforestation:** Reforestation may have occurred even without carbon credits, due to either naturally driven forest growth or tree planting occurring as an expected component of the commercial harvesting cycle.
- **Carbon Stock:** To estimate the amount of removals that the project creates, the project must accurately estimate the carbon stock within the project area over time. Measuring the carbon within a single tree is complex. Measuring the carbon within an entire forest is even more challenging.
- **Forest Permanence and Survival:** The long-term success of an ARR project fundamentally depends on whether new trees survive and reach their carbon sequestration potential. Tree mortality rates can regularly be over 50% if the planting design or execution is not effective.
- **Biodiversity Impact:** Forests can play a vital role in restoring biodiversity through housing and protecting flora and fauna. However, the ecosystem richness of a forest is not guaranteed. Projects that plant a diverse set of suitable (regularly native) trees to the project area are much more likely to achieve high biodiversity outcomes.

MSCI S&C assesses each of these four key risk areas in detail when evaluating the integrity of an ARR project.

4. Approach to assessing the integrity of ARR projects

MSCI S&C's assessment of ARR projects builds on the overall MSCI Carbon Project Ratings methodology to provide more in-depth analysis of ARR projects. This project type-specific assessment includes sub-criteria that are additional to, and partially in replacement of, the sub-criteria of assessment used in the overall MSCI Carbon Project Ratings methodology, as detailed below. These project type-specific sub-criteria evaluate a deeper set of questions, which are focused on the most important, specific drivers of integrity for ARR projects.

These project type-specific assessments are conducted at the individual project level, including a review of each individual project's data and assumptions. In this way, these assessments represent a more granular, project-level review of ARR projects than what would be possible using the overall MSCI Carbon Project Ratings methodology alone.

In total, MSCI S&C assesses 12 sub-criteria and 24 metrics (see Figure 4) under this project type-specific methodology that are either not assessed or are assessed differently in the overall MSCI Carbon Project Ratings methodology, as illustrated in Figure 3. These sub-criteria are focused on addressing the key drivers of integrity for ARR projects. Each of these sub-criteria align with and replace corresponding sub-criteria scores in the overall MSCI Carbon Project Ratings methodology.

Assessment of all other criteria and sub-criteria, for example, Criterion 5, Legal and Ethical Risks, and Sub-criterion 1.4, Baseline Approach, within the ARR analysis use the same metrics and methodology as in the overall MSCI Carbon Project Ratings methodology framework. The granularity of the overarching framework for those sub-criteria, and the fact that their assessment is consistent across all project types (i.e., with no ARR-specific characteristics), means that no further enhancement is required.

For a detailed explanation of MSCI S&C's approach to data quality and update processes —including measures to ensure data accuracy, handle missing data, and update data in a frequent and recurring manner — please refer to the overall methodology note. This document outlines the steps MSCI S&C takes to verify data reliability and address any data gaps, ensuring consistency and accuracy across all project types.

Figure 3: MSCI Overall Carbon Project integrity assessment

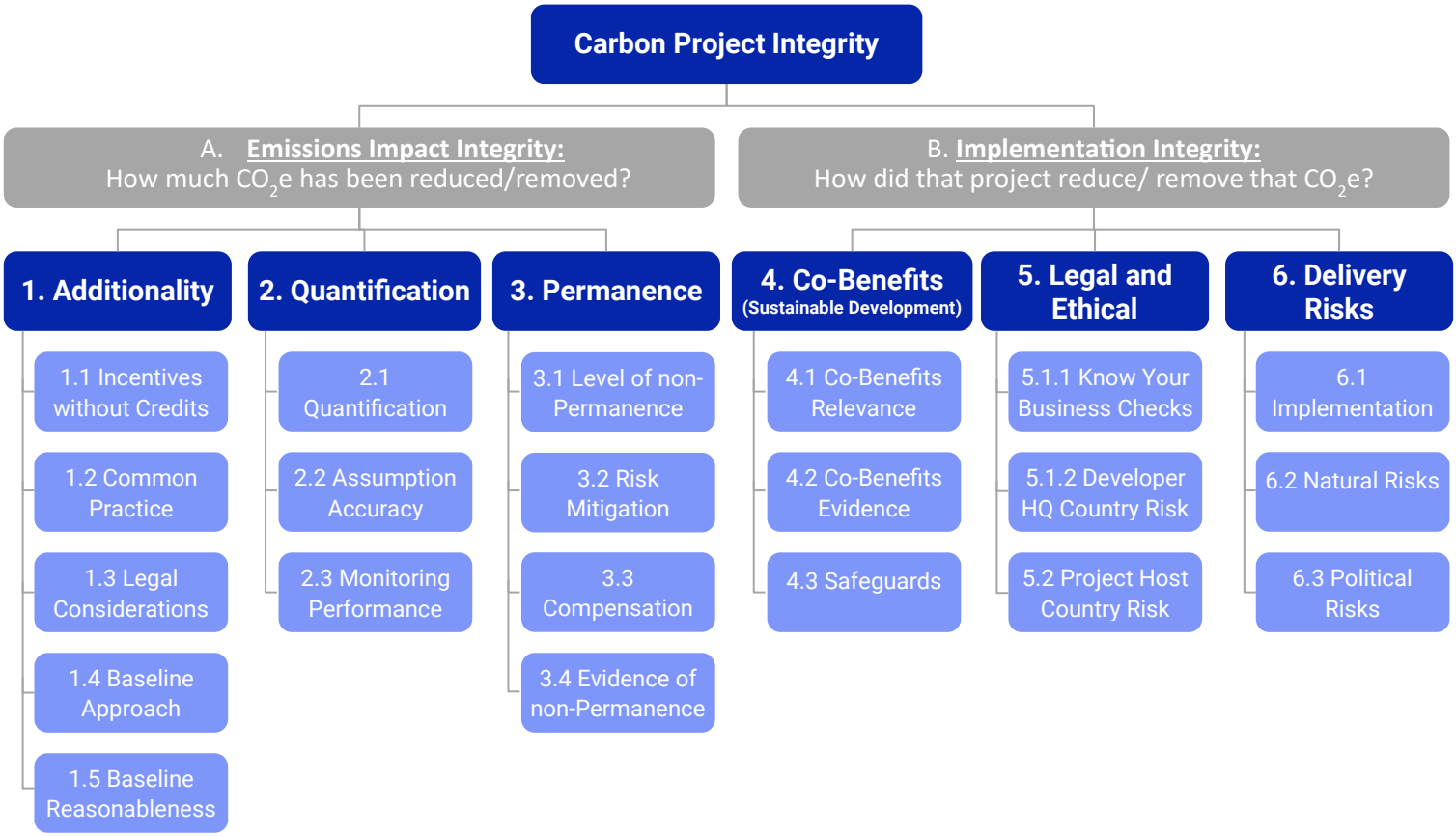
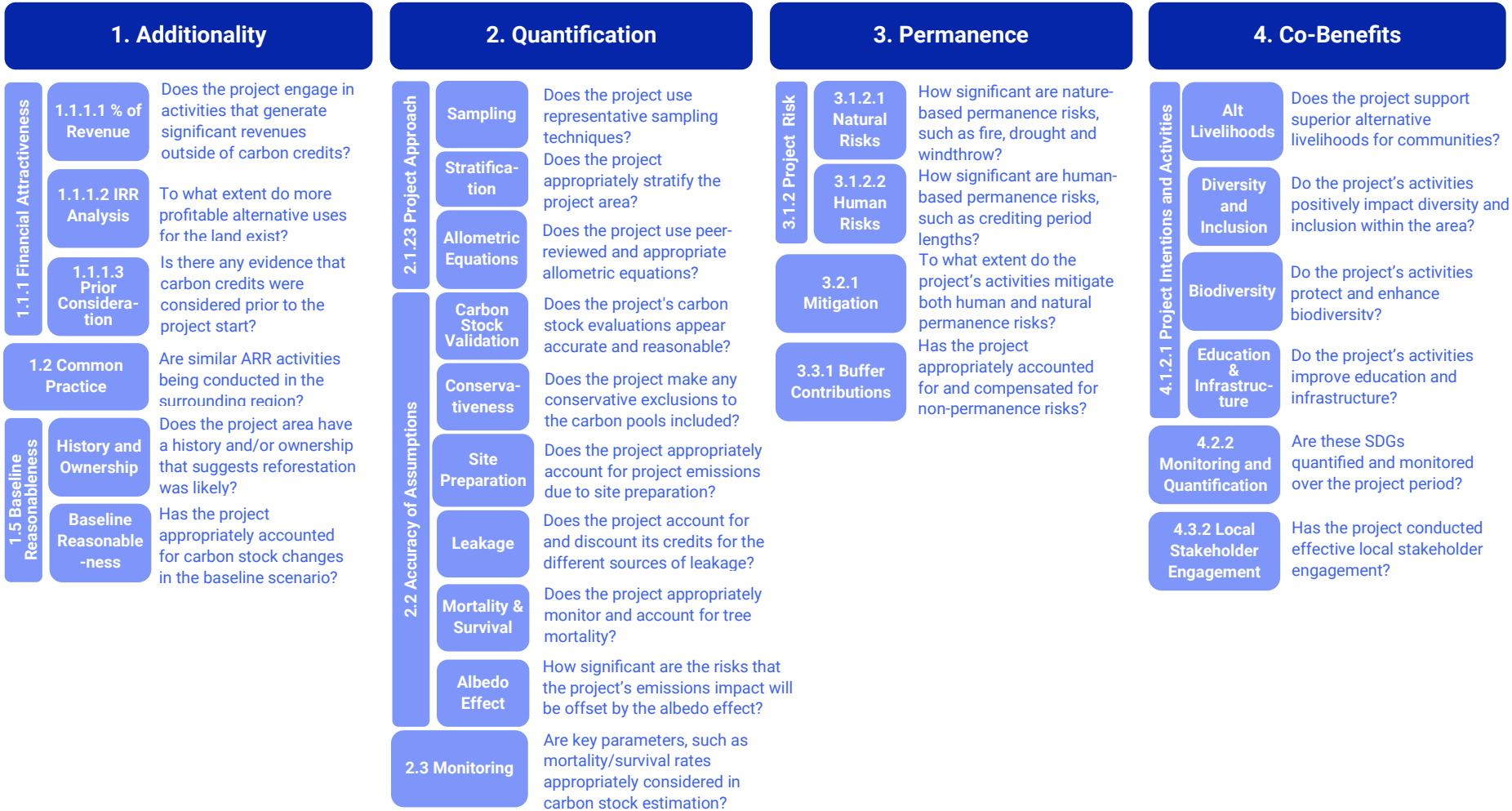


Figure 4: ARR assessment framework



5. Criterion 1 – Additionality

If a mitigation activity is not additional, then purchasing carbon credits has not led to any additional reduction or removal of emissions. Additionality is therefore a crucial component of the integrity of carbon credits. A non-additional carbon credit has no direct net positive environmental impact given that the emission reductions/removals would have occurred anyway. However, it is worth noting that funding a non-additional credit may still indirectly help stimulate further investment in the same activity by raising its return.

The additionality of a project is not necessarily binary. Projects may be partly additional, where only a portion of emission reductions/removals are additional. For example, if, in the baseline scenario, some emission reductions would have been achieved anyway, but not as much as was achieved by the project, then only this difference in emission reductions is additional. If credits are issued for the total emission reductions rather than only the reductions that wouldn't have otherwise been achieved, then the credits are only partly additional.

There are two main components to assessing additionality: (i) is it likely a project's activities would have occurred without the incentive of a credit, and (ii) how accurately does a project's baseline scenario represent the amount of the CO_2e reduced/removed in the baseline scenario?

MSCI S&C's assessment of the additionality of ARR projects focuses on evaluating six key topics. Figure 5 illustrates the project-type specific sub-criteria and metrics through which the additionality of ARR projects is assessed, and the overall MSCI Carbon Project Ratings methodology sub-criteria that they refer to. The detailed sub-criteria are described in Figure 6.

Given the probabilistic nature of additionality, MSCI S&C scores projects based on the *likelihood* that their emission reductions or removals are additional. To achieve a high additionality score, a project's activities must be additional (sub-criteria 1.1, 1.2 and 1.3) and its baseline scenario reasonable (sub-criteria 1.4 and 1.5).

An inverse weighting formula is used to determine a project's overall additionality score, where the combined scores of sub-criteria 1.1, 1.2 and 1.3 are inversely weighted with the combined scores of sub-criteria 1.4 and 1.5. As a result, a good score in any one criterion cannot offset a low score in another.

For example, an ARR project's tree planting activities might be very additional given there may have been few incentives for planting without carbon credits. However, if the project area was likely to experience significant plant regrowth anyway, then the project's removals may not be (fully) additional.

Figure 5: ARR additionality assessment approach

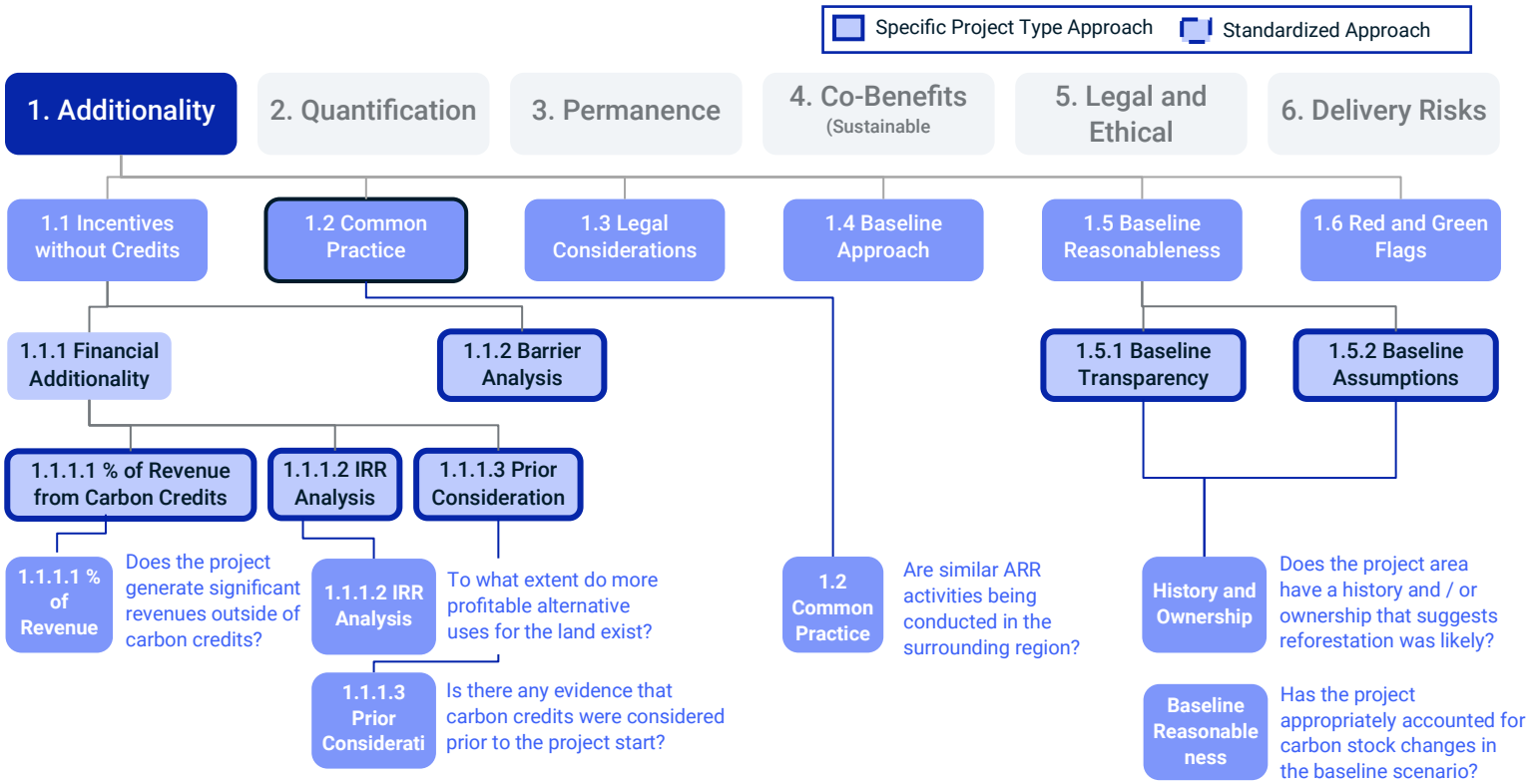


Figure 6: MSCI Additionality integrity assessment framework

Sub-criteria		Metrics	Rationale	REDD+	Renewables	ARR	Cookstoves	Biochar	Landfill Gas	Safe Water	IFM	Waste Mgmt.	Blue Carbon
1.1 Incentives without Carbon Credits	1.1.1 Financial Additionality	1.1.1.1 % of Revenue from Carbon Credits	The higher the proportion of a project's revenue that comes from carbon credits, the greater the importance of credits to its financial attractiveness.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		1.1.1.2 IRR Analysis	Credits should play a decisive role in making a project financially attractive that would otherwise have not been.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		1.1.1.3 Prior Consideration	Carbon credits should have been clearly considered at the time the decision to go ahead with a project was taken.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	1.1.2 Barrier Analysis	Strength of Barriers	Projects that face high barriers to implementation would be less likely to go ahead without the added incentives of carbon credits.	✗	✓	✗	✓	✓	✗	✓	✗	✓	✓
1.2 Common Practice		Market Penetration	If a practice is already common within a market, it indicates that these types of project are more likely to go ahead without the introduction of carbon credits.	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.3 Legal Considerations		Legal Requirements	Projects that are legally required or incentivized are unlikely to be additional. However, if laws are not enforced, then may still be additional.	✗	✗	✗	✗	✗	✓	✗	✓	✓	✓
1.4 Baseline Approach		Baseline Approach	Each project methodology is scored on the extent to which it mitigates the key risks associated with establishing a baseline scenario.	✓	✗	✗	✗	✗	✗	✗	✓	✗	✓
1.5 Baseline Reasonableness		1.5.1 Baseline Transparency	Transparent detail on a project's assumptions is required to make an objective assessment of a project's performance and additionality.	✓	✗	✓	✗	✗	✗	✗	✓	✗	✓
		1.5.2 Baseline Assumptions	MSCI S&C assesses the key baseline scenario assumptions for each project type — for example, for REDD+ projects we validate a project's baseline deforestation rates.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1.6 Red and Green Flags		News scanning	Review of academic papers, industry sources and the news for Red or Green Flags to project's additionality.	✓ *Standardized approach*									

