



The American Carbon Registry® Forest Carbon Project Standard

Version 2.0
February 2010

The American Carbon Registry's requirements and specifications for the quantification, monitoring, and reporting of forest project-based greenhouse gas emissions reductions and removals, methodological acceptance, verification, registration, and issuance of offsets by the Registry for trade in the global voluntary and U.S. pre-compliance carbon markets.

A nonprofit enterprise of



WINROCK
INTERNATIONAL

ACKNOWLEDGEMENTS.....	4
INTRODUCTION.....	5
ACRONYMS.....	7
DEFINITIONS.....	8
CHAPTER 1: SCOPE.....	19
A. GEOGRAPHIC SCOPE.....	19
B. SCOPE: GREENHOUSE GASES.....	19
C. SCOPE: PROJECT TYPES.....	19
D. FOREST CARBON PROJECTS WITH A BIOMASS ENERGY COMPONENT.....	21
CHAPTER 2: ACCOUNTING AND DATA QUALITY PRINCIPLES.....	22
A. BOUNDARY SELECTION.....	22
B. PROJECT BASELINE.....	22
C. MEASUREMENT ACCURACY AND PRECISION.....	22
D. COMPLETENESS.....	23
E. LEAKAGE.....	23
F. ASSESSING PERMANENCE RISK.....	23
CHAPTER 3: FOREST PROJECT ELIGIBILITY REQUIREMENTS.....	24
A. FOREST DEFINITION.....	24
B. ELIGIBLE LAND OWNERSHIP TYPES.....	24
C. ELIGIBILITY CRITERIA.....	24
CHAPTER 4: ADDITIONALITY.....	33
A. START DATE.....	33
B. ACR’S THREE-PRONG ADDITIONALITY TEST.....	33
C. REGULATORY SURPLUS TEST.....	35
D. COMMON PRACTICE TEST.....	35
E. IMPLEMENTATION BARRIERS TEST.....	36
F. PERFORMANCE STANDARD APPROACHES.....	36
CHAPTER 5: PERMANENCE AND RISK MITIGATION.....	38
A. ASSESSMENT OF RISK.....	39
B. PRIMARY RISK MITIGATION MECHANISM: THE ACR BUFFER POOL.....	39
C. ACR ACTIONS AND PROJECT PROPONENT RESPONSIBILITIES IN THE EVENT OF A REVERSAL.....	40
D. RETURN OF BUFFER CONTRIBUTION OVER TIME IF NO REVERSALS.....	43
E. TREATMENT OF REMAINING BUFFER AT END OF PROJECT LIFE.....	43
F. REASSESSMENT OF RISK AND BUFFER CONTRIBUTION OVER TIME.....	44
G. ALTERNATE RISK MITIGATION MECHANISMS.....	44
CHAPTER 6: BASELINES AND LEAKAGE.....	45
A. BASELINES: AR.....	45
B. BASELINES: IFM.....	45
C. BASELINES: REDD / AVOIDED CONVERSION.....	46
D. LEAKAGE: AR.....	47
E. LEAKAGE: IFM.....	48



ACR Forest Carbon Project Standard

F.	LEAKAGE: REDD / AVOIDED CONVERSION	48
CHAPTER 7: ACCEPTED METHODOLOGIES AND TOOLS		50
A.	GHG MEASUREMENT TOOLS AND METHODOLOGIES.....	50
B.	REVIEW PROCESS FOR GHG METHODOLOGIES AND TOOLS	52
C.	METHODOLOGIES AND TOOLS FOR COMMUNITY AND ENVIRONMENTAL IMPACT ASSESSMENT	52
CHAPTER 8: MONITORING, VERIFICATION AND CONTRACTUAL REQUIREMENTS.....		53
A.	ANNUAL ATTESTATION	53
B.	DESK-BASED VERIFICATION ON REQUEST FOR NEW ISSUANCE	53
C.	FULL VERIFICATION EVERY FIVE YEARS.....	54
D.	APPLICATION FOR RENEWAL OF CREDITING PERIOD.....	54
E.	LEGAL ARRANGEMENTS BETWEEN ACR, PROJECT PROPONENT AND LANDOWNERS	55
REFERENCES		57
CONTACT INFORMATION		59

Acknowledgements

Development of the *ACR Forest Carbon Project Standard v2.0* would not have been possible without the support and advice of the Winrock International Board of Directors and the American Carbon Registry's Founding Members.

ACR extends its appreciation to the following individuals who contributed their time and expertise to develop the *ACR Forest Carbon Project Standard v2.0*: Sandra Brown, Katie Goslee, Mary Grady, Nancy Harris, John Kadyszewski, Gary Kaster, John Kunz, Nicholas Martin, Lauren Nichols and Tim Pearson.

The *Forest Carbon Project Standard* builds on the work of the following organizations: the Clean Development Mechanism, for its baseline, additionality determination, and monitoring tools and methodologies; the International Organization for Standardization, for its GHG accounting guidance under ISO 14064-1-3:2006 and ISO 14065:2007; the U.S. Environmental Protection Agency, for its sector and project tools and methodologies under the Climate Leaders Program; and the Voluntary Carbon Standard Association, for its Agriculture, Forestry and Other Land Use guidance and tools for permanence risk assessment.

Introduction

The American Carbon Registry® (ACR) is a voluntary, online greenhouse gas registration and emissions tracking system used by members to transparently register verified, project-based emissions reductions and removals as serialized offsets; record the purchase, sale, banking and retirement of tradable offsets, branded as Emission Reduction Tons (“ERTs”); and optionally report, in a separate account, verified GHG inventories.

ACR is an enterprise of the non-profit Winrock International. Winrock International works with people in the U.S. and around the world to empower the disadvantaged, increase economic opportunity, and sustain natural resources. Key to this mission is building capacity for climate change mitigation and adaptation and leveraging the power of environmental markets. Since the 1990s, Winrock has been a leader in developing science-based carbon measurement and monitoring methods and protocols.

ACR was founded in 1997 as the GHG Registry by the Environmental Defense Fund and Environmental Resources Trust, and joined Winrock International in 2007. As the first private voluntary GHG registry in the United States, ACR has set the bar for transparency and integrity that is the market standard today.

