UNDERSTANDING CCQI SCORES

Improved Forest Management

February 2024
Version 1.0

CCQI Carbon Credit Quality Initiative

Key CCQI findings

IFM serves as an umbrella term for a broad array of forest management practices aiming at increasing or maintaining forest carbon stocks. IFM projects often combine several activities or management practices and sometimes change them over time. This broad spectrum of activities will be presented and evaluated in more detail in this factsheet.

The additionality risk depends on what activities are being implemented, as the costs, benefits, barriers, and the influence of carbon credit revenues differ among activities. An additionality risk common to all IFM activities is the lack of systemic checks for new legal requirements that could mandate the implementation of the project at a later stage.

All quantification methodologies assessed are likely leading to significant overestimation of emission reductions or removals. Key shortcomings include insufficient leakage deductions and high uncertainties in baselines.

The project type has material non-permanence risks as forests are in jeopardy of being destroyed or degraded. Carbon crediting programs address these risks differently, leading to a range of non-permanence scores.

Increasing carbon stocks in forests is essential for achieving the transition to net zero emissions. Sustainable development benefits of the project are highly dependent on the implemented activities.

What is this project type about?

Implementing forest management practices that aim to increase carbon stocks of forests and/or avoid their loss.

Carbon market background

Out of the five major carbon crediting programs, the American Carbon Registry (ACR), the Climate Action Reserve (CAR) and the Verified Carbon Standard (VCS) register IFM projects. Most IFM credits originate from the United States, due to their eligibility under California's Emission Trading Program. Other noteworthy countries of origin are Mexico (with a few hundred projects registered with CAR) and China (projects registered with VCS).

CCQI score summary

Additionality/Vulnerability
1 – 3.4

Quantification Methodologies

1
ACR IFM in non-Federal U.S. Forestlands
Version 2.0

1
CAR U.S. Forest Project Protocol
Version 4.0 and 5.1

1
CARB Compliance Offset Protocol U.S. Forest Projects

1
VM0003
Version 1.3

1
VM0005
Version 1.2

1
VM0010
Version 1.3

1
VM0012
Version 1.2

Non-permanence
1 – 3

Compatibility with net zero
5

SDG Impacts
1 – 3.5

Double issuance due to indirect overlaps between projects
1 – 5

Why do I see a range of scores for some quality objectives?

In these cases, scores differ between carbon crediting programs, quantification methodologies, countries or other circumstances. The range represents the spectrum that applies for all possible combinations.

CCQI resources

- CCQI Methodology & Definitions
- FAQ on our assessments
- Directory of assessment sheets

www.carboncreditquality.org

This factsheet was commissioned by Foundation Development and Climate Alliance.

FOUNDATION Development and Climate Alliance

How do IFM projects increase carbon stocks?

Forest management practices that aim at increasing carbon stocks take different forms and there is a broad array of activities that IFM projects implement. For our assessments, we consider five activities that project design documents frequently mention:

Extended rotation (ER)

This type of activity delays wood harvest by applying a longer rotation time or target diameter to forest stands in the project area. After the extension of rotation, trees are harvested. The delay of harvest leads to an increase in above-ground and below-ground biomass in the project forest area compared to the baseline scenario, both at the point of harvest and on average over the crediting period. Individual trees get larger which can have implications for stocks of deadwood, litter, and soil organic carbon as well as on harvest methods and associated emissions.

Increasing productivity (IP)

This type of activity involves silvicultural techniques that result in increased forest growth. This may involve enrichment planting, which increases above-ground and below-ground biomass, but also activities that may reduce above-ground biomass, such as from cutting climbers and vines or performing liberation thinning. This results in a potential increase in the amount of wood harvest. Increasing productivity may affect above-ground and below-ground tree and non-tree biomass carbon stocks positively or negatively, depending on the concrete practices. Depending on the practices implemented it can have implications also for stocks of deadwood, litter, and soil organic carbon.