✓ *Assessed* ✗ *Not Assessed*

1.1.1.1 % of Revenue from Carbon Credits

% of Revenue refers to the proportion of a project's total revenue that comes from the sale of carbon credits.

Rationale	The higher the proportion of a project's revenue that comes from carbon credits, the greater the likely importance of carbon credits to the financial attractiveness of the project. If credits only represent a fraction of the financial return for the project, but the project still claims credits representing 100% of the emission reductions or removals achieved, additionality is more uncertain.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑				☑	

Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates that less than 20% of revenue comes from carbon credits and 5 indicates that carbon credits are likely the only source of revenue for the project.
Scoring Approach	MSCI S&C conducts a detailed review of project documentation to identify the sources of revenue of a project. Where financial data is not present, the rough proportion of revenue is estimated for each revenue source given the project's activities. For example, for projects that engage in timber harvesting, information on the % of the land area that is planned to be harvested is combined with data on the commercial value of tree species planted in the country of project development. Data on the commercial value of tree species comes from a range of national timber datasets, such as Agrifarming, the Food and Agriculture Organization of the United Nations (FAO) and Wikifarmer.[7] This creates an estimate of the significance of commercial harvesting revenue sources compared to carbon credits, given estimated annual issuances and average realized credit pricing for ARR projects. Projects then receive a score from 1 to 5 based on the proportion of revenue that carbon credits are estimated to represent in the following way: - 5 = A very high (80%+) proportion of revenue is estimated to come from carbon credits - 4 = A high (60-79%) proportion of revenue is estimated to come from carbon credits - 3 = A medium (40-59%) proportion of revenue is estimated to come from carbon credits - 2 = A low (20-39%) proportion of revenue is estimated to come from carbon credits - 1 = A very low (<20%) proportion of revenue is estimated to come from carbon credits

[7] Food and Agriculture Organization of the United Nations (FAO). (n.d.). Forestry production and trade (FAOSTAT). Food and Agriculture Organization of the United Nations; Wikifarmer. (n.d.). Market prices. Wikifarmer; AgriFarming. (n.d.). AgriFarming: Agriculture, farming, and gardening information. AgriFarming.

1.1.1.2 IRR Analysis

It is important for ARR projects to demonstrate that without carbon credits there would have been more profitable alternative uses of that land than tree planting. Projects can evidence this by transparently estimating the profitability of alternative land uses. Projects that conduct this analysis and illustrate a high degree of difference between the project scenario and the most profitable alternative land use support their additionality claims.

There are two metrics that are used to evaluate this sub-criterion:

- **1.1.1.2.1 Financial Tests and Transparency:** Whether the project uses a detailed and transparent approach to their financial analysis.
- **1.1.1.2.2 Financial Differences:** Whether there is a significant difference in profitability between the most profitable alternative land use and the project's activities.

The overall score for this sub-criterion is reached by weighting each of these factors 25% and 75% respectively.

1.1.1.2.1 Financial Tests

Financial tests refer to whether the project uses a transparent approach to their financial analysis.

Rationale	A project that conducts a more detailed financial analysis, in which key information is transparently given, provides more support and credibility to the outcome of this analysis.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates that the project does not appear to have conducted any financial analysis and 5 indicates that the project conducted a full IRR or NPV analysis, and included detailed cost assumptions transparently in its documentation.					
Scoring Approach	MSCI S&C reviews the approach that a project took (if any) regarding its financial analysis and the types of tests performed.					

1.1.1.2.2 Financial Differences

Financial differences relate to the magnitude of the difference between the expected profitability of the most profitable alternative use of the land, and the profitability of the project's activities without carbon credits.

Rationale	If the project area could have been used for a more financially attractive land use other than the project's activities, then it indicates that the project activities would not have gone ahead in the absence of carbon credits. Alternatively, if no other more financially attractive land use existed for the project, then the project may have gone ahead even without carbon credits.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates that the project's activities are thought to be equal to the most profitable land use and 5 indicates that the most profitable land use is more than 10x the profitability of the project's activities (without carbon credits).					
Scoring Approach	MSCI S&C identifies the expected profitability of the different alternative land uses that the project presented. The profitability of the most profitable land use is then compared to the profitability of the project scenario without carbon credits. Projects are then scored on a 1 to 5 scale based on this difference, with projects receiving a higher score the greater the difference in profitability.					

1.1.1.3 Prior Consideration

Projects that can demonstrate that carbon credits were considered prior to their decision to start, provide more evidence that credits acted as an important incentive in starting mitigation activities.

Two key sub-criteria are used to evaluate this:

- **1.1.1.3.1 Evidence of Consideration:** Whether any evidence exists that credits were considered prior to the project start.
- **1.1.1.3.2 Registration Gap:** Whether a significant gap exists between the start of the project's activities and the initial registration and issuance date.

The overall score for 1.1.1.3 Prior Consideration is determined by an equal weighting of these sub-criteria.

1.1.1.3.1 Evidence of Consideration

Evidence of consideration refers to whether the project has specific evidence that demonstrates that the use of carbon credits was considered prior to the project start date.

Rationale	Evidence that carbon credits were considered prior to the project start date indicates that credits played an important role in this decision process. On the other hand, if no evidence of prior consideration exists, there is a higher chance that the decision to go ahead with the project occurred without any expectation of carbon credits.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates that no evidence has been made available, and 5 indicates that good quality evidence of prior consideration exists.					
Scoring Approach	MSCI S&C identifies whether any evidence exists that carbon credits were considered prior to the project start date. This evidence may include a letter or notification of intent					

sent to a registry (such as CDM or Verra), the employment of a carbon credit consultant, or board meeting minutes indicating that carbon credits were analyzed.

The date of any evidence of carbon credit consideration is then compared to the project start date to determine whether credits were considered prior to the start date or not.

1.1.1.3.2 Registration Gap

Registration gap evaluates the gap between the start date of the project activity and the project being registered with a crediting standard and able to issue credits.

Rationale	A longer gap between the start of project activity and the project's registration suggests the project was able to maintain, at least to an extent, activities, and investment even in the absence of carbon credits. If credits were very important and decisive in the project going ahead, then we would typically expect a project to work hard to minimize this time taken in the registration process.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					☑

Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates a very significant gap between the initial decision date and the registration date and 5 indicates a short or inconsequential gap.
Scoring Approach	MSCI S&C analyzes project documentation to determine the project's start date and compared this to the date of registration and date of first issuance of the project using the MSCI Carbon Markets platform. The project stated start date is compared to the registration/issuance date and then categorized the gap between these dates into a 1 to 5 scale: - 5 = 2 years or fewer - 4 = 3-4 years - 3 = 5 to 6 years - 2 = 7-9 years - 1 = 10 years or higher

1.2 Common Practice

If planting initiatives were already common practice within a region at the time a project started, then it suggests that the project's activities could have been implemented without carbon credits.

There are two metrics that are used to evaluate this sub-criterion:

- **1.2.1 Evidenced Common Practice:** Whether the project clearly evidences that the project was not common practice in that region.

1.2.2 Geospatial Common Practice: The extent to which forest cover and growth is common in the area surrounding the project, as determined through a geospatial assessment of forest management practices.
1.2.3 Third-Party Common Practice: Whether the project activity appears to have become common practice within the country without the support of carbon credits.

Each of these criteria is assessed independently on a scale of 1 to 5.

The overall score is then based on weighting 1.2.1 Evidenced Common Practice 20%, 1.2.2 Geospatial Common Practice 40% and 1.2.3 Third-Party Common Practice 40%.

1.2.1 Evidenced Common Practice

Evidenced Common Practice relates to whether the project clearly evidences that the project was not common practice in that region.

Rationale	By providing a well-evidenced justification and evaluation that the specific mitigation activity is not common practice in that specific region, projects can demonstrate that the nuances of their activities are unique and not common.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates no common practice analysis was conducted and 5 indicates a well-evidenced common practice was conducted that revealed no similar projects exist in that region.					
Scoring Approach	MSCI S&C reviews project documentation to assess what type of common practice analysis was performed and, if any, how many similar projects were identified. The type of common practice analysis is scored on a four-point scale from 1 to 5 as follows: - 1 = No common practice analysis was performed - 2 = Reference of common practice is only made through a simple attestation or statement with some similar activities identified - 4 = Detailed common practice analysis was performed with a number of similar activities identified - 5 = Detailed common practice analysis was performed, incorporating a combination of primary and secondary research, and no similar activities were identified.					

1.2.2 Geospatial Common Practice

Geospatial Common Practice assesses the extent to which forest management practices are common in the area surrounding the project, as determined through a geospatial assessment of forest management practice types.

Rationale	A geospatial analysis of the areas surrounding the project can reveal whether similar reforestation or afforestation initiatives are common practice in the area. If the surrounding areas are already practicing

similar forest management techniques, it indicates that these types of initiatives may already be common practice in that locality.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑	☑				

Scoring Definition

Each project is scored on a 1-5 scale, where 1 indicates the surrounding area has similar management practices, and 5 indicates that the surrounding area does not have similar management practices compared to project activity.

Scoring Approach

MSCI S&C use geospatial data from Hongtao Xu et al. (2024)[8] to determine the main type of forest management in 1 km, 5 km and 10 km buffers surrounding each ARR project through the years 2001-2020.

The project activity is then matched to the most common forest management type in the surrounding area to evaluate the extent to which that project activity is common practice. Each project is then scored on a 1 to 5 scale, based on the extent to which the project activity is the most common forest management practice at the time of project start in the following way:

		Most common forest management technique in the surrounding area						
		Unmanaged natural regeneration	Managed natural regeneration	Planted forest more than 15 yrs	Planted forest less than 15 yrs	Oil palm plantation	Agroforestry	Other
Project Activity	Commercial	5	4	3	2	5	2	4
	Agroforestry	4	3	3	2	4	1	3
	Mixed	5	4	3	2	5	3	4
	Revegetation	5	4	2	2	5	3	4
	Conservation	5	5	4	3	5	4	5

1.2.3 Third-Party Common Practice

Third-Party Common Practice refers to whether the project activity appears to have become common practice within the country without the support of carbon credits, based on third-party data. This assessment utilizes FAO land use data to determine the changes in planted forest compared to naturally regenerated forest over time to determine whether the project activity is common practice compared to national changes.[9]

Rationale

The forest management practices performed by a project may become more prevalent in a country over time due to broader economic and policy reasons. For example, if the amount of planted forest is increasing significantly in a country without carbon credits, then this may indicate increased risk that the project activity is occurring in that

[8] Xu, Hongtao, et al. (2024) "Changes in the Fine Composition of Global Forests from 2001 to 2020." Journal of Remote Sensing : 0119.

[9] Food and Agriculture Organization of the United Nations (FAO) (2025) “Land Use” https://www.fao.org/faostat/en/#data/RL

	country without carbon credits and therefore carbon credits are not necessary for that activity to go ahead.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
					☑	☑

Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates there was a large absolute and proportional increase in planted forest in the country prior to the project start, and 5 indicates there was very limited increase in planted forest in that country prior to the project start date.
Scoring Approach	MSCI S&C use FAO land use data to assess the changes in planted and natural forest regeneration on a country level to determine the growth rates and prevalence of planted forests within the country of project development at the date of project start.[10] Each project is then scored on a scale of 1 to 5, taking into account the following components: 1) **Change in planted forest (60% weighting)**: The absolute and proportional growth in planted forest in the 10 years prior to the project start year. 2) **Proportion of planted forest which are ARR projects (20% weighting)**: The proportion of new planted forest growth that has come from ARR projects operating within the carbon markets. 3) **Change in natural forest (20% weighting)**: The absolute and proportional growth in natural regeneration forest in the 10 years prior to the project start year.

1.3 Legal Considerations

Legal Considerations takes into account any policies or targets in the country of development which may incentivize project activity or reduce reliance on carbon credits.

Rationale	Project activities may be incentivized to go ahead due to broader policy or legal considerations within a given jurisdiction or state. Through a detailed analysis of relevant laws or policies that exist in the jurisdiction in which a project operates, it is possible to understand whether legal considerations may have influenced the project activity to go ahead even without carbon credits. The presence of strong legal incentives such as targets and laws or financial incentives to conduct a project activity may increase the project's additionality risk.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				☑	

[10] Food and Agriculture Organization of the United Nations (FAO) (2025) "Land Use" https://www.fao.org/faostat/en/#data/RL

Scoring Definition

Each project is scored on a 1 to 5 scale, where 1 indicates very high likelihood of legal incentives contributing to project development and 5 indicates very low likelihood of legal incentives contributing to project development.

Scoring Approach

Legal considerations are assessed based on four components: (i) the presence of a relevant policy; (ii) the extent to which it includes a clearly quantified target or commitment; (iii) the extent to which the policy is directly linked to ARR activities, e.g., the planting of trees, and (iv) if the incentive will directly reduce the cost of implementing an ARR project. Each policy is scored on a 1 to 5 scale based on these four components.

The following seven policy types are considered in the assessment:

Regulations and Laws	
Sector-specific Targets and Strategies	Official government strategies, roadmaps or action plans that include specific goals or expectations for the land use, forestry or agriculture sectors — particularly regarding forest cover, reforestation or ecosystem restoration.
Nationally Determined Contribution (NDCs)	Whether ARR activities are explicitly included in the country's Nationally Determined Contribution (NDC).[11]
Regulations/Laws	Legally binding rules that require certain land uses, forest conservation laws, or land restoration requirements.
Incentives	
Grants and Subsidies	Direct financial support provided by governments or international agencies to encourage reforestation or revegetation.
Tax Credits	Reductions in tax liabilities for entities that implement ARR activities.
Preferential Loans or Finance	Access to below-market-rate loans or favorable financial terms for reforestation or revegetation activities.
Capacity Building and Training	Technical assistance, education or institutional support aimed at improving capacity to implement ARR, such as training forest managers or establishing extension services.

Based on that maximum score for each policy type that is present in each year, a table is constructed for each country and year to develop an overall Policy Risk scorescore for each country.