The ACR Forest Carbon Project Standard

The *Forest Carbon Project Standard* details ACR’s requirements and specifications for the quantification, monitoring, and reporting of forest carbon project-based emissions reductions and removals, offset verification, registration, and issuance of forest offsets. This standard establishes the minimum quality level that every forest project must meet in order for ACR to transform its GHG emissions reductions and removals into tradable and fungible environmental assets for voluntary and emerging pre-compliance carbon markets. In this and all its standards, ACR aims to maximize flexibility and usability for Project Proponents and landowners, while maintaining the environmental integrity and scientific rigor necessary to ensure that projects developed against these standards are recognized as being of the highest quality, whether used for voluntary or pre-compliance early action purposes.

ACR Forest Carbon Project Standard

Adherence to this standard, relevant forestry methodologies, and the *ACR Standard* will ensure that project-based forest offsets represent emissions reductions and removals that are real, measurable, permanent, in excess of regulatory requirements and common practice, additional to business-as-usual, net of leakage, verified by a competent independent third party, and used only once.

The *Forest Carbon Project Standard* includes requirements for afforestation and reforestation (AR), improved forest management (IFM), and reducing emissions from deforestation and degradation (REDD). Additional eligible forest carbon project types may be added in the future. This standard does not include guidance on agricultural, grassland, or other land use projects, which will be addressed in separate standards and methodologies.

Project Proponents wishing to develop a forest project for registration on ACR should follow this standard and the more general guidance contained in the *ACR Standard*. All projects must also use an approved methodology, pass ACR's eligibility screening, and be verified by a competent ACR-approved third-party verifier.

The *Forest Carbon Project Standard v2.0* amplifies and replaces version 1.0 of the same document. Project Proponents and other interested parties should refer to www.americancarbonregistry.org for the latest version of this standard, the *ACR Standard*, methodologies, tools, document templates and other guidance.

The appropriate citation for this document is American Carbon Registry (2010), *American Carbon Registry Forest Carbon Project Standard, version 2.0*. Winrock International, Little Rock, Arkansas.

Acronyms

ACR	American Carbon Registry™
AFOLU	Agriculture, Forestry and Other Land Use
AR	Afforestation/Reforestation
C	Carbon
CCBA	Climate, Community and Biodiversity Alliance
CDM	Clean Development Mechanism
CH ₄	Methane
CO ₂	Carbon dioxide
CO ₂ e	Carbon dioxide equivalent
“ERT”	Emissions Reduction Tonne (ACR unit of exchange for verified offsets)
GHGs	Greenhouse gases
GWP	Global warming potential
HFC	Hydrofluorocarbon
ISO	International Standardization Organization
IFM	Improved Forest Management
IPCC	Intergovernmental Panel on Climate Change
N ₂ O	Nitrous oxide
PFC	Perfluorocarbon
REDD	Reducing Emissions from Deforestation and Degradation
SF ₆	Sulfur hexafluoride
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Voluntary Carbon Standard

Definitions

Additionality

Additionality is a test intended to ensure that project offsets are in addition to reductions and/or removals that would have occurred in the absence of the project activity and without carbon market incentives. A project proponent must demonstrate that the GHG emission reductions and removals associated with an offset project are above and beyond the “business as usual” scenario. ACR requires that every project *either* use an approved performance standard and a regulatory additionality test, *or* pass a three-pronged test to demonstrate that the project activity is beyond regulatory requirements, beyond common practice, and faces at least one of three implementation barriers.

Afforestation

The direct human-induced conversion of land that has not been forested for a period of at least 50 years to forested land through planting, seeding and/or the human-induced promotion of natural regeneration.

Afforestation/Reforestation (AR)

Activities to increase carbon stocks by establishing, increasing and restoring vegetative cover through the planting, sowing or human-assisted natural regeneration of woody vegetation. AR is an eligible forest project activity on the ACR.

Agriculture, Forestry and Other Land Use (AFOLU)

A broad category of ACR-eligible project activities that reduce GHG emissions and/or enhance GHG removals through changes in agriculture, forestry and land-use practices.

American Carbon Registry® (ACR)

The American Carbon Registry® (ACR) is a voluntary, online greenhouse gas registration and emissions trading system used by ACR members to transparently register verified emissions reductions and removals as serialized offsets; record the purchase, sale, banking and retirement of tradable offsets, branded as Emission Reduction Tons (“ERTs”); and optionally report, in a separate account, verified GHG inventories. ACR is an enterprise of Winrock International, a U.S. non-profit organization.

ACR-Approved Methodology

ACR-approved methodologies include those published by ACR after public consultation and scientific peer review; methodologies approved for use by CDM, VCS and EPA Climate Leaders, subject to ACR review and provided the GHG Project Plan complies with the *ACR Standard* and any relevant sector standard; modifications of ACR, CDM,

ACR Forest Carbon Project Standard

VCS and Climate Leaders methodologies, once approved by ACR; and new methodologies submitted to ACR and approved via ACR's public consultation and scientific peer review process.

Annual Attestation Statement

The statement that a Project Proponent provides annually to ACR relating to the continuance, ownership, and community and environmental impacts of a project. The Attestation is required in order to continue crediting.

Avoided Conversion

Avoided conversion (from forest to non-forest use) refers to activities that prevent the conversion of forests to development, agriculture or other land uses. ACR considers avoided conversion a type of REDD, not a separate project type, but recognizes that separate methodologies will be needed in most cases.

Baseline Scenario

The project baseline is a counterfactual scenario that forecasts the likely stream of emissions or removals to occur if the Project Proponent does not implement the project, i.e., the "business as usual" case. It also reflects the sum of the changes in carbon stocks (and where significant, N₂O and CH₄ emissions) in the carbon pools within the project boundary that would occur in the absence of the project activity.

Biological Emissions

GHG emissions released from forest biomass, both live and dead, and forest soil.

Biological Sequestration

The process of increasing the carbon stock of terrestrial carbon pools by changing the management of forests, rangelands, agricultural lands, and wetlands, resulting in increased sequestration of CO₂ through biological processes.

Buffer Pool

ACR risk mitigation mechanism whereby the Project Proponent contributes an adequate number of eligible ACR offsets to a buffer pool held by ACR to replace unforeseen losses in carbon stocks. The buffer contribution is a percentage of the project's reported offsets, determined through a project-specific assessment of the risk of reversal.

Carbon Dioxide

Carbon dioxide (CO₂) is a chemical compound comprising two oxygen atoms bonded to a single carbon atom, and is the primary greenhouse gas implicated in global warming.