Production to conservation (PC)

This type of activity terminates wood harvest for timber production in forest stands in the project area. The termination of wood harvest leads to an increase in above-ground and below-ground biomass compared to the baseline scenario. Individual trees get larger which can have implications for stocks of deadwood, litter, and soil organic matter. Implementation of the activity may, in the long-term, lead to more natural dynamics in the forest, including natural disturbances, increased mortality, and natural regeneration. Emissions associated with harvest decrease.

Reduced impact logging (RIL)

This type of activity reduces the impacts of wood harvest by applying improved logging practices in the project area. This can result also in a reduction in the amount of wood harvest. The implementation usually leads to an increase of above-ground and below-ground biomass. Also, stocks of natural (standing and lying) deadwood, litter, and soil organic carbon might increase. Due to changes in harvest methods, the emissions associated with harvesting might also change.

Avoiding degradation (ADG)

This type of activity avoids the start of, or an increase in, harvesting that is assumed to occur in the baseline scenario and/or targets harvesting towards higher quality timber, with the view to avoiding a reduction in forest carbon stocks in the project area. Refraining from harvesting or changing harvest practices leads, relative to the baseline scenario, to higher stocks of above-ground and below-ground biomass. It may also affect carbon stocks of deadwood, litter, and soil organic carbon. Due to the changes in harvest practices relative to the baseline, the emissions associated with harvesting might also change.

This list is non-exhaustive, and forest owners often deploy several of these activities simultaneously. Management practices may also evolve while project implementation progresses. Forest owners may, for example, initially change the management of their forest patch towards an extended rotation regime and later decide to never harvest that patch if future carbon prices make it more attractive to retain carbon in the trees.

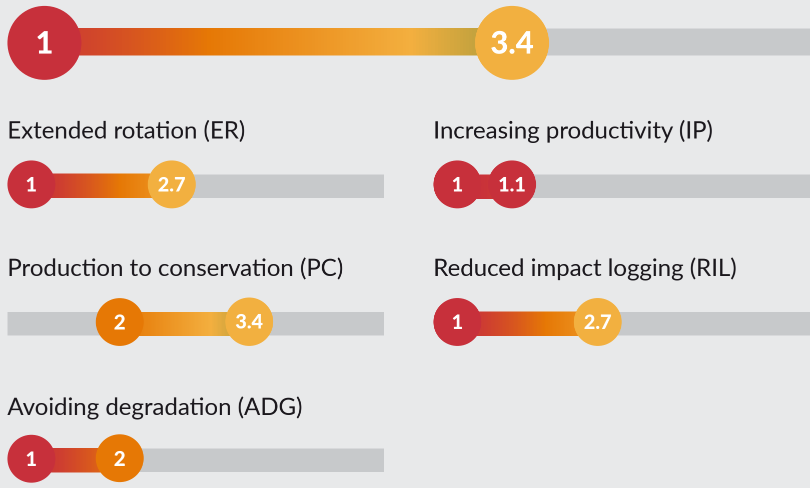
Identifying a discrete activity from the list above is therefore not straightforward and sometimes not possible at all as project design documents do not always clearly define activities ex-ante and which measures are implemented is not part of project monitoring.

In our assessments we found that the activities listed above perform differently against some of our assessment criteria. This applies for example to the financial attractiveness of an activity with and without carbon credits. Designating a forest patch as a conservation area and thereby foregoing future harvesting opportunities may have different cost implications than continuing to use this patch for timber production while changing management practices towards reduced impact logging.

For some criteria we therefore differentiate our scorings by the type of activity. As forest owners often implement several activities simultaneously, our scoring tool allows selecting different combinations of activities to derive a score. In these cases, the tool shows the result for the activity with the lowest score for the respective criterion. This approach aims at ensuring conservativeness of our scorings.

Main factors driving project type scores

Additionality/Vulnerability



Additionality risk depends on the type of IFM activity

Here we assess the likelihood that the mitigation activity typically would not have taken place in the absence of the added incentive created by the carbon credits (additionality).