This is then balanced with a Government Volatility scorescore which takes into account how environmentally focused a government is at the time of project implementation. Government volatility is assessed based on the following three criteria, weighted equally:

Government Volatility Criteria	
Leadership Stance	The extent to which the government at the time of implementation is actively supporting climate policies.

[11] A Nationally Determined Contribution (NDC) is a climate action plan submitted by each country under the Paris Agreement, outlining its targets and measures to reduce greenhouse gas emissions and adapt to climate impacts.

Policy Volatility	Whether policies have been enhanced, upheld or reduced by the government.
Multilateral Agreement Compliance	Whether the government actively complies with multilateral agreements, remains neutral, fails to comply or has withdrawn from multilateral agreements.

Government volatility is used to determine the likelihood that the legal incentives in that year are likely to be enforced and therefore the extent they are likely to impact the additionality of a project in the country. This information is collected from various news sources and combined with data from the United Nations Framework Convention on Climate Change to determine the government's stance on environmental policy.

Based on the Policy scorescore and volatility in the country and year in which the project started, each project is scored on a 1 to 5 basis as follows:

- 1 = The project was developed in a country with very strong policies incentivizing ARR activities under a government actively prioritizing environmental protection.
- 2 = The project was developed in a country with strong policies incentivizing ARR activities under a government likely to prioritize environmental protection.
- 3 = The project was developed in a country with some policies incentivizing ARR activities under a government with a neutral stance on environmental protection.
- 4 = The project was developed in a country with few policies incentivizing ARR activities under a government unlikely to prioritize environmental protection.
- 5 = The project was developed in a country with few to no policies incentivizing ARR activities under a government actively avoiding environmental protection.

1.5 Baseline Reasonableness

Land may experience natural biomass regrowth or regeneration even without the project's activities. Some research even indicates that forests that regrow naturally may store more carbon.[12] It is also possible that the land would have been (re)planted by the owners of the land anyway, even without the incentive of carbon credits (e.g., as part of a timber company's normal harvesting cycle). The amount of carbon sequestered through these alternative non-carbon credit land uses (the 'baseline' scenario) should be deducted from the total carbon sequestered by the project to derive the amount of carbon credits that it can issue.

Therefore, it is important that ARR projects appropriately assess the potential uses of their project area, and the associated biomass regrowth of each, in their baseline scenario (i.e., the counterfactual scenario without the project's activities).

As it is not possible to know for certain what would have happened in this counterfactual scenario, assessing the reasonableness of a project's baseline scenario assumptions must be done in a probabilistic way.

Two sub-components are considered to evaluate a project's baseline reasonableness:

[12] Mo, L., Zohner, C.M., Reich, P.B. et al. "Integrated global assessment of the natural forest carbon potential." *Nature* (2023). https://doi.org/10.1038/s41586-023-06723-z.

- **1.5.1 History and Ownership:** Whether the history and ownership of the project and surrounding area suggests that afforestation/reforestation was likely.
- **1.5.2 Reasonableness of Baseline Removals:** Whether the project appropriately accounts for carbon removals that would have occurred without the project, given the baseline scenario.

Each of these criteria is assessed independently on a scale of 1 to 5. The overall score is reached through an equal weighting of both sub-criteria.

1.5.1 History and Ownership

The history and ownership structure of a project area are an important input in determining the extent to which reforestation of that area was likely in the absence of carbon credits.

Two main factors are considered as part of this assessment:

- **1.5.1.1 Plausible Ownership Structure:** Whether afforestation/reforestation (without credits) is plausible given the ownership structure of the project area.
- **1.5.1.2 Forested Area History:** Whether natural reforestation is plausible given the historic levels of forest cover in the project area.

Each of these sub-criteria is assessed on a scale from 1 to 5. The overall score for 1.5.1 History and Ownership is determined by weighting these two factors by 10% and 90% respectively.

1.5.1.1 Plausible Ownership Structure

Plausible Ownership Structure relates to the extent deforestation of the project area was considered likely given the ownership structure of the project area.

Rationale	Some project areas may be owned by individuals or organizations that are more likely to have planted trees or (re)grown forests, even without carbon credits. If this is the case, the sale of credits does not remove any additional carbon versus what would have otherwise occurred.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates that very high plausibility of reforestation and 5 indicates very low plausibility of reforestation.					
Scoring Approach	MSCI S&C reviews a project's documentation to identify the current landowner(s) and project proponent(s). The plausibility of reforestation given that owner/proponent is then assessed with projects scored on a 1 to 5 scale based on this plausibility. For example, projects that are run by timber companies that have a long history of growing and harvesting land are more likely to have reforested the project area anyway (and hence score a 1) versus projects that are community-owned or owned by small-scale agricultural farmers. Note that timber companies can often adjust their natural harvesting cycles to improve the sequestration of carbon that occurs on their land. However, this activity is incentivized through a different type of carbon credit project, known as Improved Forest Management (IFM) and, hence, benefits of this activity should not be incorporated into an ARR project.					

1.5.1.2 Forested Area History

Forested Area History relates to whether natural reforestation is plausible given the historic levels of forest cover in the project area.

Rationale	Projects that took place on recently forested land are more likely to experience natural forest regrowth and regeneration. In contrast, if the project area has remained barren throughout its recent history, the likelihood of natural regrowth is lower.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑	☑				

Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates that there has been very high forest cover in the project area over the past 10 years and a recent history of harvesting, and 5 indicates that there is no recent history of forest cover or forest loss.
Scoring Approach	For each project, MSCI S&C conducts geospatial analysis to estimate the historic forest cover of the project area (10 years prior to the project start date, 5 years prior to the project start date, and 2 years prior to the project start date). For projects that have experienced recent forest loss, the drivers of this forest loss are assessed through a combination of project documentation and geospatial analysis. Any recent change in land ownership that may represent a departure from recent forest cover trends is also considered to control for any human deforestation created by previous landowner. In this way, developers that purchase land to conserve and reforest it are not penalized for actions taken by the previous landowner. Each project is then scored from 1-5 based on the level of historic forest cover (10 years, 5 years and 2 years prior to the project start) and the drivers of forest loss as follows:

		Driver of recent forest loss			
		None	Harvesting	Human Deforestation	Fire
Recent forest cover	Majority (50%+)	3	1	2	2.5
	Significant (25-49%)	4	2	2.5	3
	Limited (5-24%)	4.5	2.5	3	3.5
	None (<5%)	5	n/a	n/a	n/a

1.5.2 Reasonableness of Baseline Removals

The Reasonableness of Baseline Removals determines whether the estimates of baseline calculations are in line with expected revegetation rates and if this is accounted for when estimating the project's carbon removals.

Two main factors are considered as part of this assessment:

- **1.5.2.1 Baseline Removals:** Whether the project appropriately accounts for carbon removals that would have occurred without the project, given its baseline.
- **1.5.2.2 Geospatial Reference Regions:** Whether similar reference plots appear to experience increased vegetation and carbon stocks during the project lifetime without the support of carbon credits.

Each of these sub-criteria is assessed on a scale from 1 to 5. The overall score for 1.5.2 Reasonableness of Baseline Removals is determined by weighting these 1.5.2.1 Baseline Removals by 60% and 1.5.2.2 Geospatial Reference Regions 40% respectively.

1.5.2.1 Baseline Removals

Baseline Removals refers to whether the project appropriately accounts for carbon removals that would have occurred without the project, given its baseline.

Rationale	An area may experience natural biomass growth even in the absence of the project's activities. Projects should appropriately account for this carbon stock growth through an accounting of these removals in their baseline scenario calculations. Projects that do not appropriately account for this will likely over-estimate their total net removals impact.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑	☑				

Scoring Definition	Each project is scored on a 1-5 scale, where 1 indicates that the project area has high probability of baseline removals but no accounting for them in their emission calculations, and 5 indicates that the project appears to have appropriately accounted for baseline removals given that project's characteristics.
Scoring Approach	Evaluating the reasonableness of the project's baseline removals accounting depends on both (i) the risk that baseline carbon stocks would have increased in the area without the project's activities; and (ii) the amount of baseline removals that the project has accounted for. The probability that baseline carbon stocks would have increased is driven by the land use in the baseline scenario and the historic land use of the project area. Projects in which the area was previously forested, or include grassland or shrubland in the baseline scenario, have higher probability of some natural removals occurring. In contrast, projects that take place on previously barren or agricultural land, have lower likelihood of baseline removals occurring. The previous land use is analyzed through project documentation and geospatial analysis to form an assessment of baseline removals risk. Based on the previous and baseline land use, projects are categorized based on the probability of baseline removals occurring. This is then combined with what amount and proportion of total net emission reductions the project has accounted for in their baseline removals calculations. Projects are then scored on a 1 to 5 score based on both the risk and level of accounting for baseline removals in the following way:

	Probability of baseline removals

		Very Low	Low	Medium	High	Very High
Baseline removals	Very High	5	5	5	5	4.5
	High	5	5	5	4.5	4
	Medium	5	5	4.5	4	3.5
	Low	5	4.5	4	3.5	3
	None	4.5	4	3.5	3	1

1.5.2.2 Geospatial Reference Regions

Geospatial Reference Regions evaluate whether similar reference regions appear to experience increased vegetation and carbon stocks during the project lifetime.

Rationale	Growth in vegetation and carbon stocks may occur naturally in a project area even without the project's activities. If similar control plots to the project area exhibit significant vegetation growth, it may indicate that the project's vegetation and carbon stock growth may have occurred naturally or under typical baseline management practices.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				

Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates the project is located in an area with high risk of natural regeneration and 5 indicates that there is a very low likelihood of natural regeneration without the project activity.
Scoring Approach	For each project, geospatial analysis is used to evaluate the likely change in vegetation indices that would have occurred in the baseline scenario, utilizing a similar methodology to Verra's VM0047 dynamic baseline assessment. First, project plots are matched to reference regions in nearby areas with similar characteristics based on four characteristics: (i) elevation, (ii) slope, (iii) initial stocking index and (iv) historical precipitation trends. These reference regions then represent control plots, which act as indications of what would have occurred under baseline or business-as-usual conditions. For each project area and its associated reference regions, three stocking indices (NDMI, NDVI, NBR) are then extracted from 2000 to 2024. In general, multiple reference regions are used to minimize the overreliance on a single region. To estimate the risk of carbon stock changes in the baseline scenario, the change in vegetation indices in the control plots are compared to the change in vegetation indices in the project area. The vegetation changes are assessed using an average of the three indices. Each project is then scored on a 1 to 5 scale based on the extent of vegetation growth in the control plot compared to the project area, as follows: - 5 = Very low risk of natural regeneration due to decrease in vegetation indices in control plot.

- 4 = Low risk of natural regeneration due to very low increase in vegetation indices in the control plot.
- 3 = Moderate risk of natural regeneration due to moderate increase in vegetation indices in the control plot.
- 2 = High risk of natural regeneration due to high increase in vegetation indices in the control plot.
- 1 = Very high risk of natural regeneration due to very high increase in vegetation indices in the control plot.

6. Criterion 2 – Quantification

Quantification refers to the likelihood that the emission reduction or removals claimed by a project are accurate, assuming the baseline scenario is correct. It includes both emission reductions or removals within a project area, and those that have occurred outside the project area, known as leakage.

Along with the strength of baseline assessment, Quantification is a key determinant of the risks of over-crediting: whether the number of credits issued by the project is equal to the CO_2e actually reduced/removed. In theory, all carbon credits are worth the equivalent of 1 tonne of CO_2e reduced or removed. A low carbon quantification score means that the emission reductions or removals delivered by the credit is likely to be less than 1 tonne.

Quantifying an ARR projects' emission removals requires a complex estimation of the project's carbon stock and growth over time. Compared to other nature-based projects, the risk of leakage is inherently lower for ARR projects but must also be considered and accounted for.

As ecosystems spread over an often very large and sometimes inaccessible areas, measurement of ARR projects' carbon stock inevitably involves a degree of estimation and inaccuracy. Historically, carbon stock was measured by teams on the ground taking occasional samples of the area's biomass, although, increasingly, geospatial datasets and analysis are being used to complement this manual sampling.

Figure 7 illustrates the sub-criteria through which MSCI S&C assesses the quantification of ARR projects, and the Integrity Assessment framework sub-criteria that they refer to. The detailed sub-criteria are described in Figure 8.

Figure 7: ARR Quantification assessment approach

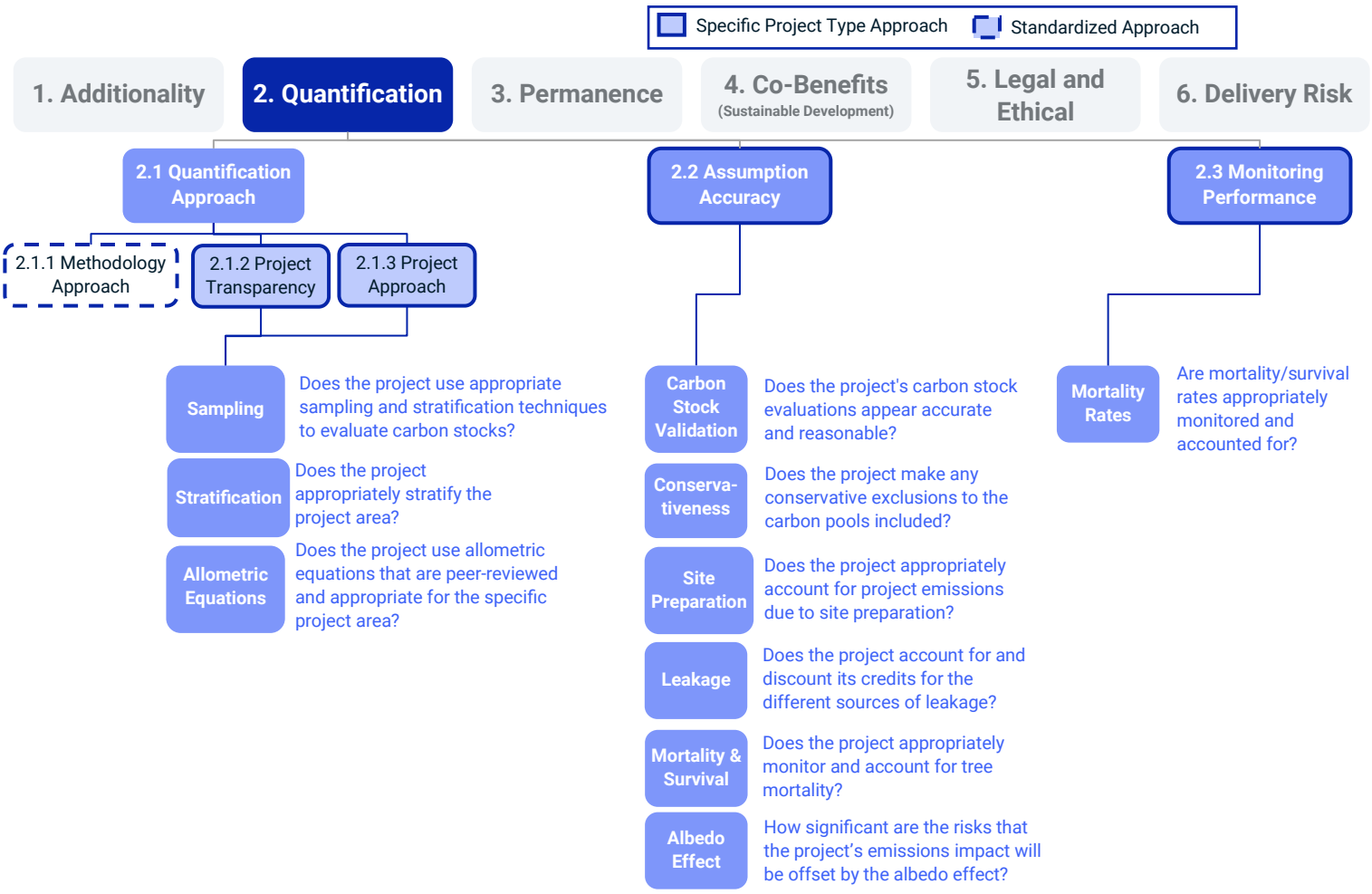


Figure 8: MSCI Quantification integrity assessment framework

Sub-criteria	Metrics	Rationale	REDD+	Renewables	ARR	Cookstoves	Biochar	Landfill Gas	Safe Water	IFM	Waste Mgmt.	Blue Carbon
2.1 Quantification Approach	2.1.1 Methodology Approach	Through setting the assumptions that projects must make, and the sources that can be used to estimate them, crediting program methodologies can play an important role in reducing or even increasing the level of quantification risk.	✓ *Standardized approach*									
	2.1.2 Project Transparency	Transparent documentation and detail on a project's assumptions are required to make an objective assessment of its approach to carbon quantification.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.1.3 Project Approach	Two projects with the same methodology may carry different quantification risks depending on the approaches that each uses.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.2 Assumption Accuracy	Quantification Accuracy	Each project type has a set of key assumptions that determine the accuracy of their carbon quantification. Evaluating the reliability and accuracy of these key assumptions shows whether a project has over- or understated their emission reductions or removals.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2.3 Monitoring Performance	2.3.1 Monitoring Plan	Projects that have effective processes in place to regularly monitor and measure key quantification inputs and assumptions are more likely to accurately estimate and update their emissions impact.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.3.2 VVB Analysis	Projects that use a diverse mix of well-regarded verification and validation bodies (VVBs) will improve the likelihood that key quantification details are accurately checked and validated.	✓ *Standardized approach*									
2.4 Red and Green Flags	News scanning	Review of academic papers, industry sources and the news for Red or Green Flags relating to project's quantification.	✓ *Standardized approach*									

2.1.3 Project Quantification Approach

Projects that use scientific best practice techniques to estimate key components of their quantification increase the probability that CO_2e impact will be accurately measured.