Carbon Dioxide-equivalent (CO₂e)

Carbon dioxide equivalence (CO₂e) is a metric to compare GHGs based on their global warming potential (GWP) relative to CO₂ over the same timeframe. The Intergovernmental Panel on Climate Change publishes GWP values for converting all GHGs to a CO₂e basis.

Carbon Offset

In a voluntary market context, a carbon offset is a reduction, removal, or avoidance of GHG emissions that is used to compensate for GHG emissions that occur elsewhere. In a cap-and-trade context, offsets are “GHG reductions from projects undertaken outside the coverage of a mandatory emissions reduction system for which the ownership of verifiable GHG emission reductions can be transferred and used by a regulated source to meet its emission reduction obligations.”¹ The ACR registers both voluntary market and pre-compliance offsets and has the same quality and technical requirements for both.

Carbon Pool

A reservoir of carbon that has the potential to accumulate or lose carbon over time. Common forest carbon pools are aboveground biomass, belowground biomass, litter, dead wood, soil organic carbon, and wood products.

Carbon Stocks

Carbon stocks represent the measured, estimated or modeled quantity of carbon held in a particular carbon pool. Quantifying GHG emissions and removals for terrestrial carbon offset projects involves estimating, for the baseline vs. project scenario, changes over time in carbon stocks in relevant pools.

Certification

Certification is the result of a successful eligibility screening of a GHG Project Plan. Certification confirms that the GHG Project Plan complies with ACR standards and, if the Project Proponent follows faithfully the GHG Project Plan during project implementation and monitoring, and secures a positive independent verification, the Proponent will ultimately be able to register the project’s GHG reductions/removals on ACR.

Clean Development Mechanism (CDM)

The CDM allows GHG emission reduction and removal projects in developing countries to earn certified emission reduction (CER) credits, each equivalent to one metric ton of CO₂, which can be sold and used by industrialized countries to meet a part of their emission reduction targets under the Kyoto Protocol. The CDM is intended to stimulate sustainable development and emission reductions, while giving industrialized countries

¹ Adapted from Pew Center on Global Climate Change. *Climate Change 101: Cap and Trade*. <http://www.pewclimate.org/docUploads/Cap&Trade.pdf>.

flexibility in how they meet their emission reduction targets.² ACR accepts certain methodologies and tools from the CDM.

Climate, Community & Biodiversity Alliance (CCBA)

CCBA is a partnership among companies, non-governmental organizations and research institutes seeking to promote integrated solutions to land management, through voluntary standards to help design and identify land management activities that simultaneously minimize climate change, support sustainable development and conserve biodiversity.³ The CCB standards address only the community and biodiversity impacts of a project, not its GHG reductions or removals; CCB certification must therefore be paired with adherence to ACR or comparable carbon standards in order to create GHG reductions/removals.

Commercially Sensitive Information

Trade secrets, financial, commercial, scientific, technical or other information whose disclosure could result in a material financial loss or gain, prejudice the outcome of contractual or other negotiations, or otherwise damage or enrich the person or entity to which the information relates.

Community

A community includes all groups of people including indigenous peoples, mobile peoples and other local communities, who live within or adjacent to the project area as well as any groups that regularly visit the area and derive income, livelihood or cultural values from the area. This may include one or more groups that possess characteristics of a community, such as shared history, shared culture, shared livelihood systems, shared relationships with one or more natural resources (forests, water, rangeland, wildlife, etc.), and shared customary institutions and rules governing the use of resources.⁴

Community and Environmental Impacts

Community and environmental impacts are the effects, both positive and negative, that project activities may have on the socioeconomic well-being of affected communities or environmental quality in the project area. ACR requires that project activities provide net benefits to affected communities and the environment, and do not provide perverse incentives for the clearing of land to generate carbon offsets.

Crediting Period

Crediting period is the finite length of time during which the project's baseline scenario is valid, and during which a project can generate offsets for registration on ACR against

² <http://cdm.unfccc.int/about/index.html>.

³ <http://www.climate-standards.org/index.html>.

⁴ CCB Standards - Project Design Standards. Second Edition (2008). Climate, Community & Biodiversity Alliance.

ACR Forest Carbon Project Standard

this baseline. The baseline must be re-evaluated in order to renew the crediting period. ACR sector standards specify crediting periods for particular project types.

De Minimis

The ACR sets a *de minimis* threshold of 3% of the final calculation of emission reductions or removals. For the purpose of completeness, any decreases in carbon pools and/or increases in GHG emission sources that exceed the *de minimis* threshold must be included. Any exclusions using the *de minimis* principle shall be justified using fully documented *ex ante* calculations.

Eligibility Screening

ACR screens a GHG Project Plan against the *ACR Standard* and any relevant ACR sector standard to determine whether the project meets all ACR requirements.

Emission Reduction Ton (ERT)

The “ERT” is the ACR unit of exchange for tradable, project-based carbon offsets. ACR issues one ERT for each metric ton of CO₂e emission reductions or removals verified against an ACR standard and methodology. ERTs issued to a project equal the project’s Net Emission Reductions minus the offsets set aside in the ACR buffer pool (unless the Project Proponent elects to contribute other ERTs to the buffer pool, or to use a different ACR-approved risk mitigation mechanism).

Forest

ACR requires Project Proponents to use a nationally approved “forest” or “forest land” definition for the country where the project activity occurs. For U.S. projects, Proponents may use the U.S. Forest Service Forest Inventory & Analysis Program definition. For projects in Kyoto Protocol CDM countries, Proponents should use the Kyoto Protocol definition with the relevant Designated National Authority (DNA) selections for minimum land area, crown cover and tree height.

Forest land (Forest Inventory & Analysis Program definition)⁵

Land with at least 10 percent cover (or equivalent stocking) by live trees of any size, including land that formerly had such tree cover and that will be naturally or artificially regenerated. To qualify, the area must be at least 1.0 acre in size and 120.0 feet wide. Forest land includes transition zones, such as areas between forest and nonforest lands that have at least 10% cover (or equivalent stocking) with live trees and forest areas adjacent to urban and built-up lands. Roadside, streamside, and shelterbelt strips of trees must have a width of at least 120 feet and continuous length of at least 363 feet to

⁵ See http://fia.fs.fed.us/library/database-documentation/current/ver4/draft%20FIADB_user%20manual_v4-0_p2_12_22_2009.pdf at page 51. ACR does not exclude urban forestry activities from potentially meeting the definition of forest.

qualify as forest land. Unimproved roads and trails, streams, and clearings in forest areas are classified as forest if they are less than 120 feet wide or an acre in size.