In cases where the market for the type of carbon credit has collapsed (e.g., CDM for some project types), we assess whether the mitigation activity typically is at risk of discontinuing greenhouse gas abatement without ongoing revenues from carbon credits (vulnerability).

How do other project types score?

Graph shows the range of scores for all project types assessed by CCQI.

Reduced impact logging and *increasing productivity* are forest management practices that can increase the profitability of a timber operation in the long term and are therefore already being implemented. However, forest owners desiring to switch towards reduced impact logging likely face barriers that carbon credits may help overcome. We therefore assess that these activities have a medium risk of non-additionality. Such barriers likely do not exist for activities that increase the productivity of forests, as they are already widespread. Thus, projects focusing on such activities likely have a high additionality risk.

Projects focusing on avoiding degradation also have high additionality risks. They reduce harvesting levels compared to the baseline, implying forest owners are foregoing revenues from timber sales. However, as harvesting levels oftentimes stay the same before and after the project start, projects likely continue to accrue substantial profits from ongoing timber operations. In the case that forest areas are already managed for conservation or other non-timber purposes, and for which project proponents claim to avoid an assumed start of harvesting in the baseline, there is a high probability that timber production would not have been profitable anyway.

Production to conservation means that there is an ongoing logging operation, which ceases when the project starts. Thus, the forest owners are foregoing the revenues they would have received from selling timber in the baseline scenario. It is therefore likely the project activity would not have been implemented without carbon credits.

Extended rotation means that forest owners postpone harvesting of trees beyond the time of highest profit to increase carbon stocks. In principle, revenues from carbon credits can compensate for the loss of profit due to delayed harvesting. It is, however, difficult to determine whether the anticipation of these revenues is the decisive factor in the decision to postpone harvesting. This is because pinning the economically optimal harvesting time or diameters for a forest stand down to a specific year is challenging. There are several factors that play a role in the harvest time decision, such as current and future timber prices, harvesting costs and other site-specific considerations. Making assumptions on how these factors develop in the future is associated with uncertainty, and if assumptions do not materialize, forest owners might deviate from initial harvesting schedules. For example, if forest owners expect timber prices to increase in the future, they might postpone harvesting even without the incentive of carbon credits.

The shorter the time span is by which the rotation age is extended, the less likely it is that carbon credits are decisive in the decision to extend the rotation age. A five-year extension, for example, is in most cases still within normal variability of harvesting schedules. For these cases, there is a higher risk that other factors are responsible for the decision to postpone harvesting. On the flipside, the longer the extension, the more likely it is that a forest owner extended the rotation age because of carbon revenues. We therefore differentiate the score according to the length of the rotation age extension.

For all activities, we further differentiate the scoring for those projects located in forest areas that are subject to a conservation easement. Conservation easements are incentive mechanisms for ecological objectives in the United States, which can provide substantial financial benefits to forest owners. They could make a project financially attractive without carbon credits. IFM projects that are implemented in a forest that is subject to a conservation easement, and whose provisions require the implementation of the IFM activity, are therefore deemed to be less likely to be additional.

Furthermore, for IFM projects to be additional, they must not take place on land for which the improved forest management

activities are likely driven by legal requirements (for example, if governments require certain management practices).
All assessed carbon crediting programs require project developers to demonstrate that no legal mandates exist that require implementing the proposed project. The stringency of respective provisions differs, however, resulting in a differentiation of scores by program (see scales above). While most programs require this demonstration at registration, not all ask for periodic reassessments at later stages of the project.

Quantification Methodologies

1

ACR IFM in non-Federal U.S. Forestlands
Version 2.0

1

CAR U.S. Forest Protocol
Version 4.0 and 5.1

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CARB Compliance Offset Protocol U.S. Forest Projects

1

VM0003 (only ER)
Version 1.3

1

VM0005 (only IP, PC and ADG)
Version 1.2

1

VM0010 (only PC and ADG)
Version 1.3

1

VM0012 (only PC)
Version 1.2

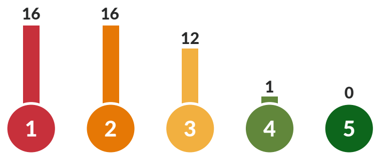
Insufficient leakage deductions and approaches for baseline setting that are associated with high uncertainty are likely leading to significant overestimation of total emission reductions or removals.