There are three metrics that are used to evaluate this sub-criterion:

- 2.1.3.1 Sampling: Whether the project uses suitable and representative sampling approaches to estimate its carbon stock.

- **2.1.3.2 Stratification:** Whether the project appears to employ an appropriate stratification of the project area.
- **2.1.3.2 Allometric Equations:** Whether the project employs a suitable allometric equation as part of its carbon stock calculations.

Each of these sub-criteria is assessed on a scale from 1 to 5. The overall score for 2.1.3 Project Quantification Approach is determined by weighting these two factors by 40%, 20% and 40%, respectively.

The overall score for this sub-criterion is reached by weighting each of these factors equally.

2.1.3.1 Sampling

Sampling relates to whether the project uses representative sampling to measure the carbon stock within the project area.

Rationale	To estimate the carbon stock within their area, projects must use tree measurements from a sample area as an input in their calculations. Given these measurements are then extrapolated over the entire project area, the accuracy of them is dependent on how representative the sampled area is to the entire project area. Projects that use more representative sampling techniques over a larger area increase the chances that this sampled area will be representative of the entire project area.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				☑	

Scoring Definition	Each project is scored on a 5-point scale from 1 to 5, where 1 indicates a relatively low sampling representativeness and 5 indicates a relatively high sampling representativeness.
Scoring Approach	MSCI S&C conducts a detailed review of each project's documents to understand its approach to carbon stock estimation and its sampling procedures during both its design and monitoring phases. For each project two key factors are considered. First, if the project combined in-field sampling with any remote sensing. Second, the number and size of plots sampled to understand what proportion of the total project area had been sampled. Projects that sample over 0.1% of their area and support this with remote sensing receive the highest score of 5. Projects that sample less than 0.01% of their project area or do not provide any transparent information on their sampling receive the lowest score of 1.

2.1.3.2 Stratification

Stratification refers to whether the project appears to employ an appropriate stratification of the project area.

Rationale	Stratification relates to the layers of different vegetation within a forest. Appropriately stratifying the project's land into areas of distinct vegetation is an important part of accurately estimating and recording the carbon stock within a project area. Projects

	that do not appropriately stratify their land may use samples from one vegetation layer to make estimates for another vegetation layer, which may have very different characteristics.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑	☑			☑	

Scoring Definition	Each project is scored on a 5-point scale from 1 to 5, where 1 indicates that no stratification appears to be used despite clear differences in tree species, age and forest type, and 5 indicates that an appropriate amount of stratification has been used by the project.
Scoring Approach	MSCI S&C reviews in detail each project's documentation to understand if and how they have created different strata within the project area. The number of strata is then compared to the number of tree species planted to validate whether the stratification appears appropriate based on tree types. Projects receive one point for stratifying their area based on species, age and region respectively (with a maximum score of 3). Projects then could receive an additional 2 points if the number of strata was more than the number of tree species planted in the area. These individual scores were then summed, with all projects receiving a score of between 1 and 5.

2.1.3.3 Allometric Equations

Allometric Equations relate to whether the project uses allometric equations that are appropriate for the region, forest type and biome type.

Rationale	Allometric equations are used to convert tree measurements into the amount of carbon they contain. The accuracy of this calculation is therefore dependent on the appropriateness of the allometric equation used. The most scientifically appropriate equations specifically chosen by a project based on their relevance to the project's key characteristics.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				☑	

Scoring Definition	Each project is scored on a 5-point scale from 1 to 5, where 1 indicates that a non-peer reviewed allometric equation was used that does not appear to be appropriate for the region or species, and 5 indicates that a species/region/forest-type relevant equation from a peer-reviewed study was used.
Scoring Approach	MSCI S&C identifies the specific allometric equation(s) a project uses in its carbon stock calculations. This specific study for the allometric equation is then researched to determine its relevance for the project's key characteristics.

The allometric equations used in the carbon stock estimations for each project were collected and researched to determine the relevant species and location of the study. This, alongside data from GlobAllomeTree,[13] was used to determine if the most appropriate equation was used or if there were alternative equations relevant to similar species which would have been more accurate.

Projects with a species and project area specific allometric equation or growth model will score a 5. Projects using allometric equations or growth models that are not species specific or country specific but relevant equations or models are available will score a 1.

2.2 Accuracy of Assumptions

The accuracy of key project quantification assumptions is evaluated against a combination of internal and third-party estimates to determine whether they appear reasonable.

There are four components that are used to evaluate this sub-criterion:

- **2.2.1 Carbon Stock Validation:** Whether the project's carbon stock assumptions appear accurate and reasonable over the project lifetime.
-
- **2.2.2 Site Preparation Project Emissions:** Whether the project has appropriately accounted for any emissions caused by preparing the site for planting.
- **2.2.3 Leakage:** Whether the project appropriately accounts for and compensates for the threat of leakage.
- **2.2.4: Mortality and Survival Rates:** Whether the project appropriately considers and accounts for survival rates in its calculation of carbon stocks.
- **2.2.5 Albedo Effect:** Whether the Earth's surface reflectivity risks offsetting some of the climate benefits of carbon sequestration through the albedo effect.

Each of these criteria are evaluated on two dimensions:

- **A percentage accuracy,** reflecting how closely the project's assumptions align with independent data. Values above 100% indicate conservative assumptions (i.e., underestimation of impact).
- **A 1 to 5 score**, reflecting the level of alignment and uncertainty.

The overall score is reached through a weighted multiplicative approach based on the percentage accuracy of each sub-criterion. A **multiplicative approach** is applied to the percentage accuracy values to calculate an overall accuracy score. This method reflects consistent alignment across sub-criteria and preserves credit for conservative assumptions where applicable.

2.2.1 Carbon Stock Validation is weighted 70%, 2.2.4: Mortality and Survival Rates is weighted at 15%, and 2.2.2 Site Preparation Project Emissions, 2.2.3 Leakage and 2.2.5 Albedo Effect are weighted at 5% each.

[13] Henry M, et al. SaiGlobAllomeTree: international platform for tree allometric equations to support volume, biomass and carbon assessment. *iForest* (early view) - doi: 10.3832/ifor0901-006

2.2.1 Carbon Stock Validation

Carbon stock validation determines whether the project's carbon stock assumptions appear accurate and reasonable over the project lifetime.

Two main factors are considered as part of this assessment:

- **2.2.1.1 Above-ground Biomass Carbon Stock Validation:** Whether the project's carbon removal estimates for above-ground biomass appear accurate and reasonable.
- **2.2.1.2 Soil Carbon Stock Validation:** Whether the project's soil carbon removal estimates appear accurate and reasonable.
- **2.2.1.3 Conservativeness:** Whether the project has conservatively excluded certain sources of carbon pools from its calculations.

Each of these sub-criteria is assessed on a scale from 1 to 5. The overall score for 2.2.1 Carbon Stock Validation is determined by weighting these **2.2.1.1 Above-ground Biomass Carbon Stock Validation** by 80 % and **2.2.1.2 Soil Carbon Stock Validation** and **2.2.1.3 Conservativeness** by 10% respectively.

2.2.1.1 Above-ground Biomass Carbon Stock Validation

Above-ground Biomass Carbon Stock Validation refers to whether the project's carbon removal estimates for above-ground biomass appear accurate and reasonable.

Rationale	Estimation of above-ground carbon stock within a project area is subject to calculation uncertainty. Estimating the change and growth in carbon stock is the key input for ARR projects to estimate the amount of carbon removals they have achieved. Projects that over-estimate their growth in carbon stock will therefore over-estimate their emission removal impact.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				

Scoring Definition	Each project is scored on both a 1 to 5 scale and a continuous % scale, where 100% indicates that our estimates (once accounting for uncertainty intervals) match the project's estimate, 50% indicates that the project's carbon stock per hectare is only 50% of the project's assumption and 200% indicates that the project's carbon stock per hectare may be over double the project's assumption.
Scoring Approach	MSCI S&C extracts information on a project's assumptions for growth in carbon stock. As projects do not provide this in a standardized way, three main inputs are considered in the following order of priority: - **Carbon Stock Estimates:** Project assumptions on the total or per-hectare carbon stock within the project area over time. - **Project Removals:** Project's claimed amount of emission removals due to the project activities (before accounting for any baseline removals). **Project Issuances:** The number of credits that the project has issued since it started. For projects that directly provide above-ground biomass estimates, these estimates are used. For projects that only provide total carbon stock estimates, including other carbon sources, either project assumptions on the mix of carbon sources or regionally

specific default values are used to estimate the above-ground biomass component of a project's carbon stock.

The project estimated values are then compared to geospatial estimates, using third-party data from Chloris Geospatial.

Chloris Geospatial produces direct estimates of aboveground (AGB) stock and change and forest cover maps, including allocation of forest losses between stand replacement disturbances and forest degradation. The Chloris AGB stock product is a 30 m resolution direct estimation of live aboveground biomass produced by proprietary machine learning models. Chloris Geospatial incorporates remote-sensing measurements from spaceborne and airborne LiDAR, the United States Geological Survey's Landsat satellites, and other instruments. To capture spatial variability in ecological zones, vegetation types and structure, the Chloris models are trained at the continental/regional scale and capture biogeographic variation in both allometry and the relationship between aboveground biomass and remote sensing measurements. Chloris provide these estimates as an uncertainty range to reflect the inherent modelling uncertainties that exist, and their lower-bound uncertainty intervals is used to compare against project's estimates.

This is evaluated over the full project area, not just the plantation area, in order to identify situations where a project may plant trees in one area but offset these with harvesting in other sections of the project boundary.

Chloris' geospatial estimate (using the lower-bound uncertainty interval) is then compared to the project assumption to derive the % score based on this ratio difference.

This % score is then converted into a numeric scale by assuming 100% or more equals a score of 5, 50% equals a score of 3.

2.2.1.2 Soil Carbon Stock Validation

Soil Carbon Stock Validation refers to whether the project's soil carbon removal estimates appear accurate and reasonable.

Rationale	Estimation of soil carbon stock within a project area is subject to calculation uncertainty. Accurately estimating soil carbon stocks is important for ARR projects to estimate the amount of carbon removals they may achieve. Projects that overestimate soil carbon estimates risk overestimation of their emissions removal impact.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑	☑				

Scoring Definition	Each project is scored on a 1-5 scale and a continuous percentage scale, where 100% indicates that our soil carbon estimates at project start match the project's estimate, 50% indicates that the project's soil carbon stock per hectare is only 50% of the project's assumption and 200% indicates that the project's soil carbon stock per hectare may be over double the project's assumption.

Scoring Approach	MSCI S&C extracts information on a project's assumptions of soil carbon at project start to determine the baseline carbon stocks and if these estimates are in line with geospatial data from the FAO's Global Soil Organic Carbon Map.[14] This percentage score is then converted into a numeric scale from 1 to 5 where 100% or more equals a score of 5, 50% equals a score of 3.

2.2.1.3 Conservativeness

Conservativeness relates to whether the project has excluded certain sources of carbon pools from its calculations.

Rationale	The carbon stock of a forested area comprises not only the trees that are visible above-ground, but also below-ground biomass, soil organic carbon and other dead wood. Deforestation and degradation can impact the carbon stored in each of these carbon pools but is not always accounted for by projects. Projects that do not estimate the carbon stock within certain pools, such as soil organic carbon, will estimate their emissions impact more conservatively than if they include all these pools in their calculations.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑			☑		

Scoring Definition	Each project is scored on a scale of 2.5 to 5, where 2.5 indicates no optional carbon pools were excluded from a project's calculations and 5 indicates that carbon pools potentially representing 30% of carbon are excluded from a project's carbon stock calculations.
Scoring Approach	MSCI S&C conducts a detailed review of each individual project's key documents to identify which carbon sources were included in its carbon stock calculation. The carbon sources reviewed include: above-ground biomass; below-ground biomass; dead wood; wood products; soil organic carbon and litter. Given that each of these pools has different significance to the overall carbon stock, the proportion of the total carbon stock that any excluded pools likely represent is estimated based on analyzing a sample of similar projects. For example, soil organic carbon is on average 4x more important as a carbon source than dead wood or litter, so its exclusion is more conservative than the exclusion of dead wood or litter. All projects receive a score of at least 3.25 for including mandatory above-ground and below-ground biomass sources. Projects then receive an additional 1 point if they conservatively excluded soil organic carbon, and 0.75 points if they conservatively excluded each of dead wood, litter and wood products.

[14] Peralta, G. et al., 2022. Global soil organic carbon sequestration potential map (GSOCseq v1. 1)–Technical manual. Food & Agriculture Org.

2.2.2 Site Preparation Project Emissions

Site Preparation Project Emissions refers to whether the project has appropriately accounted for any emissions caused during the preparation of its land for planting.

Rationale

When preparing land prior to planting, the site preparation activities involved may release carbon into the atmosphere. Therefore, it is important that projects that conduct site preparation activities that risk creating project emissions appropriately account for these in their net emission calculations.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition

Each project is scored on a scale of 1 to 5, where 1 indicates no project emissions are accounted for despite material site preparation risk and 5 indicates that project preparation emissions are appropriately accounted for.

Scoring Approach

MSCI S&C conducts a detailed review of each individual project's key documents to understand the type of site preparation conducted prior to the project start date, including the proportion of soil disturbed and the techniques used as part of this (e.g., tillage). Based on the level and type of disturbance, a site preparation risk category is assigned to each project, which is then compared to whether any site preparation emissions were accounted for or not, as follows:

		Site preparation risk		
		Low	Medium	High
Accounted for...	No	4.5	3.0	1.0
	Yes	5.0	4.5	4.0

Projects that use a soil conservation protocol receive an additional point onto the scoring above to reach an overall score between 1 and 5.

2.2.3 Leakage

Leakage relates to whether the project appropriately accounts for and compensates for the threat of leakage.

Rationale

Leakage can occur when a project's activities cause an increase in emissions elsewhere. For example, agricultural land may be converted to a forested area, but if consequently this causes a forested area to be deforested for agricultural purposes, then the net effect will be zero. It is important that projects appropriately consider and account for the potential of leakage. Though academic studies have identified that the threat of leakage is lower in ARR projects than other project types, such as REDD+, it is still an important consideration.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 3 to 5, where 3 indicates no leakage deduction is made despite a material leakage threat and 5 indicates that leakage is appropriately accounted for.
Scoring Approach	MSCI S&C conducts a detailed review of each individual project's key documents to understand what the previous land use was and whether any leakage consideration and deduction had been made. The threat of leakage is generally higher where the land was previously used for human activities, such as timber harvesting or agriculture, which might be displaced elsewhere. The overall score is then based on both the previous land use and whether leakage had been considered as follows: - 5 = No leakage threat exists (e.g., previous land use was barren), or leakage has been appropriately considered in the project's calculations. - 4 = Leakage threat exists as land was previously used for human-based economic activities, but leakage is only partially considered in the project's calculations. - 3 = Leakage threat exists as land was previously used for human-based economic activities, but leakage is not considered at all in the project's calculations. Academic literature has demonstrated that the effects and risks of leakage for ARR projects are generally significantly lower than for other nature-based projects (such as REDD+). Hence, the minimum score ARR projects can achieve for this sub-criterion is a 3.