Forest (Kyoto Protocol definition)

The Kyoto Protocol defines forest as follows but allows each country's DNA to define minimum land area, crown cover and tree height within the bracketed ranges: A minimum area of land of [0.05 – 1.0 hectares] with a minimum tree crown cover (or equivalent stocking level) of [10 – 30 percent] with trees, and with the potential to reach a minimum height of [2 – 5 meters] at maturity in situ. A forest may consist either of closed forest formations, where trees of various heights and undergrowth cover a large portion of the ground, or open forest. The definition includes young natural stands and all plantations that have yet to reach a crown density of [10 – 30 percent] or tree height of [2 – 5 meters], as well as areas that usually form part of the forest area but that are temporarily unstocked because of human intervention (e.g., harvesting) or natural causes, but likely will revert to forest.⁶

Forest Carbon Project

A forest carbon project is a defined project action, or set of actions, to reduce GHG emissions and/or enhance GHG removals by conserving and/or increasing carbon stocks in one or more forest carbon pools in a defined geographic area.

Greenhouse Gas (GHG)

A GHG is any gaseous compound that absorbs infrared radiation in the atmosphere and contributes to the warming of the atmosphere. The primary GHGs regulated under the Kyoto Protocol are carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). The Intergovernmental Panel on Climate Change lists, and periodically updates, GHGs in its assessment reports. ACR's scope includes all GHGs (including Ozone-Depleting Substances) listed in the IPCC *Fourth Assessment Report* (AR4), Working Group 1, Chapter 2, Table 2.14.⁷

GHG Emission Reductions and Removals

A GHG emission reduction is the measured decrease of GHG emissions over a specified period of time relative to an approved baseline. A GHG removal is the mass of GHGs removed from the atmosphere over a specified period of time relative to an approved baseline.

⁶ DNA selections for minimum land area, crown cover and tree height are at <http://cdm.unfccc.int/DNA/allCountriesARInfos.html>. If the project is in a country that has not yet designated a DNA or whose DNA has not yet made selections, the Proponent may propose another nationally approved forest definition.

⁷ See http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch02.pdf, page 212.

GHG Emission System/Trading Program

A voluntary or regulated program that allows for trading in project-based GHG emission reductions or removals, government-issued credits, and/or allowances.

GHG Project Plan

A GHG Project Plan is a document that describes the project activity, satisfies eligibility requirements, identifies sources and sinks of GHG emissions, establishes project boundaries, describes the baseline scenario, defines how GHG quantification will be done and what methodologies, assumptions and data will be used, and provides details on the project's monitoring, reporting and verification procedures. ACR requires every project to submit GHG Project Plan using an ACR-approved methodology.

Global Warming Potential (GWP)

Global warming potential is a relative scale translating the global warming impact of any GHG into its CO₂ equivalent over the same timeframe. The Intergovernmental Panel on Climate Change periodically updates the list of GHGs and their GWP factors, based on the most recent science. ACR requires Project Proponents to calculate GHG reductions and removals based on the SAR 100-year GWPs in the IPCC *Fourth Assessment Report* (AR4), Working Group 1, Chapter 2, Table 2.14.⁸

Improved Forest Management (IFM)

Activities to reduce GHG emissions and/or enhance GHG removals, implemented on forest lands managed for wood products such as sawtimber, pulpwood, and fuelwood. Eligible IFM project activities include, but are not limited to: conversion from conventional logging to reduced impact logging, conversion of managed forests to protected forests, extending the rotation age of even-aged managed forest, conversion of low-productive forests to high-productive forests, increasing forest productivity by thinning diseased or suppressed trees, managing competing brush and short-lived forest species, preventing forest degradation through unsustainable fuelwood collection and/or illegal timber harvest, increasing the stocking of trees on understocked areas, and increasing carbon stocks in harvested wood products. IFM is an eligible forest project activity on the ACR.

Intergovernmental Panel on Climate Change (IPCC)

The IPCC is “the leading body for the assessment of climate change, established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) to provide the world with a clear scientific view on the current

⁸ See page 212. The SAR 100-year values are in the fourth column from the right. Although the IPCC provides a new set of 100-year values in the second column from the right, and may again update GWP values in forthcoming assessment reports, for reasons of fungibility ACR currently requires Project Proponents to use the SAR values. This requirement may change in the future.

state of climate change and its potential environmental and socio-economic consequences.”⁹

Leakage

Leakage refers to a decrease in sequestration or increase in emissions outside project boundaries as a result of project implementation. Leakage may be caused by shifting of the activities of people present in the project area, or by market effects whereby emission reductions are countered by emissions created by shifts in supply of and demand for the products and services affected by the project.

Methodology

A methodology is a systematic explanation of how a Project Proponent established the project baseline scenario(s), and estimates and monitors emissions reductions or removals by following scientific good practice. Good practice entails that a methodology be conservative, transparent, and thorough.

Methodology Deviations and Revisions

A methodology deviation is a project-specific change to an existing ACR, CDM, VCS or EPA Climate Leaders methodology due to a change in the conditions, circumstances or nature of a project. A methodology revision is a fundamental change in an existing ACR, CDM, VCS or EPA Climate Leaders methodology due to a change in conditions, circumstances or general developments in knowledge. ACR approval of methodology deviations is determined through ACR’s methodology review committee; approval of methodology revisions will require external scientific peer review.

Methodological Tool

An approved component of a methodology (i.e., a stand-alone methodological module to perform a specific task) or a calculation tool (i.e., spreadsheets or software that perform calculation tasks) that a Project Proponent uses to quantify net GHG reductions/removals or meet other ACR requirements.

Minimum Project Term

The minimum length of time for which a Project Proponent must commit to maintain forest carbon project activities, including monitoring.

Net Emissions Reductions

Net Emissions Reductions are GHG emission reductions or removals created by a project activity, minus the baseline scenario and any deductions for leakage.

⁹ <http://www.ipcc.ch/organization/organization.htm>.

New Methodology Approval

New methodologies and methodology revisions brought to ACR by Project Proponents must be approved by ACR before being incorporated in a GHG Project Plan. The approval process includes ACR's expert review, public consultation, and external scientific peer review.