Carbon crediting programs adopt methodologies for calculating the emission impact of a project. The methodologies prescribe, inter alia, equations, data sources and monitoring approaches. Here we assess whether quantification methodologies mitigate overestimation risks by applying conservative approaches for estimating emission reductions.

Accounting boundaries are overall defined appropriately, with some exceptions

IFM projects can affect multiple carbon pools (CP) and emission sources (ES). Forest growth removes carbon dioxide (CO_2) from the atmosphere and stores carbon in above-ground trees (CP1), shrubs (CP2) and below-ground biomass (i.e., roots) (CP3). Through natural processes and disturbance events, trees produce deadwood (CP4 and CP5) and litter (CP7), some of which will enter the soil organic carbon pool (CP8). Harvesting, which results in slash deadwood (CP6), removes carbon from the above-ground biomass pool and is processed into harvested wood products (CP9)

How do methodologies for other project types score?



Graph shows the score distribution for quantification methodologies assessed by CCQI.

which store carbon. As harvested wood products age, their decomposition releases carbon into the atmosphere (ES3). Management activities such as prescribed burning (ES1) and nutrient application (ES4) add greenhouse gases (GHG) to the atmosphere. Site preparation (ES5) related to improving forest management practices may result in emissions as does combustion from activities related to maintenance of the project site, both from mobile (ES6) and stationary (ES7) sources. Transportation and manufacturing of harvested wood products and their disposal results in combustion emissions (ES8). Leakage from IFM projects may result in emissions due to changes in timber harvest levels on forestlands outside the activity area (ES2). It may also cause increased production of alternative materials to substitute for a reduction in harvested wood products (ES9).

Carbon Pools (CP)		Emission Sources (ES)	
	CP5 Deadwood lying		ES5 Site preparation mobile combustion
CP1 Above-ground biomass	CP6 Deadwood slash	ES1 Burning of biomass e.g. prescribed burns	ES6 Project operation and maintenance mobile combustion
CP2 Non-tree above-ground biomass	CP7 Litter	ES2 Changes in timber harvest outside the activity area	ES7 Project operation and maintenance stationary combustion
CP3 Below-ground biomass	CP8 Soil organic carbon	ES3 Decomposition of wood products	ES8 Combustion from production, transport and disposal of forest products
CP4 Deadwood standing	CP9 Harvested wood products	ES4 Nutrient application	ES9 Combustion from production, transport and disposal of alternative materials

■ Inside the project area ■ Outside the project area

Source: www.carboncreditquality.org

Estimating the overall emission impact of an IFM project requires looking at how activities affect each carbon pool and emission source. Most quantification methodologies include all main pools and sources in project boundaries, while they sometimes exclude smaller ones. Exclusion is a robust approach where it leads to underestimation of total credited emission reductions or removals or where the activity likely has a negligible impact on pools and sources. It may however lead to overestimation or introduce significant uncertainty in the overall quantification.

We identify three carbon pools that are excluded in some quantification methodologies and for which such exclusion may lead to material overestimation, depending on the type of IFM activity: natural *deadwood (CP4 and CP5)*, *soil organic carbon (CP8)*, and *harvested wood products (CP9)*. Our assessments show that except for VM0003, VM0005 and VM0012 (from the VCS) all methodologies allow for exclusion of natural deadwood and only the CAR U.S. Forest Protocol requires the inclusion of soil organic carbon.