2.2.4 Mortality and Survival Rates

Mortality and Survival Rates refer to whether the project appropriately considers and accounts for survival rates in its calculation of carbon stocks.

Rationale	Ex-ante carbon stock estimation is often reliant on the assumption that all planted trees survive. However, many projects fail to accurately account for species survival rates. Projects that more appropriately account for and monitor tree survival rates over the project lifetime are therefore more likely to accurately measure the carbon stock growth that has occurred within the project area.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				☑	
Scoring Definition	Each project is scored on a 5-point scale from 1 to 5, where 1 indicates that the survival rates are not appropriately monitored by the project and appear significantly overestimated compared to literature estimates, while a score of 5 indicates survival rates are monitored through on-site sampling, appear underestimated compared to literature estimates and species are planted in an area of high suitability.					
Scoring Approach	MSCI S&C assesses the risk of species survival for each project and whether they are accounted for when estimating carbon stocks.					

Survival rates for each project are scored based on the following two components (i) method to estimate survival rates and (ii) survival rate compared to literature benchmarks.

Where literature values are not available, the project's survival rates are compared to the risks based on the project area's suitability. Areas of high suitability are likely to have higher survival rates than areas of low suitability.

Projects are then scored based on the difference between the project estimated survival rate and literature survival rates and the method used to determine the survival rates. Projects using in-field sampling to estimate survival rates score a 4 where the project survival rate is above the literature estimate and a 5 where it is below the literature estimate.

Where projects do not use sampling to determine survival rates, they are scored based on the difference between the project estimate and literature estimate on a range of 1 to 5 where projects estimating below the literature value will score 5.

2.2.5 Albedo Effect

Albedo Effect refers to the extent to which the Earth's surface reflectivity risks offsetting some of the climate benefits of carbon sequestration.

Rationale	The albedo effect refers to the reflectivity of a surface, where lighter surfaces (like snow or desert) reflect more solar radiation and darker surfaces (like forests or asphalt) reflect less and absorb more. Land-use changes can alter surface reflectivity and thereby influence climatic impacts, meaning projects may have warming or cooling effects beyond their direct carbon impacts. Some academic studies have suggested that, in areas where vegetative cover becomes darker and therefore absorbs more solar radiation, projects may enhance global warming impacts, therefore reducing some of the climate benefits of carbon sequestration.[15,16] Projects with high albedo offsets are more likely to have a reduced net carbon benefit than those with lower or negative offsets.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
		☑				

Scoring Definition	Each project is scored on a 5-point scale from 1 to 5, where 1 indicates that the albedo effect may offset 100% of the net carbon benefits and where 5 indicates that it is unlikely that the albedo effect will offset any carbon benefits from the project's activities.

[15] Bright, R. M., Davin, E., O'Halloran, T., Pongratz, J., Zhao, K., & Cescatti, A. (2024). Quantifying the climate mitigation potential of land-based carbon sequestration accounting for albedo. *Nature Communications*, 15(1), 1695.

[16] Anderson, R. G. et al. (2011). Biophysical considerations in forestry for climate protection. *Journal of Forestry*, 109(6), 321–328.

The albedo effect is not uniform; it is shaped by several contextual factors that determine whether land-use change leads to a net cooling or warming impact. Key influences include:

- **Geographic location:** In high latitudes, snow cover makes albedo effects particularly strong, as dark forests replace highly reflective surfaces, whereas in the tropics, albedo impacts are smaller relative to carbon benefits.
- **Vegetation type and structure:** Evergreen forests with dense, dark canopies absorb more solar radiation year-round, while deciduous forests and grasslands tend to be lighter and more reflective.
- **Surface and soil characteristics:** Light-colored sandy or dry soils reflect more sunlight, whereas darker, organic-rich or wet soils absorb more, amplifying warming when combined with darker vegetation cover.

Scoring Approach

Using geospatial data from Hasler et al (2024),[17] the likely albedo effect is calculated for each project area given the key project characteristics that drive the albedo effect. Each project is then scored on a 1 to 5 scale based on the extent of this effect as follows:

Albedo Offset Range	scorescore
100% or greater	1
88% - 100%	1.5
75% - 87%	2
63% - 74%	2.5
50% - 62%	3
38% - 49%	3.5
25% - 37%	4
13% - 24%	4.5
Below 13%	5

2.3 Monitoring Performance

The frequency and accuracy of the project's monitoring plan is important to ensure carbon stock is increasing as expected throughout the crediting period.

2.3.1 Monitoring

Monitoring relates to whether the project frequently monitors carbon stock and if the techniques used are appropriate and will provide accurate measurements.

Rationale

As tree growth may vary over time, it is important to ensure this is monitored throughout the project activity to ensure any changes in carbon stock are accounted

[17] Hasler, Natalia, et al. "Accounting for albedo change to identify climate-positive tree cover restoration." *Nature Communications* 15.1 (2024): 2275.

	for. Therefore, a project regularly monitoring its carbon stock will provide a more accurate account of t CO_2 sequestered over time. This can also be supported by the quality of monitoring technique used. A more effective monitoring plan will ensure monitoring occurs annually and includes field measurement and remote sensing data to accurately estimate carbon stock changes.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				☑	

Scoring Definition	Each project is scored on a 5-point scale from 1 to 5, where 1 indicates monitoring every five years and does not use field measurements or remote sensing and lacks transparency regarding monitoring reports. Where 5 indicates regular monitoring is completed by the project using remote sensing and field measurements, and monitoring reports are made publicly available.
Scoring Approach	MSCI S&C assesses the frequency of carbon stock monitoring and monitoring techniques used from each project's documentation.

7. Criterion 3 - Permanence

Permanence refers to the likelihood that the emission reductions or removals achieved by a project will be sufficiently long-term and not released back into the atmosphere. There is growing consensus that 100 years represents a good benchmark for projects to be classified as "permanent." The IC-VCM's Core Carbon Principles require a monitoring and compensation period of at least 40 years for nature-based projects.

A permanent reduction or removal can only be guaranteed where it is physically impossible for a reversal to occur. However, for most projects, a risk of reversal does, to some extent, exist. This risk may be due to natural risks, such as wildfires, or human risks, such as poor project management.

ARR projects involve permanence risks in both successfully establishing a forest and in maintaining and protecting it once grown. In the early stages of a project, as trees grow and forest cover increases, it is imperative that projects undertake planting strategies to ensure planted trees survive. When significant forest cover is established, ARR projects involve both inherent human and natural permanence risks in protecting the area. For example, on the latter, protected forests may be later destroyed by wildfires or other natural disasters. The significance of this permanence risk depends on both the level of natural and human risks, and the extent to which these have been mitigated by the project's activities. This net risk must then be compensated for in the project's crediting methodology.

Given the interplay of permanence risk, mitigation and compensation activities, the overall permanence assessment is conducted in three main steps:

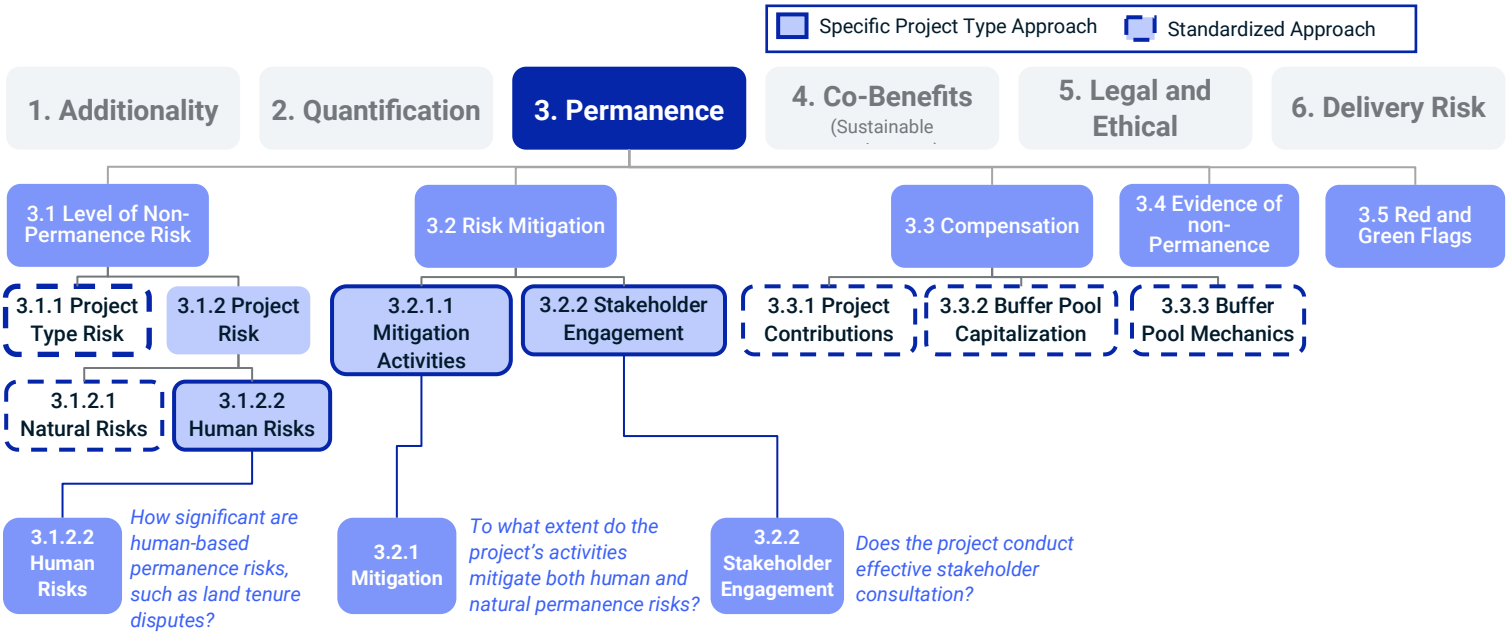
1. **Significance of Risks:** Each relevant risk factor is assessed on a 1 to 5 scale that signifies the proportion of credits at risk of reversal and the likelihood of this occurring. These 1 to 5 scores are also converted into a percentage of carbon stock at risk, which represents a more quantitative measure of the percentage of carbon stocks that are expected to be at risk. These risks are then individually summed to reach an overall permanence risk, reflecting the percentage of all achieved emissions reductions that would be expected to be reversed without any mitigation or compensation activities.
2. **Net Permanence Risk:** The extent to which applied mitigation activities address the permanence risks defined in the significance of risk. This is to ensure that the relevant mitigation activities are used to reduce the relevant components of permanence risks for the project. Each mitigation activity is mapped to the specific permanence risk that it relates to, with assumptions made regarding the proportion of this risk that can be mitigated.
3. **Post-Compensation Risk:** Comparing the net permanence risk score to the buffer pool contribution to ensure any risks that are not mitigated are accounted for[18]. The net permanence risk, which is calculated as a percentage, is directly compared to the project's percentage buffer pool contribution as part of this step.

[18] A buffer pool is a form of insurance mechanism used in many carbon crediting programs. Projects contribute a portion of their credits to a shared reserve (the buffer pool), which is used to compensate for unforeseen reversals (e.g., from wildfires, pests, or illegal logging). If a project fails to maintain its carbon stock over time, credits may be cancelled from the buffer pool to preserve the environmental integrity of the system as a whole.

The remaining percentage of credits therefore represents the percentage of credits for which the project either under- or overcompensated. A negative post-compensation risk score indicates that the buffer pool appears over-sufficient given the net permanence risk of the program. A positive post-compensation risk score indicates that the buffer pool appears insufficient given the net permanence risk of the program.

Figure 9: Permanence integrity assessment approach illustrates the sub-criteria through which MSCI S&C assesses the permanence of the emissions reductions achieved by ARR projects, and the Integrity Assessment framework sub-criteria that they refer to. The detailed sub-criteria are described in Figure 10.

Figure 9: Permanence integrity assessment approach[19]



[19] The approach to assess 3.2.2 Local Stakeholder Engagement is outlined in Section 4.3.2, Local stakeholder engagement.

Figure 10: MSCI Permanence integrity assessment framework

Sub-criteria		Metrics	Rationale	REDD+	Renewables	ARR	Cookstoves	Biochar	Landfill Gas	Safe Water	IFM	Waste Mgmt.	Blue Carbon
3.1 Level of Non-Permanence Risk	3.1.1 Project Type Risk	Project Type Significance	Different project types have inherently different levels of non-permanence risk.	✓ *Standardized approach*									
	3.1.2 Project Risk	3.1.2.1 Natural Risks	The risk of fire, drought, landslide and other natural risks in that project area.	✓		✓					✓		✓
		3.1.2.2 Human Risks	Human-related permanence risks include the strength of land tenure rights or a project developer's experience.	✓		✓					✓		✓
3.2 Mitigation		3.2.1.1 Mitigation Activities	Projects can mitigate non-permanence risks through implementing activities that focus on addressing key risks.	✓		✓	✓	✓		✓	✓		✓
		3.2.2 Local Stakeholder Engagement	Successfully engaging with local stakeholders lowers the risk of human-based non-permanence.	✓		✓	✓	✓		✓	✓		✓
3.3 Compensation and Contributions		3.3.1 Project Contributions	A project's buffer pool contributions should appropriately account for the non-permanence risk.	✓		✓	✓	✓		✓	✓		✓
		3.3.2 Buffer Pool Capitalization	An under-capitalized buffer pool may have insufficient credits to cover future losses.	✓ *Standardized approach*									
		3.3.3 Buffer Pool Mechanics	A buffer pool should have mechanisms in place to ensure projects appropriately account for and estimate their buffer pool credits.	✓ *Standardized approach*									
3.4 Evidence of Non-Permanence		Non-Permanence Events	If significant reversals have occurred without being accounted for, then carbon stock reversals have already occurred.	✓		✓					✓		
3.5 Red and Green Flags		News scanning	Review of academic papers, industry sources and the news for Red or Green Flags relating to project's permanence.	✓ *Standardized approach*									

3.1.2.1 Natural Risks

Natural risks refer to the significance and likelihood that such risks within a project area might lead to a reversal in the emission reductions/removals achieved.

Rationale	Natural disturbances, such as drought, fire or landslides, can threaten the CO_2e stored in land-based carbon pools. These risks are most relevant for nature-based projects, where the CO_2e is stored in carbon pools that are susceptible to a range of natural risks. For example, wildfires may burn down trees within an ARR project, resulting in CO_2 being released into the atmosphere.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑	☑			☑	
Scoring Definition	Each project is scored on a 5-point scale from 1 to 5 for each natural risk type, where 5 indicates no permanence risk and 1 indicates a very significant permanence risk.					
Scoring Approach	MSCI S&C considers five main types of natural risk in our assessment: (i) fire, (ii) drought, (iii) landslide; (iv) windthrow/tropical cyclone (or uprooting of trees by wind); (v) biotic. These risks are assessed independently using MSCI S&C's geospatial analysis. MSCI S&C only assesses natural risks where they are relevant to that project type. For many types, natural risks do not represent a permanence risk as the CO_2e is not stored in a carbon pool at risk of natural disturbances. Major natural risks are assessed for each individual project through geospatial analysis of its boundary, as shown in **Table 1**. For each risk, MSCI S&C looks at the historical trends and patterns of natural risk. Then, these risks are forecast using our in-house climate models that account for the projected change in likelihood as temperatures and climates change. This modelling results in a specific estimate of risk within that project boundary. More detail on MSCI S&C's geospatial permanence methodology can be found in separate methodology note: "MSCI Carbon Project Ratings - Geospatial Methods in Assessing Permanence"					

Table 1: Analytical approach for each natural risk

Wildfire	**Forecast**s the future frequency and severity of fires based on a geospatial analysis and our own modelling.
Drought	Forecasts the intensity and frequency of drought risk for each project.
Landslide	Assesses the percentage of project areas that are currently susceptible to landslides based on the NASA landslide susceptibility map.[20]
Windthrow	Estimates the tropical cyclone return interval for each project area based on a 10,000-year synthetic dataset.
Biotic	Assesses biotic outbreaks (% of area at risk/not at risk), based on the National Insect and Disease Risk Map (NIDRM) 2018.[21]

3.1.2.2 Human Risks

Protected forests are also subject to human-based risks of reversal, given that the areas may be deforested at a later date. If an ARR project successfully grows an area for 20 years, but the area is then deforested anyway, the project's emissions impact will only be transitory. While even a

[20] Thomas Stanley and Dalia B. Kirschbaum, "A Heuristic Approach to Global Landslide Susceptibility Mapping," *Natural Hazards*, 87.1 (2017), 145–64, https://doi.org/10.1007/s11069-017-2757-y, 2017.