Non-biological emissions

GHG emissions not released directly from plant-based biomass. GHGs from fossil fuel combustion qualify as non-biological emissions.

Permanence

GHG reductions/removals may not be permanent if a project has exposure to risk factors, including unintentional reversals (e.g., fire, flood, insect infestation etc. for terrestrial projects) and intentional reversals (e.g., landowners choosing to discontinue project activities).

Permanence Risk Analysis

To account for and mitigate against the risk of reversal in some projects, ACR requires Project Proponents to conduct a risk analysis to determine the number of offsets that must be set aside in the ACR buffer pool (unless the Proponent elects a different ACR-approved risk mitigation mechanism). The risk analysis evaluates several types of risk – project, economic, regulatory, and social and environmental/natural disturbance – and must be conducted using an ACR-approved risk analysis/buffer determination tool.

Project Boundaries

Project boundaries include a project's geographical implementation area, the types of GHG sources and sinks considered, the carbon pools considered, and project duration.

Project Proponent

An individual or entity that undertakes, develops, and/or owns a project. This may include the project investor, designer, and/or owner of the lands/facilities on which project activities are conducted. The Project Proponent and landowner/facility owner may be different entities.

Reducing Emissions from Deforestation and Degradation (REDD)

The reduction in GHG emissions from the reduced conversion of forests to non-forest use (e.g. to cropland, grassland, settlement or development). Recognized REDD project activities include avoiding planned deforestation, avoiding unplanned/illegal

ACR Forest Carbon Project Standard

deforestation, and avoiding conversion from forest to non-forest use. REDD is an eligible forest project activity on the ACR.¹⁰

Reforestation

The direct human-induced conversion of land that has not been in forest for a period of less than 50 years to forested land through planting, seeding and/or the human-induced promotion of natural regeneration.

Registry Database

Online database that records all ACR projects and inventories, ERT issuance and transactions, and provides transparent public access to project documents and transaction information.

Standard

A standard is an established norm or requirement in a formal document that establishes uniform engineering or technical criteria, methods, processes and practices. Standards may provide general guidance across all project types, or be sector-specific, such as this document and other ACR standards. While ACR may accept methodologies and tools from other GHG programs, ACR only registers projects meeting ACR standards.

Start Date

ACR defines the start date for forest projects as the date by which the Project Proponent began the project activity on project lands. For AR projects, the start date is when the Project Proponent began planting or site preparation. For IFM, the start date is when the Project Proponent began to apply the land management regime to increase carbon stocks and/or reduce emissions. For REDD, the start date is when the Project Proponent implemented the project action physically and/or legally.

U.S. EPA Climate Leaders

Climate Leaders is a U.S. Environmental Protection Agency industry-government partnership that works with companies to develop comprehensive climate change strategies. Partner companies commit to completing a corporate inventory of their greenhouse gas emissions based on a quality management system, setting reduction goals, and annually reporting progress to EPA.¹¹ ACR accepts certain methodologies and tools from the Climate Leaders program.

¹⁰ In the international context REDD is understood to include reducing emissions from deforestation as well as improved forest management (including avoided degradation), while “REDD plus” also includes afforestation/reforestation. For consistency with current conventions ACR uses the acronym REDD, recognizing that avoided degradation can be considered a type of IFM, and includes within REDD the avoided conversion of forest to non-forest in the U.S.

¹¹ <http://www.epa.gov/stateply/index.html>.

Verification

Verification is a systematic, independent, and documented process for the evaluation of GHG assertions against specific criteria. The verification process is intended to assess the degree to which a project complies with ACR-approved methodologies, tools, eligibility criteria, requirements, and specifications, and has correctly quantified net GHG reductions or removals. Verification must be conducted by an independent third-party verifier.

Verification Statement

A verification statement provides assurance that, through examination of objective evidence by a competent and independent third party, a GHG assertion is in conformity with applicable requirements.

Verifier

A competent and independent person, persons or firm responsible for performing the verification process. To conduct verification the verifier must be ACR-approved.

Voluntary Carbon Standard (VCS)

The VCS Program was initiated by The Climate Group, the International Emissions Trading Association and the World Economic Forum. The VCS program goal is to provide a robust global standard and program for approval of credible voluntary offsets. The VCS tradable voluntary offset credit is the Voluntary Carbon Unit (VCU).¹² ACR accepts certain methodologies and tools from the VCS.

Wood products

Products derived from harvested wood from a forest, including solid, panel, and fiber.

¹² <http://v-c-s.org/about.html>.

Chapter 1: Scope

Please see the *ACR Standard v2.0*, Chapter 1, for ACR program description, goal, objectives, language, unit of measure, unit of exchange, prohibition on forward crediting, and conflict of interest policy. This chapter provides additional guidance on scope of eligible forest project activities.

A. Geographic Scope

ACR will accept forest projects from locations worldwide.

B. Scope: Greenhouse Gases

See *ACR Standard*. Forestry projects will generally enhance CO₂ removals and may reduce emissions of methane (CH₄) and/or nitrous oxide (N₂O).

C. Scope: Project Types

ACR will accept any forest project supported by an ACR-approved methodology and meeting all requirements of the *ACR Forest Carbon Project Standard* and *ACR Standard*.

ACR-approved forest carbon methodologies include:

- Methodologies published by ACR;
- Methodologies approved under the Clean Development Mechanism (CDM), the Voluntary Carbon Standard (VCS), or the U.S. Environmental Protection Agency (USEPA) Climate Leaders Program, provided such methodologies have been reviewed and accepted by ACR;
- Modifications of existing ACR, CDM, VCS, or Climate Leaders methodologies, provided such modifications have been reviewed and accepted by ACR;
- New methodologies proposed by Project Proponents and approved by ACR through its public consultation and scientific peer review process.

The following broad categories are eligible, with the possibility of additional categories in the future. These are general categories; specific activities to reduce GHG emissions and/or enhance removals (e.g. IFM via extending rotations or increasing stocking, REDD

ACR Forest Carbon Project Standard

via avoiding development of forested lands, etc.) will be detailed in a Project Proponent's chosen methodology and GHG Project Plan.