Flexibility to choose among more than one approach for quantification of carbon stocks creates overestimation risks

Measuring the amount of carbon stored in a forest is challenging. Common approaches include direct measurements through forest inventories, remote sensing, as well as modelling approaches. Under each approach, estimates are associated with significant uncertainty, which project developers need to properly account for to avoid over- or underestimation of carbon stocks. Approaches that quantification methodologies prescribe vary in their stringency. The ACR methodology recommends tools and guidelines that project developers may use, but, like VM00012, leaves choices regarding sampling design as well as selection of data sources, models, and parameter. Flexibility to pick and choose might result in project developers selecting more favorable approaches. The approach of the CAR U.S. Forest Protocol might provide a better safeguard against this risk, as it features relatively stringent requirements that must be met when selecting parameters. All methodologies prescribe applying a default factor of 0.5 for the fraction of carbon in forest biomass, a value that recent literature considers as too high for a variety of tree species in different climate zones. However, the estimated average carbon concentration in wood, based on measurements from an exhaustive databank, is only slightly lower than the applied default factor of 0.5.[1] Therefore, we estimate that this results only in a low degree of overestimation of total credited reductions or removals.

Approaches for baseline setting likely leading to a significant underestimation of future carbon stocks

Estimating how forest carbon stocks would likely develop in the absence of the carbon market project requires making assumptions about several factors, including about some that are beyond the control of project developers. Changes in forest management practices might for example be driven by changes in timber prices, policies and regulations, forest ownership, or the adverse effects of climate change. Predicting how they will evolve over time is difficult for any of these factors, an issue exacerbated by long crediting periods for IFM projects that typically vary between 20-100 years. Methodologies further often do not prescribe updates to the baseline as the project evolves. We therefore estimate that baseline scenarios for IFM activities are associated with an inherent uncertainty in the order of magnitude of ±30 %. This makes the project type vulnerable to issues in identifying causality, especially where IFM activities have only small effects on carbon pools in the project scenario. In these cases, it is difficult to clearly attribute removals or emission reductions to the IFM project considering that many exogenous factors may likewise stimulate changes in forest management practices.

Quantification methodologies assessed by CCQI contain a variety of approaches that project developers may use to establish baselines. The most common one is historical baselines that assume the continuation of pre-project forest management practices on the project area. Alternative approaches are legal or common practice baselines that assume practices evolving in line with legal requirements or continuation of practices that are representative for the region.

Some methodologies prescribe a hierarchy among different approaches (VM0003, VM0010, VM0012), but its application may depend on interpretations of data availability. They therefore do not strictly prescribe which type of baseline to use, allowing project developers to pick the most advantageous one. Other methodologies (ACR, CARB, and CAR U.S. Forest Protocol) do not provide specific guidance

[1] Martin et al., 2018

which methods project developers must use. This creates leeway for selecting modelling parameters that result in lower baseline carbon stocks. The use of regional default values for baseline carbon stocks (CAR U.S. Forest Protocol, CARB) very likely leads to considerable overestimation of emission reductions or removals. This approach further very likely leads to adverse selection because it incentivizes project developers to register those lands that have carbon stocks above regional default values. Recent studies found no difference in carbon management practices between projects applying the CARB protocol and a control group, suggesting that baselines carbon stocks are significantly underestimated.[2] As the CAR U.S. Forest Protocol uses similar approaches, this risk may also apply to projects under this methodology.

Leakage deductions insufficient to robustly address market leakage risks

Leakage is likely to be very large for IFM projects that produce timber in the baseline. The main risk is market leakage – meaning that an increase in harvesting outside the project area compensates for the project's reduction in harvesting levels. Methodologies account for market leakage by requiring project developers to apply a fixed rate leakage deduction when calculating the emission impact of a project. Under the ACR methodology and VM0012, the deduction is applied on the total number of removals achieved in the reporting period. Under the CAR U.S. Forest Protocol, project developers must apply the leakage deduction rate to the difference between the project and baseline carbon harvested. VM0003 and VM0010 require the application on the baseline emissions from logging and VM0005 applies it to the net carbon stock change due to relogging in the baseline.