[21] US Forest Service, "National Insect and Disease Risk Map (2018 NIDRM)," 2018.

transitory reduction is helpful in providing the climate some short-term "relief," it is less valuable than a more permanent reduction/removal, and cannot be said to be a "true" offset of a fossil fuel emission (which stays in the atmosphere for a very long time).

In order to assess human-based permanence risks, one must consider the different underlying drivers of human-based deforestation. As part of this assessment, four primary components of human risk are analyzed:

- **3.1.2.2.1 Land Tenure:** Whether disputable or unsecure land tenure may impact the stability of the project area's governance and protection.
- **3.1.2.2.2 Crediting Period:** Whether plans are in place to protect the forest beyond the project lifetime to ensure ongoing protection of the area.
- **3.1.2.2.3 Opportunity Cost:** Whether a deforestation-linked alternative land use represents a high opportunity cost of the project activities and therefore may incentivize deforestation in the future.
- **3.1.2.2.4 Observed Risk:** Whether the project has an observed loss event or project status suggests a risk of project permanence.

3.1.2.2.1 Land Tenure

Land Tenure refers to whether any land tenure issues or uncertainties exist in the project area which impact the potential for deforestation in the future.

Rationale	Project areas that have secure land tenure are less prone to illegal settlements or the threat of communities being removed from their land. In this way, agents of deforestation from outside the project area are less likely to inhabit and control the project area.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑			☑	☑	
Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates very high land tenure risks and 5 indicates very secure and stable land tenure with low risk of being seized by agents of deforestation.					
Scoring Approach	MSCI S&C conducts a detailed review of each individual project's documents to identify the security and strength of land tenure rights and the existence of any current or historic land disputes. This is then combined with third-party data on the regional stability of property and land rights. First, the stability and security of land tenure and whether any disputes for the project area existed is considered. This is assessed through the type of land rights in the area and whether documentation is provided to evidence this. Projects with very secure and stable rights received a score of 5. While projects with insecure land rights and known disputes received a score of 1. Second, the security of property and land rights within the relevant region is assessed using third party data from the World Economic Forum and World Bank. For larger countries, such as Brazil, regional state-level data is used. Each area was scored on a 1 to 5 scale based on the stability of property rights and land rights recognition.					

The overall project score is based on a straight average of these two scores.

3.1.2.2.2 Crediting Period Impact

Crediting Period Impact relates to whether plans are in place to protect the forest beyond the project lifetime to ensure ongoing protection of the area.

Rationale

An ARR project may have a lifetime of 30 years, beyond which the project proponents may not be obligated to protect the area. Particularly for ARR projects run by timber companies, it is crucial that the crediting period extends beyond the normal harvesting cycle practiced by the project developer. The risk of abandonment of the project activities are heightened after the end of this project lifetime. In contrast, projects that legally commit to preserving the area beyond the project's lifetime reduce this risk.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					☑

Scoring Definition

Each project is scored on a scale of 1 to 5, where 1 indicates very high risk of abandonment and 5 indicates very limited risk of abandonment within a 100-year period.

Scoring Approach

MSCI S&C identifies the project lifetime and whether any commitments exist beyond this to protect the area. Further, the drivers of deforestation are also considered, as projects in which the agents of deforestation are the project participants may have higher abandonment risk after the crediting period ends. For example, planned deforestation projects with 30-year crediting periods may simply deforest the area at the end of this period.

The total score is therefore determined through a consideration of both the length of legal commitment and project subtype.

		Length of legal commitment (No. of years)			
		0-29	30-39	40-99	100+
Project type	Conservation	2	3	4	5
	Commercial	1	2	3.5	5

3.1.2.2.3 Opportunity Cost

Opportunity Cost refers to whether a deforestation-linked activity represents a very attractive alternative land use compared to the project scenario.

Rationale

If an alternative land use represents a significantly more attractive activity for the local community compared to the project's activities, then agents of deforestation may still be incentivized to deforest the area rather than grow and protect it.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates a very high opportunity cost seems to exist and 5 indicates that forest protection appears relatively attractive.
Scoring Approach	MSCI S&C conducts a detailed review of each individual project's documents, including its project design document and non-permanence risk reports, to understand the financial attractiveness of alternative land uses compared to the project scenario. Based on the relative financial attractiveness of this alternative land use compared to the project scenario, projects are scored on a 1 to 5 scale. For example, if the most profitable land use would have been 100% or more financially attractive compared to the project scenario then the project receives a score of 1.

3.2.1.1 Mitigation Activities

Mitigation Activities refer to the extent to which the project's activities address and mitigate permanence risks.

Rationale	Both human- and nature-based permanence risks can be addressed through the implementation of relevant project activities. For example, fire monitoring and protection plans can help to reduce the threat of wildfires. In this way, effective mitigation activities can reduce the significance of permanence risks.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates that very limited and ineffective mitigation procedures appear to be in place and 5 indicates evidence of very effective mitigation plans.					
Scoring Approach	MSCI S&C conducts a detailed review of each individual project's documentation to identify the mitigation activities that the project has put in place. Projects are then scored based on both the variety and strength of their mitigation activities. The variety of mitigation activities refers to the number of mitigation-related activities and the range of human and natural-based permanence risks that they address. The strength of mitigation activities refers to the effectiveness of each of these activities. The mitigation activities assessed include fire mitigation techniques, species diversity, planting density, funding land titling processes and mediating land tenure disputes, legal commitments, replanting after harvest, alternative livelihood support, policy incentives and community engagement. Projects that leverage a high variety of mitigation activities including the most effective mitigation techniques score a 5. Projects that implement limited mitigation techniques or only less effective techniques receive a score of 1.					

3.4 Observed Risk

Observed Risk refers to whether the project has experienced an observed loss event or a change in its project status that suggests a risk to project permanence.

Rationale	Events of human or natural loss in a project area, or changes to a project status, may indicate both the increased evidence and likelihood of future non-permanence events. For example, if human-driven factors have caused deforestation or clearcutting within the area, it indicates a lack of project enforcement, which means that future loss events are more likely.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates a significant loss event has been identified during the crediting period and that the project has been put on hold or withdrawn, while 5 indicates there has been no observed loss events or changes to project status during the crediting period.
Scoring Approach	MSCI S&C conducts a detailed review of each individual project's documents and registry pages, to understand the type of loss event and the project's status. Each project is then scored on a scale from 1 to 5, where projects with any loss events or risk of cancellation are scored a 1 and projects without are scored a 5.

8. Criterion 4 – Co-benefits

Co-benefits reflect the sustainable development benefits (and safeguards) of a project beyond the CO_2e it saves, in other words, its "externalities." These are typically positive but can, on occasion, be negative.

Carbon projects have the potential to reduce/remove CO_2e, and simultaneously have a broader positive societal impact via issues such as development, adaptation, and biodiversity.

ARR projects have the potential to deliver significant social and environmental outcomes in addition to their emissions impact. Through planting and maintaining trees, ARR projects can create forested areas that support and enrich wildlife habitats and soil health, though this impact is highly dependent on the suitability and diversity of tree species planted. ARR projects can also support social development goals through community development initiatives that promote economic, health or diversity outcomes within the community that lives in or around the project area.

MSCI S&C's approach to co-benefit assessment builds on the UN's Sustainable Development Goals (SDG) framework. We focus on understanding both the SDG significance of a project and the extent to which the project provides evidence of these outcomes being achieved through effective monitoring.

Figure 11 illustrates the sub-criteria through which MSCI S&C assesses the co-benefits of ARR projects, and the Integrity Assessment framework sub-criteria that they refer to. The detailed sub-criteria are described in **Figure 12**.

Figure 11: Co-benefits integrity assessment approach

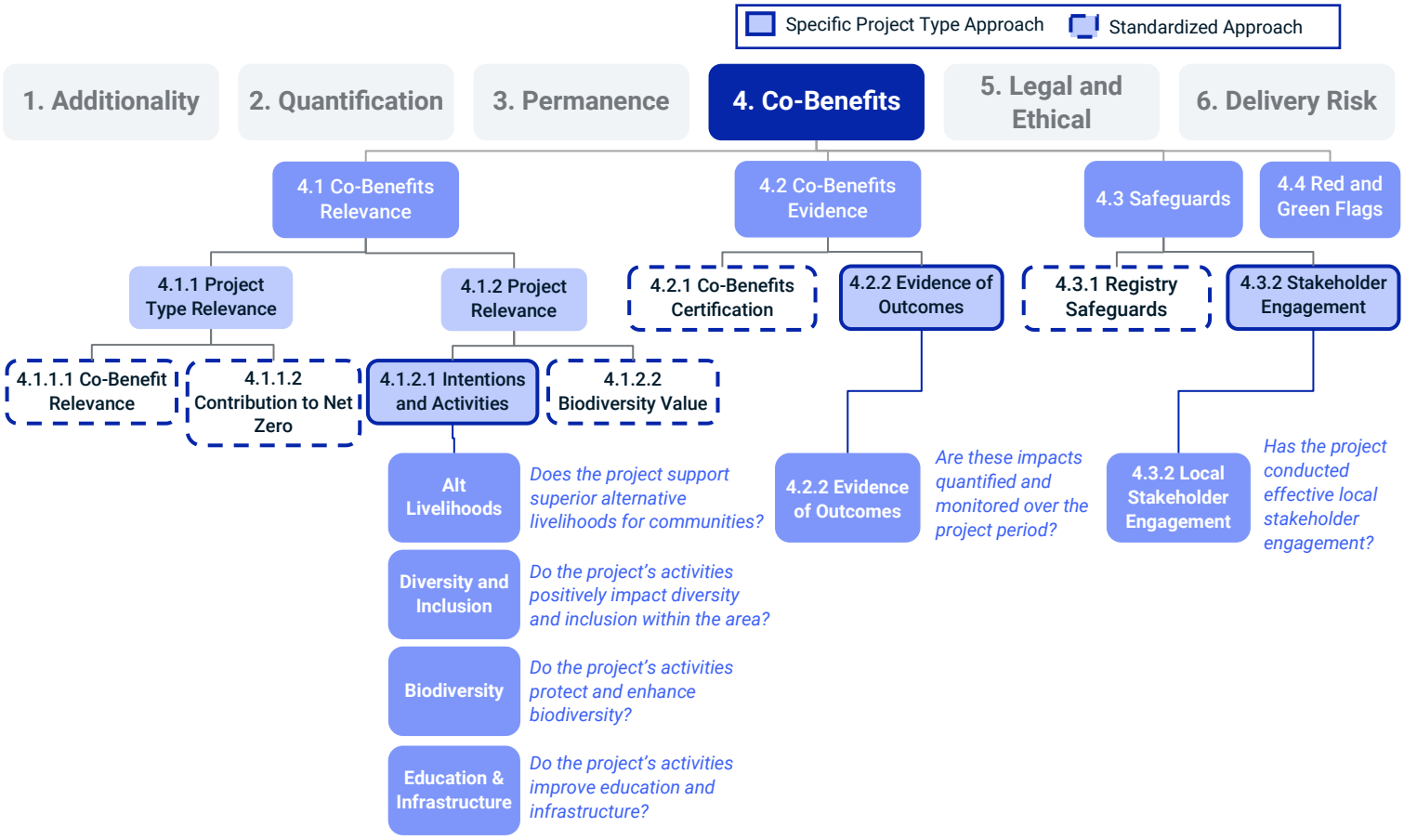


Figure 12: MSCI Co-benefits integrity assessment framework

Sub-criteria		Metrics	Rationale	REDD+	Renewables	ARR	Cookstoves	Biochar	Landfill Gas	Safe Water	IFM	Waste Mgmt.	Blue Carbon
4.1 Co-benefits Relevance	4.1.1 Project Type Relevance	4.1.1.1 Relevance to Project Type	Different project types have an inherently different impact on each sustainable development impact.	✓ *Standardized approach*									
		4.1.1.2 Contribution to Net Zero	Some project types create "carbon lock-ins" of technologies or practices that are not compatible with a net zero economy.	✓ *Standardized approach*									
	4.1.2 Project Relevance	4.1.2.1 Project Intentions to Activities	The specific design and implementation of a project's activities are critical drivers for whether a project generates positive sustainable development impact.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		4.1.2.2 Biodiversity Value	Nature-based projects that enhance or protect areas of rich biodiversity have greater environmental value.	✓		✓					✓		✓
4.2 Co-benefits Evidence		4.2.1 Certification	Achieving certification involves more stringent project verification. This improves the likelihood that a project's co-benefits have been realized.	✓ *Standardized approach*									
		4.2.2 Quantification of Outcomes	Projects can increase the confidence that co-benefits are attributed to their actions through measuring, monitoring, and quantifying the outcome.	✓		✓	✓	✓		✓	✓		✓
4.3 Safeguards		4.3.1 Registry Safeguards	More effective environmental and social safeguards required by registries reduce the likelihood of projects causing harm.	✓ *Standardized approach*									
		4.3.2 Local Stakeholder Engagement	Projects that successfully engage with local stakeholders reduce the likelihood of any negative impacts occurring.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4.4 Red and Green Flags		News scanning	Review of academic papers, industry sources and the news for Red or Green Flags relating to project's co-benefits.	✓ *Standardized approach*									

4.1.2.1 Project Intentions to Activities

While ARR projects can impact a range of social or environmental goals, the significance of these co-benefits is heavily determined by the project's design and implementation. A detailed understanding of a project's activities and design is hence required in order to fully assess its co-benefit impact.

There are four categories of sustainable development impacts that are evaluated as part of this sub-criterion:

- **4.1.2.1.1 Alternative Livelihoods:** Whether the project provides a superior alternative livelihood to stakeholders beyond that which would have been achieved with the previous land use.
- **4.1.2.1.2 Diversity and Inclusion:** Whether the project promotes and drives increased diversity and inclusion within the project area, supporting the needs of any disadvantaged groups.
- **4.1.2.1.3 Education and Infrastructure:** Whether the project supports and invests in local education, health, and infrastructure.
- **4.1.2.1.4 Biodiversity:** Whether the project protects an area of high biodiversity value, supporting continued ecosystem value and resilience.

Each project is scored on a scale of 1 to 5 based on the evaluation of these metrics. The first three are each weighted 20%, and Biodiversity is weighted as 40%. Biodiversity is weighted slightly higher given its direct relevance to all ARR projects, and the fact that the other three criteria do not apply to ARR projects based in remote regions.

4.1.2.1.1 Alternative Livelihoods

When ARR projects start the process of converting a project area into forested land, they are also impacting the economic opportunities that are available to local communities through using this land. For example, local communities may have relied on the land for agricultural purposes, and therefore ARR projects must ensure that they are promoting alternative livelihoods that still provide equal or greater benefits to any impacted local communities. If project activities do not sufficiently compensate communities, then the households may suffer a reduction in their incomes compared to what would have otherwise happened (and may then disrupt the project activities, by, for example, deforesting the replanted land).

An assessment of Alternative Livelihoods therefore requires both understanding the opportunity cost of a project and the project's support mechanisms that aim to substitute for this opportunity cost:

- **4.1.2.1.1.1 Alternative Livelihoods Risk:** The extent to which the baseline scenario would have created high financial outcomes for local communities.
- **4.1.2..1.1.2 Alternative Livelihoods Support:** Whether the project provides attractive and sustainable opportunities and support to local communities.

Both sub-criteria are assessed on a scale of 1 to 5, with the overall score reached by weighting these two factors 25% and 75% respectively.

4.1.2.1.1.1 Alternative Livelihoods Risk

To assess alternative livelihood risk, two factors are considered related to a project's opportunity cost:

- **4.1.2.1.1.1.1 Opportunity Cost:** Whether an alternative land use represents a financially very attractive scenario for project participants.
- **4.1.2.1.1.1.2 Previous Land Use Risk:** Whether the prior land use and baseline land type supported local community livelihoods through economic activities.