- *Afforestation/Reforestation*, defined as activities to increase carbon stocks by establishing, increasing and restoring vegetative cover through the planting, sowing or human-assisted natural regeneration of woody vegetation.
- *Improved Forest Management*, defined as activities to reduce GHG emissions and/or enhance GHG removals, implemented on forest lands managed for wood products such as sawtimber, pulpwood, and fuelwood. Eligible IFM project activities include, but are not limited to: conversion from conventional logging to reduced impact logging, conversion of managed forests to protected forests, extending the rotation age of even-aged managed forest, conversion of low-productive forests to high-productive forests, increasing forest productivity by thinning diseased or suppressed trees, managing competing brush and short-lived forest species, preventing forest degradation through unsustainable fuelwood collection and/or illegal timber harvest, increasing the stocking of trees on understocked areas, and increasing carbon stocks in harvested wood products.
- *Reducing Emissions from Deforestation and Degradation*, defined as the reduction in GHG emissions from the reduced conversion of forests to non-forest use (e.g. to cropland, grassland, settlement or development). Recognized REDD project activities include avoiding planned deforestation, avoiding unplanned/illegal deforestation, and avoiding conversion from forest to non-forest use.

Additional categories may be added to this standard in future revisions, covered under other ACR standards, or brought to ACR by Project Proponents proposing a methodology for ACR approval. Some activities not listed above may fall under this standard: for example, avoiding conversion of a peatland or wetland, if sufficiently forested to meet the applicable forest definition, could qualify under REDD. Urban forestry activities that meet the forest definition could qualify as AR, IFM or REDD depending on the specific activity. Project Proponents uncertain about the eligibility of a planned activity should consult with ACR.

D. Forest Carbon Projects with a Biomass Energy Component

Forest carbon activities may include a biomass energy component if they provide biomass fuel for electricity generation, heating, or transportation fuels. Such projects occupy a unique GHG accounting niche in that they may have impacts on GHG emissions and removals in terrestrial ecosystems as well as the ability to displace GHG emissions from fossil fuels. Projects that combine an eligible forest carbon project activity (e.g., AR or IFM) with biomass displacing emissions from fossil fuels must account for changes in GHG reductions and removals in forest carbon pools using the *Forest Carbon Project Standard* and appropriate forestry methodologies. Displacement of fossil fuel GHG emissions, if eligible for registration, must be accounted using appropriate energy sector methodologies.

As noted in the *ACR Standard*, ACR's scope generally excludes grid-connected renewable electricity projects in the U.S. because of the lack of unambiguous and uncontested ownership of the emission reductions, lack of clear additionality, potential for double-counting of offsets and RECs in markets where regulations do not clearly allow for unbundling of RECs and GHG attributes, and potential for double-counting of offsets and entity-level emissions reductions. However, this exclusion does not apply to projects 100 MW and under in the developing world, provided the baseline includes indirect emissions.¹³ It also does not apply to U.S. projects displacing *direct* emissions from fossil fuels (e.g., co-firing biomass with coal, biogas displacing natural gas, biofuels displacing gasoline or diesel), provided such projects meet ALL the criteria in Chapter 1 Section F of the *ACR Standard* and the potential for double-counting has been eliminated. Project Proponents wishing to claim credit for reductions in direct emissions through displacement of fossil fuels with forest-derived biomass should check that the project meets all these criteria and should consult with ACR on its eligibility.

¹³ Under the Kyoto Protocol's Clean Development Mechanism (CDM), the governments of developing countries (non-Annex 1 countries), by approving emission reduction projects from renewable energy projects, provide a *de facto* assignment of emission reduction property rights to Project Proponents instead of owners of fossil fuel power plants. By contrast, renewable energy Project Proponents in Annex 1 countries (industrialized countries) do not have an assignment of emissions reduction property rights by the government, and thus do not have an unambiguous and uncontested ownership claim to the emission reductions. In the U.S. renewable energy market, there is also potential of double-counting of offsets and RECs in REC markets as well as potential double-counting of offsets and entity-level emissions reductions.

Chapter 2: Accounting and Data Quality Principles

Project Proponents should refer to the *ACR Standard*, Chapter 2, for general accounting and data quality principles. Additional guidance is provided here for forest projects.

A. Boundary Selection

The Project Proponent shall provide a detailed description of the geographic boundary of forest project activities. The project activity may contain more than one discrete area of land, but each area must have a unique geographical identification and must meet the land eligibility requirements of this standard. The Project Proponent shall provide maps, GIS shapefiles, or other relevant information to delineate the project boundary.

B. Project Baseline

The project baseline scenario is a long-term projection of the forest management practices or activities that would occur, or the absence thereof, within the project's physical boundaries in the absence of the project. The baseline is a counterfactual scenario that depicts the likely stream of emissions or removals expected to occur if the Project Proponent does not implement the project. Change in carbon stocks or emissions of GHGs over time relative to the baseline is the basis for a project's Net Emission Reductions – the difference between actual emissions or removals in the project scenario vs. baseline emissions or removals, less any deductions for leakage.

Guidance on project baselines specific to AR, IFM and REDD is provided in Chapter 6.

C. Measurement Accuracy and Precision

For forest carbon projects, ACR requires that the 90% statistical confidence interval of sampling be no more than 10% of the mean estimated amount of emission reduction/removal. If the Project Proponent cannot meet the targeted +/- 10% of the mean at 90% confidence, then the reportable amount shall be the mean minus the lower bound of the 90% confidence interval.

D. Completeness

Project Proponents shall consider all relevant information that may affect the accounting and quantification of GHG reductions/removals, including estimating and accounting for any decreases in carbon pools and/or increases in GHG emission sources.

The ACR sets a *de minimis* threshold of 3% of the final calculation of emission reductions. For the purpose of completeness any decreases in carbon pools and/or increases in GHG emission sources must be included if they exceed the *de minimis* threshold. Any exclusions using the *de minimis* principle shall be justified using fully documented *ex ante* calculations.

E. Leakage

Leakage is the displacement of GHG emissions from the project's physical boundaries to locations outside of the project's boundaries as a result of the project action. Leakage includes both activity-shifting and market effects. ACR will register only those offsets from forest projects that account for leakage in the GHG Project Plan. Specific requirements for quantification and mitigation of leakage are detailed in Chapter 6.

F. Assessing Permanence Risk

A forest project may experience unintentional or unintentional reversals of carbon sequestration. ACR requires Project Proponents to assess the project-specific risk of reversal and choose an ACR-approved risk mitigation mechanism. Proponents should conduct their risk assessment using the *ACR Tool for Risk Analysis and Buffer Determination*. Prior to release of the ACR tool, Project Proponents may use the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination.¹⁴

Further information on options to mitigate reversal risk, and the operation of the ACR buffer pool, is provided in Chapter 5.