Prescribed leakage deduction rates in methodologies range from 10-70 %. Some differentiate the rate, depending on factors such as the decrease in total wood products produced by the project (e.g., ACR) or whether domestic or international leakage is concerned. For all methodologies we find that leakage rates appear overall too low to conservatively account for market leakage effects of IFM projects. For the United States for example, studies assessed leakage rates to range between 42-95 %[3] while most relevant methodologies (ACR, CAR, CARB) only prescribe deductions of 10-30 %.

[2] Coffield et al., 2022; Stapp et al., 2023

[3] Gan et al., 2007; Wear & Murray, 2004

An important factor for the materiality of leakage risks is the degree to which removals in the project forest area are achieved through reduced harvesting or through other measures. Reducing harvesting levels relative to the baseline scenario is the main measure for most IFM activities, especially for forests managed by timber companies. An exception are activities that increase carbon stocks by increasing productivity of a forest. As most projects however combine several activities, the leakage risks described above are likely applying to almost all IFM projects.

Assessing the issues outlined above we estimate that the application of any of the quantification methodologies is likely leading to an overestimation of emissions, with the degree of overestimation being likely more than 30%.

Non-permanence

The project type has material non-permanence risks, which some carbon crediting programs address better than others

Non-permanence means that emission reductions or removals achieved by a project are later reversed e.g., due to a natural disaster or project mismanagement.

We assess whether the project type has significant non-permanence risks.

For project types that do have significant non-permanence risks we assess the robustness of carbon crediting program provisions to address these risks.

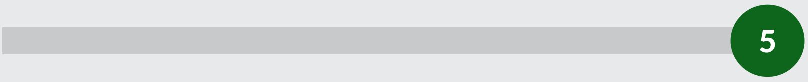
How do other project types score?

Graph shows the range of scores for all project types assessed by CCQI.

The project type improved forest management has a material non-permanence risk: Forests are in jeopardy of being destroyed or degraded, and thus releasing the stored carbon back into the atmosphere, for example in cases of land conversion or wildfires.

Carbon crediting programs employ different approaches to reduce non-permanence risks and to account and compensate for reversals. The predominant approach to compensate for reversals is the cancellation of issued carbon credits, including by using ‘pooled buffer reserves’ – a type of insurance mechanism. A range of scores applies for this criterion, because some carbon crediting programs have more robust provisions than others. For example, the time for which reversals must be monitored and compensated for varies among programs between 20 and 100 years.

Compatibility with net zero



Increasing global forest carbon stocks is essential for the transition towards net zero emissions

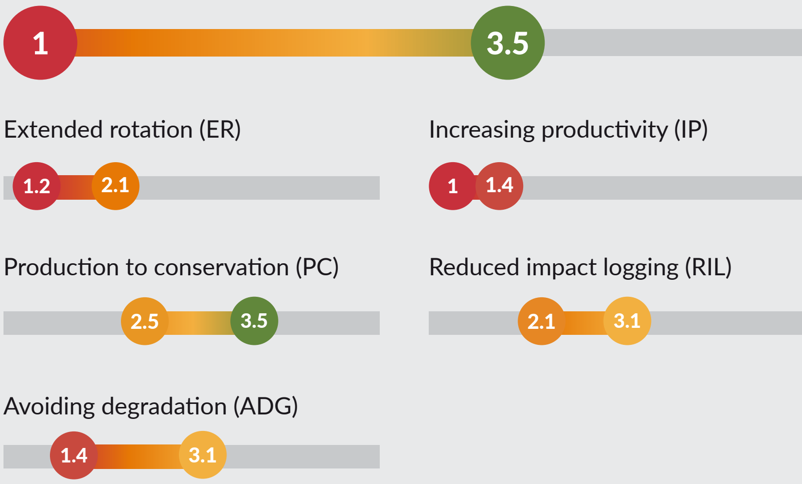
Here we assess whether the technology or practices applied by the project type facilitate the transition towards net zero emisisons.

How do other project types score?

Graph shows the range of scores for all project types assessed by CCQI.

Improved forest management projects aim at increasing carbon stocks, which is essential for achieving the net zero transition. The project type rates highest among those assessed by the CCQI.