These criteria are assessed on a scale of 1 to 5, where 1 represents high risk and 5 represents low risk. The overall score for 4.1.2.1.1.1 Alternative Livelihoods Risk is then reached by weighting these two factors 60% and 40% respectively.

4.1.2.1.1.1.1 Opportunity Cost

Opportunity cost refers to whether the most profitable alternative land use is significantly more attractive financially than the project scenario.

Rationale	The extent to which projects' activities impact the financial opportunities and support for local communities is determined by the other ways the land could have been used. If this alternative land use would have delivered high financial benefits to local communities, then the risk that the project leads to lower community support and incomes is higher.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates that there is a very high opportunity cost and 5 indicates that the opportunity cost risk is very low.
Scoring Approach	MSCI S&C assesses the financial attractiveness of alternative land uses for the project area. Based on the relative size of the most profitable land use compared to the project scenario, projects are categorized on a 1 to 5 scale. For example, if the most profitable land use would have been 100% or more financially attractive compared to the project scenario, then the project receives a score of 1.

4.1.2.1.1.1.2 Previous Land Use Risk

Previous Land Use Risk relates to whether the previous or baseline land use supported local community livelihoods through agricultural or harvesting activities.

Rationale	If the previous or baseline land use of the project area would have provided financial opportunities and support to local communities, then the financial opportunity cost of removing this activity is higher.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates very high alternative livelihood risk and 5 indicates very low alternative livelihood risk.
Scoring Approach	MSCI S&C conducts a review of the previous and baseline land use for the project and assessed the relevance of these to alternative livelihood risk. Each land use type is scored based on the risk to local communities' alternative livelihoods. For example, if the baseline land use is small-scale agriculture, then this represents a very high risk for alternative livelihoods. If the prior land use was barren land without any commercial activities, then the alternative livelihoods risk is lower.

The baseline and previous land use types for each project is then combined with their relevance to alternative livelihoods risk to reach an overall score.

4.1.2.1.1.2 Alternative Livelihoods Support

To assess the extent to which a project supports its local community's financial opportunities, four factors are considered:

- **4.1.2.1.1.2.1 Target SDGs:** Whether a project targets specific sustainable development goals related to the employment and financial opportunities for local communities.
- **4.1.2.1.1.2.2 Overall Support Initiatives:** The extent to which a project's activities involve support initiatives directly aimed at alternative livelihoods.
- **4.1.2.1.1.2.3 Benefit Sharing:** The extent to which a project shares the proceeds of its revenue from carbon credits directly with local communities.
- **4.1.2.1.1.2.4 Job Creation:** Whether a project creates quantified employment outcomes.

These criteria are assessed on a scale of 1 to 5. The overall score is based on a weighting of these factors, with 5% weighting to 4.1.2.1.1.2.1 Target SDGs, 35% to 4.1.2.1.1.2.2 Overall Support Initiatives, 30% to 4.1.2.1.1.2.3 Benefit Sharing and 30% to 4.1.2.1.1.2.4 Job Creation.

4.1.2.1.1.2.1 Target SDGs

Whether the project targets specific sustainable development goals that relate to alternative livelihood opportunities.

Rationale	Explicitly targeting certain development goals increases the chance that these goals and impacts will be emphasized and focused on by the project. That chance is further increased by the need to complete SDG goal verification process during a project's registration process.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that no relevant sustainable development goals have been targeted and 5 indicates that three sustainable development goals relevant to alternative livelihoods have been targeted.					
Scoring Approach	MSCI S&C assesses whether the project has targeted either directly or indirectly sustainable development goal 1 (No Poverty), 2 (Zero Hunger) or 8 (Decent Work and Economic Growth). For projects that do not use SDGs, all the sustainable development impacts mentioned by the project (such as employment and job opportunities) are identified. Projects are then scored on a 4-point scale based on the number of relevant targeted SDGs either explicitly or implicitly mentioned: - 2 = No relevant SDGs either implicitly or explicitly mentioned - 3.5 = 1 relevant SDGs either implicitly or explicitly mentioned - 4.5 = 2 relevant SDGs either implicitly or explicitly mentioned					

- 5 = 3 relevant SDGs either implicitly or explicitly mentioned

4.1.2.1.1.2.2 Overall Support Initiatives

Whether alternative livelihood support represents a clear and central part of the project.

Rationale	The extent to which the project's design and activities involve and focus on supporting alternative livelihoods indicate how relevant and significant that support is likely to be.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates that alternative livelihood activities seem to be limited to patrolling jobs, while 5 indicates that alternative livelihood activities appear to be a central part of the project.
Scoring Approach	MSCI S&C conducts a detailed review of key project documents to build up a detailed view of a project's activities. All of the activities that supported the development of alternative livelihoods are then identified, with the project scored based on the range and depth of these activities.

4.1.2.1.1.2.3 Benefit Sharing

Whether the project transparently shares the proceeds of carbon credit revenues with local communities.

Rationale	The proceeds of carbon credit revenues can sometimes be directly shared with local communities to ensure that they financially benefit from the project.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that no benefit sharing appears to be in place and 5 indicates that transparent benefit sharing agreements have been clearly disclosed and are in place, pursuant to which a significant proportion of proceeds are delivered to local communities rather than to larger institutions (e.g., private companies or international charities) or governments.
Scoring Approach	MSCI S&C assesses the use of proceeds of carbon credits, and whether benefit sharing agreements were in place. Benefit sharing for each project is scored based on three components: (i) presence and type of benefit sharing, (ii) proportion of revenue shared, and (iii) evidence of benefit sharing. These criteria are weighted 40%, 40% and 20%, respectively, to reach an overall score between 1 and 5 for each project. Each component is scored as follows:

(i) Type of benefit sharing

		Benefit sharing type				
		Cash	**Equity/% of revenue**	**Land lease payments**	**Other**	**Not disclosed**
Payment type	**Fixed, regular**	5	5	4.5	4.5	2
	Fixed, one-off	4	4	3.5	3.5	2
	Variable	3	3	2.5	2.5	2
	NAV	2	2	2	2	2

(ii) Proportion of revenue shared

- 2 = Amount of revenue shared is not disclosed.
- 3 = Less than 25% of revenue is shared.
- 4 = 25% - 49% of revenue is shared.
- 5 = 50% or above of revenue is shared.

(iii) Evidence of benefit sharing

- 2 = There is no evidence of benefit sharing.
- 3 = Benefit sharing evidence is unclear.
- 4 = Financial documents are used to evidence benefit sharing but are not made public.
- 5 = Public financial documents are provided to evidence benefit sharing.

4.1.2.1.1.2.4 Job Creation

Job creation relates to whether the project creates quantified employment for local communities.

Rationale	Project activities can directly provide employment opportunities to local communities, and therefore contribute to sustainable alternative livelihoods.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates that no employment opportunities appear to have been created and 5 indicates that a high number of jobs are likely to have been created (relative to the volume of credits issued).					
Scoring Approach	MSCI S&C reviews each project's documents to identify the types, permanence and number of employment opportunities created by a project. Projects are scored on a 1 to 5 scale separately on both the number of employment opportunities created and the type and permanence of those opportunities. The number of employment opportunities is weighted 60% and type and permanence of employment opportunities 40% to reach the overall score.					

Number of Employment Opportunities

For job creation, the total number of jobs is divided by the project's estimated annual emission reductions to assess the job creation on a relative basis.

This ratio of job creation per credit is categorized into a 1 to 5 score, where 5 indicates that over 5 jobs were created per 1,000 t CO_2 credits. This same scoring system for jobs created per kiloton (kt) CO_2e is used across all project types to ensure consistency.

Points awarded	No. jobs per kt CO_2e
1	0
2	0-1
3	1-2.5
4	2.5-5
5	5+

Type and Permanence of Job Opportunities

The types and permanence of the jobs created by the project are analyzed. The types of jobs evaluated included planting, monitoring, harvesting, management, ecotourism, site preparation and maintenance jobs. The score for Type and Permanence of Job Opportunities was then based on both of these inputs:

		Number of different types of jobs				
		1	2	3	4	5
Permanence of jobs	All Temporary	1.5	1.75	2.0	2.5	3.0
	Mixed	2.0	2.5	3.0	3.5	4.0
	All Permanent	3.0	3.5	4-0	4.5	5.0

4.1.2.1.2 Diversity and Inclusion

ARR projects are regularly located in rural, less developed communities in which inequality may be high and certain parts of the population disadvantaged. For example, women may hold limited governance power and have low participation in community activities. ARR projects can help improve diversity and inclusion in the surrounding area by directly including and promoting the outcomes of disadvantaged groups.

To assess a project's impact on diversity and inclusion, three sub-criteria are considered:

- **4.1.2.1.2.1 Target SDGs:** Whether a project targets specific sustainable development goals related to diversity and inclusion.
- **4.1.2.1.2.2 Zero Employment Discrimination:** Whether a project explicitly practices zero employment discrimination within their operations.
- **4.1.2.1.2.3 Female Empowerment:** Whether a project supports more equal gender outcomes through active and representative inclusion of women in project activities.

Each of these sub-criteria is assessed on a scale of 1 to 5, with the overall score based on a weighting of each. 4.1.2.1.2.2 Zero Employment Discrimination is weighted 25%, 4.1.2.1.2.3 Female Empowerment is weighted 70% and 4.1.2.1.2.1 Target SDGs is weighted 5%.

4.1.2.1.2.1 Target SDGs

Target SDGs refer to whether the project explicitly targets sustainable development goals (SDGs) related to diversity and inclusion.

Rationale	Explicitly targeting certain development goals increases the chance that these goals and impacts will be emphasized and focused on by the project. That chance is further increased by the need to complete SDG goal verification process during a project's registration process.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that no relevant sustainable development goals appear to have been targeted and 5 indicates that both the most relevant sustainable development goals have been targeted.
Scoring Approach	MSCI S&C conducts a review of project documentation to identify whether the project has targeted either sustainable development goal 5 (Gender Equality) or 10 (Reduced Inequalities). Each project is then scored on a 3-point scale from 2 to 5 based on the number of relevant targeted SDGs: - 2 = No relevant SDGs - 4 = 1 relevant SDGs - 5 = 2 relevant SDGs

4.1.2.1.2.2 Zero Employment Discrimination

Zero Employment Discrimination relates to whether the project actively and explicitly practices zero employment discrimination as part of its project activities.

Rationale	Projects that more actively and openly embrace zero employment discrimination initiatives will increase the likelihood of hiring a diverse workforce that does not exclude marginalized or disadvantaged groups.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that activities do not appear to do anything proactive to ensure zero discrimination and 5 indicates that projects explicitly support zero employment discrimination practices.
Scoring Approach	MSCI S&C reviews both registry safeguard policies and project documentation to assess the extent to which projects have complied with zero employment discrimination practices.

Projects that explicitly practice zero employment discrimination achieve a score of 5. Projects that do not explicitly reference their practice of zero employment discrimination, but this is required through the associated registry standards receive a 3. If a project makes no explicit reference to it, and its registry does not require it, then the project receives a 2.

4.1.2.1.2.3 Female Empowerment

Female Empowerment relates to whether a project supports more equal gender outcomes through active and representative inclusion of women in project activities.

Rationale	Projects can support more equal gender outcomes by involving women in key project activities and decisions.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition

Each project is scored on a scale of 1 to 5, where 1 indicates that activities do not appear to support more equal gender outcomes and 5 indicates that project activities seem to significantly involve the participation of women.

Scoring Approach

MSCI S&C conducts a review of key project documents to assess the participation of women in project activities. In particular, the proportion of people with employment, improved health and/or training that are women is assessed through an analysis of project monitoring and verification reports.

Projects are then scored based on both whether the project's activities explicitly target improved gender outcomes and the proportion of the project's beneficiaries that are women in the following way:

		Women-focused activities	
		Yes	No
Proportion of project beneficiaries that are women	No participation or no information available	2	1
	10-20%	3.5	3
	20-30%	4	3.5
	30-40%	4.5	4
	40%+ of project beneficiaries are women	5	4.5

4.1.2.1.3 Education and Infrastructure

As well as supporting direct, near-term social impacts, ARR projects can lay the foundations for future development by investing in local education, health and infrastructure.

To assess a project's impact on education and infrastructure, three sub-criteria are considered:

- **4.1.2.1.3.1 Target SDGs:** Whether a project targets specific sustainable development goals related to education and infrastructure.

- **4.1.2.1.3.2 External Project Funding:** Whether a project funds any education, healthcare, or infrastructure projects through its activities.
- **4.1.2.1.3.3 Education and Training Outcomes:** Whether a project explicitly supports and monitors improved education and training through its activities.
- **4.1.2.1.3.4 Healthcare Outcomes:** Whether a project explicitly supports and monitors improved healthcare through its activities.
- **4.1.2.1.3.5 Infrastructure Outcomes:** Whether a project explicitly supports and monitors improved infrastructure through its activities.

Each of these sub-criteria is assessed on a scale of 1 to 5, with the overall score based on a weighting of each. 4.1.2.1.3.2 External Project Funding, 4.1.2.1.3.3 Education and Training Outcomes, 4.1.2.1.3.4 Healthcare Outcomes and 4.1.2.1.3.5 Infrastructure Outcomes are weighted 10%, 30%, 20% and 35% respectively, while 4.1.2.1.3.1 Target SDGs is just 5%.

4.1.2.1.3.1 Target SDGs

Target SDGs refer to whether the project explicitly targets sustainable development goals (SDGs) related to education and infrastructure.

Rationale	Explicitly targeting certain development goals increases the chance that these goals and impacts will be emphasized and focused on by the project. That chance is further increased by the need to complete SDG goal verification process during a project's registration process.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that no relevant sustainable development goals have been targeted and 5 indicates that five or more sustainable development goals relevant to education and infrastructure have been targeted.					
Scoring Approach	MSCI S&C conducts a review of key project documents to identify whether a project has targeted either SDG 3 (Good Health & Wellbeing), 4 (Quality Education), 6 (Clean Water & Sanitation), 7 (Affordable & Clean Energy), 9 (Industry, Innovation & Infrastructure), 11 (Sustainable Cities & Communities), 12 (Responsible Consumption And Production), 16 (Peace, Justice & Strong Institutions) or 17 (SDG Partnerships). Projects are then scored based on the number of relevant targeted SDGs: - 2 = no relevant SDGs - 3 = one relevant SDGs - 3.5 = two relevant SDGs - 4 = three relevant SDGs - 4.5 = four relevant SDGs - 5 = five or more relevant SDGs					

4.1.2.1.3.2 External Project Funding

External Project Funding related to whether a project funds any education, healthcare, or infrastructure projects through its activities.

Rationale	Projects can directly invest in and support local education, healthcare, or infrastructure projects to improve social outcomes in the local community.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates that the project does not appear to fund auxiliary projects and 5 indicates that projects' activities seem to fund multiple auxiliary projects across education, health and infrastructure.
Scoring Approach	MSCI S&C reviews key project documents to create a list of auxiliary projects for which the project supports funding. Both the number and types of auxiliary projects are considered. For projects that fund multiple hospitals or schools, these are treated individually in our calculation of the total number of auxiliary projects funded. Projects are then scored on a 1 to 5 scale based on a combination of the types of auxiliary projects funded and the number of total auxiliary projects funded:

		Number of auxiliary projects			
		0	1	2	3+
Types of auxiliary projects funded	None	1.0	n/a	n/a	n/a
	At least one of Education, Health or Infrastructure	n/a	2.0	3.0	4.0
	At least two of Education, Health or Infrastructure	n/a	2.5	3.5	4.5
	Each of Education, Health and Infrastructure	n/a	3.0	4.0	5.0

4.1.2.1.3.3 Education and Training Outcomes

Education and Training Outcomes relate to whether a project explicitly supports improved education and training through its activities.

Rationale	Projects can directly contribute to improved education and training outcomes in their local communities.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that a project does not appear to positively impact local education, and 5 indicates that a projects' activities seem to positively impact education and training in the project area.
Scoring Approach	MSCI S&C reviews key project documents to assess the relevance of activities to education and training. Projects are scored based on the types of activity implemented,

including investment into new educational buildings, investment into equipment, and training provided.