¹⁴ <http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf>.

Chapter 3: Forest Project Eligibility Requirements

A. Forest Definition

ACR requires Project Proponents to use a nationally approved “forest” or “forest land” definition for the country where the project activity occurs. For U.S. projects, Proponents may use the U.S. Forest Service Forest Inventory & Analysis Program definition. For projects in Kyoto Protocol CDM countries, Proponents should use the Kyoto Protocol definition with the relevant Designated National Authority (DNA) selections for minimum land area, crown cover and tree height. If the project is in a country that has not yet designated a DNA, or whose DNA has not yet made these selections, the Proponent may propose another nationally approved forest definition. Please see the *Definitions* section for details.

B. Eligible Land Ownership Types

ACR accepts projects on all land ownership types – private, public (municipal, county, state, federal, or other), and Tribal – provided the Project Proponent demonstrates that the land is eligible, is able to document clear land title and offsets title, and meets all other requirements of the *ACR Standard* and *Forest Carbon Project Standard*.

C. Eligibility Criteria

Table 1 details eligibility criteria for forest projects, provides a definition of each criterion, and articulates ACR requirements. Project Proponents shall document in their GHG Project Plan how the project meets each of these criteria.

Table 1 - Eligibility Criteria for Forest Carbon Offset Projects

Criterion	Definition	Requirement
Project Document	A project document (PD) defines how, what, and when a Project Proponent shall measure, monitor, and	ACR requires a GHG Project Plan in combination with an ACR-published or ACR-approved methodology.

ACR Forest Carbon Project Standard

	<p>report the project in order for an independent third party to verify project outcomes.</p>	
<p>Start Date</p>	<p>ACR defines the start date for forest projects as the date by which the Project Proponent began the project activity on project lands.</p> <p>For AR projects, the start date is when the Project Proponent began planting or site preparation. For IFM, the start date is when the Project Proponent began to apply the land management regime to increase carbon stocks and/or reduce emissions. For REDD, the start date is when the Project Proponent implemented the project action physically and/or legally.</p>	<p>Forest projects with a Start Date of November 1, 1997 or later are eligible for ACR registration. ACR may accept forest projects with an earlier start date on a case-by-case basis, provided the Project Proponent can demonstrate to ACR that GHG mitigation was an objective from project inception.</p> <p>The Start Date and the start of the Minimum Project Term are the same.</p> <p>The Start Date and the start of the first Crediting Period may be the same, or different if the Project Proponent presents an argument why it is logical and conservative for the crediting period (i.e. beginning of the project baseline scenario) to begin later than the start date.</p>
<p>Minimum Project Term</p>	<p>The minimum length of time for which a Project Proponent must commit to maintain forest</p>	<p>ACR requires Project Proponents to commit to a minimum term of fifty (50) years for forest carbon projects. The minimum term begins on the start date (not the first or last year of</p>

ACR Forest Carbon Project Standard

	<p>carbon project activities, including monitoring.</p>	<p>crediting).</p> <p>Project Proponents and landowners may continue forest carbon activities beyond the minimum term, but ACR does not require monitoring or verification beyond the minimum term. At the end of the project term, if the Proponent does not renew for another crediting period and continue monitoring and verification, ACR conservatively assumes that the project activities have ceased and retires remaining buffer tons (see Chapter 5).</p> <p>ACR enters into legal agreements only with the Project Proponent. The Project Proponent, if not itself the landowner, should provide evidence of an agreement with landowner(s). Agreements between Project Proponent and landowner may also have a 50-year term, or may have a shorter term and/or a “buy-out” option, provided that in the event a participating landowner exercises the “buy-out” option, the Project Proponent commits to replace all credits issued up to that point. Proponent-landowner agreements with a shorter term and/or buy-out option will be assessed a higher reversal risk.</p>
<p>Crediting Period</p>	<p>Crediting period is the finite length of time for which the project baseline is valid, and during which a project can generate offsets for</p>	<p>AR projects, and all IFM projects except stop-logging projects, will have a crediting period of twenty-five (25) years.</p> <p>Stop-logging IFM projects and all REDD projects will have a crediting period of ten (10) years.</p>

ACR Forest Carbon Project Standard

	<p>registration on ACR.</p>	<p>A Project Proponent may apply to renew the crediting period, by demonstrating additionality against then-current regulations, common practice and implementation barriers, complying with then-current ACR standards and criteria, and using ACR-approved baseline methods, emission factors, tools and methodologies in effect at the time of crediting period renewal. ACR does not limit the allowed number of renewals.</p> <p>Projects that are deemed to meet all ACR additionality criteria are considered additional for the duration of their crediting period. If regulations or common practice change during the crediting period, this may make the project non-additional and thus ineligible for renewal, but does not affect its additionality during the current crediting period.</p>
<p>Real</p>	<p>A real offset is the result of a project action that yields after-the-fact, quantifiable and verifiable GHG emissions reductions and/or removals.</p>	<p>GHG reductions and removals shall exist prior to issuance. ACR will not forward issue nor forward register a projected stream of future offsets.</p>
<p>Direct Emissions</p>	<p>An emission or removal is direct if the Project Proponent owns or has control over the source of the emissions (e.g., equipment) or the emissions sink (e.g.,</p>	<p>Project Proponent shall own or have control for the life-of-project over the GHG sources and/or sinks from which the reduction or removals originate.</p>

ACR Forest Carbon Project Standard

	project lands).	
Additional	<p>Additionality is a test intended to ensure that project offsets are in addition to reductions and removals that would have occurred under current laws and regulations, current industry practices, and without carbon market incentives.</p>	<p>ACR requires every project to use <i>either</i> an ACR-approved performance standard and a regulatory additionality test, <i>or</i> pass a three-pronged test of additionality in which the project must: 1) exceed regulatory/legal requirements; 2) go beyond common practice; and 3) overcome at least one of three implementation barriers: institutional, financial or technical. See Chapter 4.</p>
Offset Title	<p>Offset title is a legal term representing rights and interests in an offset, a future stream of offsets, or a project delivering offsets.</p>	<p>Project Proponent shall provide documentation and attestation of undisputed title to all offsets prior to registration, including chain of custody documentation if offsets have ever been sold in the past. Title to offsets shall be clear, unique, and uncontested.</p>
Land Title	<p>Land title is a legal term representing rights and interests in project lands.</p>	<p>For U.S. forest carbon projects, Project Proponent shall provide land ownership documentation and attestation of clear, unique, and uncontested land title. For international projects, Proponent should provide documentation and/or attestation of land title; ACR may require a legal review by an expert in local law.</p> <p>Land title may be held by a person or entity other than the Project Proponent, provided the Project Proponent has clear, unique, and uncontested offsets title.</p>