SDG Impacts



The project type affects a limited number of SDGs, and the magnitude of impacts varies substantially between activities

Here we assess whether the project type contributes to the achievement of the Sustainable Development Goals (SDGs).

Note that projects implemented in Small Island Developing States (SIDS) and Least Developed Countries (LDCs) receive an upgrade to the score by one point due to the special circumstances of these countries.

Generally, improved forest management projects impact only a limited number of SDGs, namely SDG 2, 6, 8 and 15. The extent to which IFM projects contribute to them varies between IFM activities.

Extending the rotation has neither significant positive nor negative impacts on sustainable development. Activities shifting from *production to conservation* can strongly contribute to SDG 6 (Clean Water and Sanitation) and SDG 15 (Life on Land). Conservation forests provide shelter for critical

How do other project types score?

Graph shows the range of scores for all project types assessed by CCQI.

vertebrate pollinators and can feature upmost diverse genetic material which can be utilized for breeding more resilient crops (SDG 2 (Zero Hunger). Furthermore, forests reduce soil erosion and can act as a buffer for nitrate leakage from surrounding agriculture. However, the reduced wood production of the project area might shift harvesting activities to areas outside the project area where competition for land could impact food production (SDG 2). Shifting production to conservation protects and improves the water-related forest ecosystem, which will enhance water quality and water retention (SDG 6). Shifting production to conservation further conserves the forest and avoids forest loss (SDG 15).

The activity increasing productivity is likely to have an overall negative impact on sustainable development. Thinning or removing big or less productive trees changes water retention and soil quality in forests and can negatively impact their water balance (SDG 6). While more labor-intensive forms of harvesting might lead to job creation compared to the baseline (SDG 8), the activity does not have a positive impact on SDG 15 as intensified timber production likely negatively impacts biodiversity.

The activity reduced impact logging (RIL) has a positive impact on sustainable development, although the impact is weaker compared with activities shifting production to conservation. The activity can improve water filtration by causing less disturbance to the forest ecosystem (e.g., impact on soils). It can also increase water retention and decrease flood risks, thus contributing to the protection of the water-related ecosystem of forests (SDG 6). RIL likely enhances forest worker safety compared to the baseline of conventional harvesting (SDG 8). RIL further improves soil quality compared to the baseline and can be regarded as a more sustainable use of the forest. Tree loss is avoided by decreasing the negative impact from conventional harvesting. Further, activities contribute to a higher species richness/biodiversity (SDG 15).

Avoiding degradation only provides few, small contributions to sustainable development. Although harvesting still continues, the forested area (and thus the water-related ecosystem forest) is better preserved than in the baseline (SDG 6 and 15). While the activity may not halt degradation completely, the reduced degradation will increase forest health (SDG 15).

Double issuance due to indirect overlaps between projects

For projects outside the U.S., carbon crediting programs might accidentally issue credits for the same emission reductions or removals to improved forest management projects and other project types that reduce firewood consumption

Here we assess whether the project type has low risks to overlap with other project types in the carbon market.

For project types where we identified a high risk, we also assess if carbon crediting programs have robust provisions in place that avoid that the same credit is issued twice for the same emission reduction in the case that two projects.

How do other project types score?

Graph shows the range of scores for all project types assessed by CCQI.

The risk of double issuance due to indirect overlaps between projects is oftentimes overlooked for forestry projects. Double issuance can happen when an improved forest management project and a project reducing firewood consumption, i.e., a cookstove or a household biodigester project, happen in the same area. The latter aims to reduce the consumption of non-renewable biomass and thereby preserve carbon stocks in surrounding forest areas. If a project to improve forest management is implemented in the same forest area, it might claim the same emission reductions or removals.

None of the assessed carbon crediting programs applies systematic checks for identifying and avoiding overlaps between forestry projects and projects reducing firewood consumption.

This risk is however only relevant in countries where cooking with non-renewable biomass is likely to take place. This is not the case for the United States, where the majority of IFM credits originate from.

