Application of the CCQI methodology for assessing the quality of carbon credits

This document presents results from the application of version 3.0 of a methodology, developed by Oeko-Institut, World Wildlife Fund (WWF-US) and Environmental Defense Fund (EDF), for assessing the quality of carbon credits. The methodology is applied by Oeko-Institut with support by Carbon Limits, Greenhouse Gas Management Institute (GHGMI), INFRAS, Stockholm Environment Institute, and individual carbon market experts. This document evaluates one specific criterion or sub-criterion with respect to a specific carbon crediting program, project type, quantification methodology and/or host country, as specified in the below table. Please note that the CCQI website Site terms and Privacy Policy apply with respect to any use of the information provided in this document. Further information on the project and the methodology can be found here: www.carboncreditquality.org

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Criterion:	**4.1: Enhancing adoption of low, zero or negative emissions technologies and practices**
Project type:	**Improved forest management**
Date of final assessment:	**21 February 2024**
Score:	**5**

Assessment

Relevant scoring methodology provisions

The scoring approach assesses the degree to which the technologies or practices applied under the project type facilitate the transition towards net zero emissions (see table 1). The main consideration is whether the project type employs negative, zero or low emissions technologies or practices. Moreover, it is considered whether the project type poses risks for locking-in technologies or practices that may result in an increase in GHG emissions in the long-term, thereby undermining the achievement of net zero emissions, or whether the project type employs innovative technologies or practices which may accelerate the transition to net zero emissions. See further details on the scoring in the methodology.

Table 1 Scoring approach for enhancing adoption of low, zero or negative emission technologies and practices

Technology type	Score
Negative emissions technologies and practices	
Description: Technologies and practices that remove CO_2 from the atmosphere, such that more CO_2 is sequestered in the process than greenhouse gases are emitted:	
• Direct air carbon capture and storage (capture of CO_2 from the atmosphere and storage in long-term reservoirs) (DACCS)	5
• Bioenergy with carbon capture and storage (BECCS)	4
• Afforestation, reforestation and restoration (ARR)	5
Zero emissions technologies and practices	
Description: Technologies and practices that result in net zero GHG emissions during their operation. **Exception:** A score of 4 applies to technologies or practices that are less innovative than the best available technology. For example, this holds for biomass power generation using less efficient plants than the best available technology.	
• Cement production with renewable energy sources combined with carbon capture and storage (CCS) with high efficiency rate (e.g., >90%)	5
• Fuel switching to zero-emitting technology (e.g., fuel switch from natural gas to "green" hydrogen produced from renewable energy sources and with minimal hydrogen leakage throughout the value chain)	5
• Change in practice or components along the process or production cycle leading to change from high to zero emissions (e.g., steel production using "green" hydrogen produced from renewable energy sources and with minimal hydrogen leakage throughout the value chain)	5
• Zero emissions renewable energy generation, such as o Wind and solar power generation o Hydro power generation from run-of-river plants or dams with negligible CH_4 and CO_2 emissions o Geothermal energy use with negligible fugitive emissions	5
• Use of biomass residues or other forms of sustainable/renewable biomass using best available technology	4

Technology type	Score
Avoided emissions technologies and practices	
Description: Technologies and practices that generate indirect upstream or downstream emission reductions as a result of the use of technology or practice, or practices that intervene with the release of existing of terrestrial carbon stocks. **Exceptions:** A score of 4 applies to technologies or practices that have a superior alternative or do not represent the best available technology, for example, because they are less energy efficient than already available alternatives (e.g., compact fluorescent lamps (CFLs) compared to light-emitting diodes (LEDs)).	
• Highly efficient demand side technology (e.g., LED lamps)	5
• Efficient demand side technology (e.g., CFL lamps)	4
• Battery or pump storage enabling greater renewable electricity generation	5
• Recycling of waste	5
• Composting of organic waste	5
• Reducing emissions from deforestation and degradation	5
Low emissions technologies and practices	
Description: Technologies and practices that emit comparatively lower levels of GHG emissions during their operation. The default score is 3, given that these technologies or practices lead to continuous GHG emissions and could thus compromise the goal of achieving net zero emissions in the future. A score of 4 applies to technologies or practices that use best available technology, and for which the risk of locking-in investments that lead to continuous GHG emissions is low. This holds, for example, for the use of landfill gas for energy generation from already closed landfills. In the case of closed landfills there is no risk that, as a result of the project, landfilling is continued rather than embarking on more sustainable waste handling practices, such as recycling and composting. A score of 2 applies to technologies or practices that do not use best available technology and for which the risk of locking in investments which lead to continuous GHG emissions is significant. This holds in particular for technologies with a long lifetime, such as fossil fuel-based power plants.	
• Carbon capture and storage (CCS) from fossil fuel fired power plants Rationale: While CCS can avoid any direct emissions from fossil fuel fired power plants, the continued use of fossil fuels causes unavoidable emissions from their mining, exploration, processing and transportation, such as CH_4 emissions from coal mining and oil and gas exploration. Given that power plants may operate for decades, there is a significant risk of locking-in investments that may undermine achieving net-zero emissions in the future. In addition, superior alternatives, such as renewable power generation in combination with storage systems, are already available.	2
• Fuel switching to a less carbon intensive fossil fuel (e.g., from coal to natural gas)	3
• Carbon capture and utilization (CCU)	3
• Use of landfill gas from closed landfills for energy generation	4
• Use of landfill gas from open landfills for energy generation	3
• Waste to energy	3
• Landfill gas flaring	3
• Greenfields natural gas power plants	2
• Use of "blue" hydrogen from fossil fuel sources combined with carbon capture and storage (CCS)	3

Assessment outcome

The project type is assigned a score of 5.

Project type

The assessment refers to the following project type:

Improved forest management:

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

Justification of assessment

According to the scoring approach for enhancing adoption of low, zero or negative emission technologies and practices as described in the methodology, technologies and practices that remove CO_2 from the atmosphere, such that more CO_2 is sequestered in the process than greenhouse gases are emitted, is considered as an activity that is highly facilitative of the transition towards net zero emissions.

As improved forest management activities aim at increasing carbon stocks it is considered to fall in the scope of practices defined above. The project type therefore receives a score of 5.