- 2 = No education or training initiatives.
- 3 = One of the mentioned activity types implemented.
- 4 = Two of the mentioned activity types implemented.
- 5 = All three of the mentioned activity types implemented.

4.1.2.1.3.4 Healthcare Outcomes

Healthcare Outcomes relate to whether a project explicitly supports improved healthcare in the project area through its activities.

Rationale	Projects can directly contribute to improved healthcare outcomes in their local communities.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					
Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that a project does not appear to positively impact local healthcare, and 5 indicates that a project's activities seem to positively impact healthcare in the project area.					
Scoring Approach	MSCI S&C reviews key project documents to assess the relevance of activities to healthcare. Five activities specific to healthcare are reviewed including sanitation support, water filtration, investment in new medical facilities, improvement of existing medical facilities and training of medical staff. Projects are scored based on the types of activity as follows: - 2 = No initiatives to improve healthcare in the project area. - 3 = 1 or 2 of the mentioned activity types implemented. - 4 = 3 of the mentioned activity types implemented. - 5 = 4 or 5 of the mentioned activity types implemented.					

4.1.2.1.3.5 Infrastructure Outcomes

Infrastructure Outcomes relate to whether a project explicitly supports improved infrastructure in the project area through its activities.

Rationale	Projects can directly contribute to improved infrastructure outcomes in their local communities.					
Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					

Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that a project does not appear to positively impact local infrastructure, and 5 indicates that a project's activities seem to positively impact local infrastructure in the project area.
Scoring Approach	MSCI S&C reviews key project documents to assess the relevance of activities to healthcare. Eleven activities specific to infrastructure development are reviewed. including digital infrastructure improvements such as internet access or distribution of computers, the construction of libraries, road construction, new wells, maintenance or construction of community buildings, renewable energy, cookstove distribution, agricultural support, and improved governance. Projects are scored based on the types of activity implemented as follows: - 2 = No initiatives to improve healthcare in the project area. - 3 = 1 or 2 of the mentioned activity types implemented. - 4 = 3 to 4 of the mentioned activity types implemented. - 5 = 5 or more of the mentioned activity types implemented.

4.1.2.1.4 Biodiversity

By planting forested areas, ARR projects not only capture carbon within the forests but also can enrich and support diverse habitats and ecosystems within them. In this way, ARR projects have environmental benefits beyond their emissions impact.

The significance of this impact depends on the tree planting strategy (in particular, type and range of trees planted), the biodiversity context (i.e., richness) of the specific project area and the activities undertaken by the project to protect, enhance and monitor that biodiversity.

To assess a project's impact on biodiversity, five sub-criteria are considered:

- **4.1.2.1.4.1 Target SDGs:** Whether a project targets specific sustainable development goals related to biodiversity.
- **4.1.2.1.4.2 Planting Diversity:** Whether a project plants a suitable and diverse mix of tree species for the area that maximizes its biodiversity potential.
- **4.1.2.1.4.3 Monitoring:** Whether a project monitors biodiversity within its project area and actively engages in activities to support and protect biodiversity.
- **4.1.2.1.4.4 Geospatial Biodiversity Value:** Whether a project is located within an area of high biodiversity value.
- **4.1.2.1.4.5 Distance to Rivers**: Whether the project is located near to a river which may increase biodiversity benefits.

Each of these sub-criteria is scored on a 1 to 5 scale and weighted to reach an overall score for 4.1.2.1.4 Biodiversity. 4.1.2.1.4.2 Planting Diversity is weighted 35%, 4.1.2.1.4.3 Monitoring 20%, 4.1.2.1.4.4 Geospatial Biodiversity Value and 4.1.2.1.4.5 Distance to Rivers are weighted 20% each, and 4.1.2.1.4.1 Target SDGs is weighted 5%.

4.1.2.1.4.1 Target SDGs

Target SDGs refer to whether the project explicitly targets sustainable development goals (SDGs) related to biodiversity.

Rationale	Explicitly targeting certain development goals increases the chance that these goals and impacts will be emphasized and focused on by the project. That chance is further

	increased by the need to complete SDG goal verification process during a project's registration process.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that no relevant sustainable development goals appear to have been targeted and 5 indicates that both land and water biodiversity sustainable development goals have been targeted.
Scoring Approach	MSCI S&C conducts a detailed review of key project documents to identify whether the project has targeted either sustainable development goal 14 (Life under Water) and 15 (Life on Land). Projects are then scored based on the number of relevant targeted SDGs: - 2 = No relevant SDGs - 4.5 = 1 relevant SDGs - 5 = 2 relevant SDGs

4.1.2.1.4.2 Planting Diversity

Planting Diversity refers to whether a project plants a suitable and diverse mix of tree species for the project area that maximize the biodiversity potential of the area.

Rationale	The biodiversity impact of an ARR project is likely to be higher if the project has planted a diverse mix of trees that are native and/or highly suitable to the project area.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑				☑	

Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates that the project has planted a monoculture of non-native tree species, and 5 indicates that the project has planted a diverse mix of native tree species are designed to support a wide range of threatened species.
Scoring Approach	MSCI S&C conducts a detailed review of key project documents to identify the number and types of tree species planted as part of the project's activities. It is then assessed whether these tree species are native to the project area using a combination of project documentation and third-party data. Projects are then scored based on both the types and range of tree species planted:

		Number of tree species			
		1	2-3	4-6	7+
Types of tree species	Non-native with no justification provided	1	2	2.5	3
	Non-native with justification provided on selection	1.5	2.5	3	3.5

	Partially native species	2.5	3	3.5	4
	Fully native species	3	4.5	5	5

4.1.2.1.4.3 Biodiversity Monitoring

Biodiversity Monitoring refers to the extent to which the project engages in ongoing monitoring of the biodiversity within its area.

Rationale	Monitoring and training initiatives can help to not only track the biodiversity within a project area but also identify biodiversity opportunities and risks that a project can focus on.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates that no biodiversity monitoring activities are present and 5 indicates that the project monitors and tracks biodiversity outcomes in an effective way.
Scoring Approach	MSCI S&C assesses the project's approach to monitoring biodiversity outcomes both prior to its start (to establish a baseline) and through its lifetime. This is assessed based on the monitoring techniques used by the project and disclosed in project documentation. Monitoring techniques may include geospatial analysis, biological surveys, biological impact assessments (BIA) or social and biological impact assessments (SBIA). Projects are then scored based on the type of assessments performed as follows: - 2 = Biodiversity is not monitored or quantified. - 3 = The project either uses a biological assessment or survey or geospatial analysis. - 4 = The project performs a biological survey and uses geospatial data to support this. - 5 = The project performs an SBIA and assesses biodiversity geospatially.

4.1.2.1.4.4 Geospatial Biodiversity Value

This criterion refers to whether the project conserves an area of high biodiversity value.

Rationale	The biodiversity impact and conservation value of a nature-based project is likely to be higher if it is located in an area of high biodiversity and species richness.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				

Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates the project has very limited biodiversity value, and 5 indicates the project supports and conserves an area of very high biodiversity value.
Scoring Approach	MSCI S&C conducts detailed geospatial analysis on the project area to assess four components: (i) ecosystem scarcity; (ii) biodiversity intactness; (iii) biodiversity threat; (iv) biodiversity support. More detail on the approach is found in the MSCI Carbon Project Ratings Overall Methodology Note.

4.1.2.1.4.5 Distance to Rivers

This criterion refers to whether the project is located near to a river, which may increase biodiversity benefits.

Rationale	Projects planting trees close to rivers can increase biodiversity benefits where projects plant multiple native species. This can contribute to environmental benefits such as improved water quality, flood regulation and stabilizing ecosystems.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑				

Scoring Definition	Each project is scored on a scale of 2 to 5, where 2 indicates the project is located over 5 km from a river and is unlikely to generate additional environmental benefits associated with water and 5 indicates the project is located within 100 m of a river and is likely to generate additional environmental benefits associated with water.
Scoring Approach	MSCI S&C conducts detailed geospatial analysis on the project area to assess the distance to rivers compared to World Wildlife Fund HydroSHEDS data.[22] This then determines the proportion of the project area within 100 m, from 100-500 m, from 500-1,000 m, from 1000-5000 m and further than 5000 m from rivers. Projects are scored by a weighted average of the proportions of the project closer to rivers as defined below - 2 = Project is 5,000 m or more from rivers. - 2.5 = Project is between 1,000 m and 4,999 m from rivers. - 3 = Project is between 500 m and 999 m from rivers. - 4.5 = Project is between 100 m and 499 m from rivers. 5 = Project is less than 100 m from rivers

[22] Lehner, B., Verdin, K., Jarvis, A. (2008): New global hydrography derived from spaceborne elevation data. *Eos, Transactions, American Geophysical Union*, 89(10): 93-94.

4.2.2 Quantification of Outcomes

Quantification of outcomes relate to whether the project monitors and/or quantifies the impact of the project on targeted sustainable development goals.

Rationale	Assessing the evidence of co-benefit impacts is crucial to evaluating the degree to which co-benefits are achieved and can be attributed to a project. Projects that measure, quantify, and monitor their co-benefit impacts provide greater evidence in support of the targeted social and environmental benefits being achieved.

Key Sources

Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
☑					

Scoring Definition	Each project is scored on a scale of 1 to 5, where 1 indicates there is no quantification or monitoring of SDGs and 5 indicates that benefits are quantified and monitored.
Scoring Approach	MSCI S&C assesses the level to which co-benefits have been quantified and/or monitored.

		Quantified	
		Yes	No
Monitored	Yes	5	1
	No	3	1

4.3.2 Local Stakeholder Engagement

It is clear from literature that the quality of engagement by ARR projects with local stakeholders plays a key role in ensuring communities benefit from their activities, as well as also helping to mitigate human-based permanence risk. Projects that put additional resources and time into consulting with their local communities, and modifying their design/operations to suit locals are more likely to realize their social objectives.

This is evaluated through the following sub-criteria:

- **4.3.2.1 Effective Consultation:** How effective was the consultation conducted?
- **4.3.2.2 Representation and Inclusivity:** Has the project ensured proper and inclusive representation of stakeholders?
- **4.3.2.3 Access to Information:** Has the project relayed relevant information to stakeholders?
- **4.3.2.4 Feedback and Grievances:** Does the project display effective feedback and grievance redressal mechanisms?

Each project is scored on a 1 to 5 scale for each of these sub-criteria. An overall score for criterion 4.3.2 is then reached by weighting effective consultation and representation and inclusivity by 35% each and access to information and feedback and grievance 15% each. Projects scoring a 5 will represent projects that undertake detailed stakeholder consultations that are representative of the target users.

4.3.2.1 Effective Consultation

Effective consultation relates to whether the project uses best-practice techniques to engage and consult with stakeholders.

Rationale	Projects that engage with stakeholders towards the start of a project's conception and use multiple methods of in-person consultation provide more open and effective channels to engage with stakeholders and receive any feedback.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 1 to 5 scale, where 5 indicates that the project appeared to conduct effective in-person engagements prior to its start, and 1 indicates that very limited in-person stakeholder consultation seemed to have been performed prior to the start of the project or thereafter.
Scoring Approach	Through a review of project documents, MSCI S&C assesses three main components of stakeholder consultation effectiveness. First, the first date of stakeholder consultation is compared to the project start date. Projects that conducted their initial consultation prior to their start date receive a score of 2. Second, the types and range of consultation conducted are considered. Projects that conducted multiple forms of engagement including an in-person consultation receive 2 points. Third, the frequency that ongoing consultation is conducted is assessed. Projects that perform ongoing consultation receive 2 points. These three component parts are then summed up, with a maximum score of 5 possible points.

4.3.2.2 Representation and Inclusivity

Representation and Inclusivity relates to whether the project has ensured that it consults with a representative and inclusive range of stakeholders.

Rationale	Projects which consult a greater number of stakeholders tend to incorporate more representative feedback and ensure that they are designed with a representative set of stakeholder interests in mind.
Key Sources	Project Documentation ☑ | Geospatial | Project Methodology Documentation | Academic Literature | Third-party Data | MSCI Carbon Markets
Scoring Definition	Each project is scored on a scale of 1 to 5, where 5 indicates that a project transparently consults with a representative group of stakeholders, including women, while 1 indicates that no information is provided on the which stakeholders were consulted.
Scoring Approach	MSCI S&C assesses if the number of stakeholders in attendance has been provided. In particular, if the total number of stakeholders and the number of female attendees is disclosed. This is then scored as shown in the table below. **No. Stakeholders Consulted**

		Unknown	<50	50+
Transparency of Disclosures	Total, including women	3	4	5
	Total	2	3	4
	None	1	n/a	n/a

4.3.2.3 Access to Information

Access to Information refers to whether the project provides transparent and detailed information to (local) stakeholders regarding its activities.

Rationale	By providing greater access to information, stakeholders will be better informed on a project's activities and more able to provide feedback to the project.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					

Scoring Definition	Each project is scored on a scale of 1 to 5 scale, where 5 indicates that a project provides very transparent access to information through both documentation and in-person meetings, and 1 indicates that limited access to information is provided to stakeholders.
Scoring Approach	MSCI S&C conducts a detailed review of relevant project documentation to understand whether in-person meetings were conducted to present project information or whether clear documentation was/is provided. For in-person meetings, projects receive a score of 2 if they have conducted meetings to present information on the projects, and 0 otherwise. For documentation, if any documentation has been provided to local communities, projects receive a score of 3 if PDDs and/or pamphlets are provided, and 1 otherwise. The overall scores are based on adding each of these to reach a score from 1 to 5.

4.3.2.4 Feedback and Grievance

Feedback and Grievance refers to whether the project has procedures in place to receive and act on feedback received from stakeholders.

Rationale	By providing (local) stakeholders with a clear feedback mechanism and committing to disclose and act on this feedback, then projects are more likely to satisfy the needs of stakeholders by both listening and responding to their feedback.

Key Sources	Project Documentation	Geospatial	Project Methodology Documentation	Academic Literature	Third-party Data	MSCI Carbon Markets
	☑					

Scoring Definition	Each project is scored on a scale of 1 to 5 scale, where 5 indicates that a project provides very transparent access to information through both its documentation and the holding of in-person meetings, and 1 indicates that stakeholders appear to have only limited access to information.
Scoring Approach	Three aspects of a project's feedback procedure are assessed: - **Feedback Mechanism:** Whether a project has a feedback and grievance procedure in place. - **Feedback Disclosure:** Whether a project transparently discloses any feedback received. - **Feedback Response:** Whether a project has clearly acted on any feedback received. Projects receive a score of 3 if they have a feedback mechanism in place, and 1 otherwise. For the other 2 factors, projects receive a score of 1 if they satisfy this factor. The overall scores are then based on adding each of these components to reach a score from 1 to 5.

9. Appendix – Key References

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10. Model update history

Date	Version	Key Changes
01-Nov-2024	1.0	Initial publication
08-Sep-2025	1.1	- Update to 1.1.1.1 % of Revenue from Carbon Credits to incorporate commercial value database. - Removal of 1.2 Barrier Analysis criteria. - Update to 1.2.2 Geospatial Common Practice analysis to use forest management practice data instead of the previous forest fragmentation dataset. - Addition of new sub-criteria 1.2.3 Third Party Common Practice. - Addition of new sub-criteria, 1.5.2.2 Geospatial Reference Regions, to 1.5.2 Reasonableness of Baseline Removals - Weightings for section 2.2 Accuracy of Assumptions have been updated to account for additional sub-criteria - Update to 2.2.5: Mortality and Survival Rates which has moved from monitoring to accuracy of assumptions and now includes additional third party data as a benchmark to compare to the project. - Addition of new sub-criteria 2.2.6 Albedo Effect. - Updated 3.1.2.2.1 Land Tenure scoring approach. - Updated 3.2.1 Mitigation Activities. - Addition of 3.4 Observed Risk. - Update to 4.1.3.1.2.3 Benefit Sharing to add more detail on disclosure and payment types. - Addition of new sub-criteria to 4.1.3.3 Education and infrastructure: 4.1.3.3.4 Healthcare Outcomes. - Addition of new sub-criteria to 4.1.3.3 Education and infrastructure: 4.1.3.3.5 Infrastructure Outcomes. - Updated assessment for 4.1.3.4.3 Biodiversity Monitoring (Formerly 4.1.3.4.4).

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