Starting points for further due diligence

This factsheet summarizes key risk factors for the quality of carbon credits from this project type, as identified in CCQI's detailed assessments. Individual projects might outperform any of our scores by making project-design choices that mitigate these risks. CCQI scores therefore do not apply to individual projects. They can however inform further due diligence when assessing the quality of individual projects. Questions to ask might include:

- What activities are implemented as part of the project? What is the main activity? Did it change over time? The type of activity can impact the additionality risks and SDG impacts.
- Is the forest in the project area subject to a conservation easement? If so, the project might have higher additionality risks.
- Are there legal requirements in the region for the improved forest management activity? Is the project already financially supported through policies or incentives other than carbon credits? If so, the project might have high additionality risks.
- Does the carbon crediting program under which the project is registered require periodic reassessments whether new legal requirements mandate the improved forest management activities?
- Does the project assume a baseline that is lower than the pre-project carbon stocks at the project site? If so, overestimation of emission reductions or removals is more likely to occur.
- Does the project lead to significant decreases in harvesting levels? If so, there is a high risk of overestimation due to unaccounted leakage.
- Does the project take place in a country where cooking with non-renewable biomass is likely? If yes, does the project area overlap with a project that aims to reduce firewood consumption? If yes, do both projects take measures to avoid the risk of double issuance?
- Has the project identified reversal risks and established a management plan to mitigate identified risks? Until what year will reversals from the project be monitored and compensated for?

For assessments of specific projects, you may contact specialized rating agencies such as BeZero, Calyx Global or Sylvera.

CCQI
Carbon Credit
Quality Initiative

About CCQI

The Carbon Credit Quality Initiative (CCQI) was established to provide free, transparent information on the quality of different types of carbon credits, enabling users to understand what types of carbon credits are more likely to deliver actual emission reductions as well as social and environmental benefits.

CCQI was founded and is managed by Environmental Defense Fund (EDF), World Wildlife Fund (WWF-US) and Oeko-Institut, a leading European research and consultancy institution working for a sustainable future. Scores published by CCQI are derived from applying the CCQI assessment methodology. The assessment is led by Oeko-Institut, with support from experienced carbon market experts from Carbon Limits, Greenhouse Gas Management Institute (GHGMI), INFRAS and Stockholm Environment Institute (SEI). Draft results are reviewed by the full CCQI team before public release. All experts involved in CCQI have deep expertise in carbon markets and are not employed by project developers or carbon crediting programs.

www.carboncreditquality.org

This factsheet was commissioned by

FOUNDATION Development and Climate Alliance

www.allianz-entwicklung-klima.de

How does CCQI assess quality?

CCQI assesses quality aspects of different types of carbon credits. The following main features define a type for our assessments:

- The type of project (e.g., landfill gas utilization)
- The carbon crediting program (e.g., Verified Carbon Standard)
- The quantification methodology used to estimate emission reductions for the project activity
- The country in which the activity takes place

We assess each type against several criteria, sub-criteria and indicators that are clustered around seven quality objectives.

Each assessment follows our publicly available methodology.

In this factsheet we present results for selected quality objectives, criteria and sub-criteria whose scores depend primarily on characteristics of the type of project.

To see how this project type scores against all our criteria, explore our scoring tool.

Quality Objectives

1 Robust Determination of the GHG Emissions Impact

2 Avoiding Double Counting

3 Addressing Non-permanence

4 Facilitating a Transition Towards Net Zero Emissions

5 Strong Institutional Arrangements

6 Environmental and Social Impacts

7 Host Country Ambition

VISIT CCQI SCORING TOOL

www.carboncreditquality.org/scores.html

How to interpret CCQI Scores?

Our scores use an interval scale from 1-5, with 5 representing the highest score.

Scores are risk-based and indicative of the confidence or likelihood that the assessment subject meets the quality objective.

We do not provide an aggregated score for types of carbon credits to provide users with a nuanced picture on different quality aspects.

CCQI Score Scale

Level of confidence that the assessment subject meets the criterion or quality objective

Very High	5
High	4
Moderate	3
Low	2
Very Low	1