ACR Forest Carbon Project Standard

<p>Land eligibility</p>	<p>Land eligibility restrictions may apply to certain types of offset projects.</p>	<p>For AR projects, Project Proponents shall provide documented evidence in the GHG Project Plan that no project areas have been cleared of native vegetation within the ten (10) years prior to the project Start Date. AR project areas may have experienced loss of forest cover within the last ten years if the loss was caused by fire or natural disturbance.</p>
<p>Aggregation of lands</p>	<p>A Project Proponent or aggregator may enroll multiple landowners within a single overall project in order to spread transaction costs across a larger number of acres. The Proponent would execute agreements with each landowner detailing rights and responsibilities.</p>	<p>ACR recognizes aggregation as an important means to allow smaller landowners access to carbon markets. ACR places no limitations on aggregation as long as the baseline and monitoring methods incorporate appropriate stratification, the baseline is valid for all included lands, and the proposed monitoring plan across all land parcels is statistically well designed and meets the requirements of ACR-approved methodologies.</p> <p>Risk of intentional reversal may be higher when multiple landowners are involved. This risk should be reflected in the buffer determination (if applicable).</p>
<p>Programmatic project development approach</p>	<p>A “programmatic” approach to project development, particularly in the context of aggregated lands, would incrementally qualify individual land parcels into an overall project over a defined period of</p>	<p>A programmatic methodology proposed to ACR for approval would need to set strict applicability conditions and steps for the addition of new lands into the program. Each new increment of lands must meet all applicable eligibility, additionality, baseline definition, and other criteria. Practical and cost considerations may dictate that the required verification every five years is an appropriate interval for the addition of new</p>

ACR Forest Carbon Project Standard

	years.	lands.
Project Baseline Scenario	<p>The project baseline is a counterfactual scenario that forecasts the likely stream of reductions/removals to occur if the Project Proponent does not implement the project, i.e., the "business as usual" case.</p>	<p>Project Proponents shall use appropriate tools and methodologies to estimate and update forest project baselines.</p> <p>Project Proponents shall estimate the baseline for all forest projects at the project start. The baseline will be verified by an ACR-approved verifier prior to offset issuance.</p> <p>A Project Baseline remains valid for the duration of the approved crediting period for that project type, and must be re-assessed in order to renew the crediting period.</p>
Permanence	<p>Permanence refers to the longevity of an emissions reduction/removal and the risk of reversal, i.e. the risk that atmospheric benefit will not be permanent. Fire, disease, pests, and human disturbances can reduce carbon stocks and result in the reversal of GHG reductions/removals.</p>	<p>Project Proponents must assess risk using an ACR-approved risk assessment tool.</p> <p>Project Proponents must then mitigate reversal risk by contributing offsets to the ACR Buffer Pool (either from the project itself, or ERTs of another type or vintage); by providing evidence of sufficient insurance coverage with an ACR-approved insurance product to recover any future reversal; or by using another ACR-approved risk management mechanism.</p> <p>If choosing the insurance option, Project Proponents shall provide evidence of sufficient insurance coverage to recover any future reversal, and ACR will conduct due diligence on the proposed insurance product prior to approval.</p>
Net of Leakage	<p>Leakage is an increase in GHG emissions or</p>	<p>ACR requires Project Proponents to assess, account for, and mitigate certain types of</p>

ACR Forest Carbon Project Standard

	<p>decrease in sequestration outside the project boundaries that occurs because of the project action.</p>	<p>leakage, as described in Chapter 6. Project Proponents must deduct leakage that significantly reduces the GHG emissions reduction and/or removal benefit of a project.</p>
<p>Independent Verification</p>	<p>Verification is the independent assessment by a qualified and impartial third party of GHG emission reductions and removals. The outcome is a verification statement that provides an opinion on the relevance, completeness, accuracy, reliability, and transparency of the quantification data and methods.</p>	<p>ACR requires third party verification, by an ACR-approved verifier, at specified intervals in order to issue new ERTs. Verifiers must use transparent and replicable verification methods against the <i>ACR Standard</i> and <i>Forest Carbon Project Standard</i> in effect at the time the project is initiated.</p> <p>At each request for issuance of new ERTs (usually annually, but may be more or less frequent at Project Proponent’s request), Project Proponents must submit a verification statement from an approved verifier based on a desk audit.</p> <p>At least once every five years, Proponents must submit a verification statement based on verification including a field visit to the project site and such measurements as the verifier requires in order to verify.</p> <p>Verification is also required in order to renew a project’s crediting period.</p>
<p>Community & Environmental Impacts</p>	<p>Projects have the potential to generate both positive and negative community and environmental impacts.</p>	<p>ACR requires community and environmental impacts to be net positive overall. Prior to registration, ACR requires all projects to document a mitigation plan for any foreseen negative community or environmental impacts. ACR also requires written disclosure by the Project Proponent, in its Annual</p>

ACR Forest Carbon Project Standard

		<p>Attestation, of any negative environmental or community impacts or claims of negative environmental and community impacts. The Project Proponent must document plans for mitigation of any reported negative environmental or community impacts.</p>
--	--	---

Draft for Public Comment

Chapter 4: Additionality

Additionality is a test intended to ensure that project offsets are in addition to reductions and removals that would have occurred under current forestry laws and regulations, current forest industry practices, and without carbon market incentives. To qualify as additional, ACR requires every project to use *either* an ACR-approved performance standard and a regulatory additionality test, *or* pass a three-prong additionality test as described below.

A. Start Date

A project's start date may have some relevance to additionality, as it is often assumed that projects begun more recently are more likely to have been implemented with GHG mitigation as an objective. However, ACR recognizes that companies and organizations have been implementing forest carbon projects for GHG mitigation and/or in anticipation of GHG regulations since the 1990s. Therefore ACR generally allows forest projects with a start date after November 1, 1997 to qualify,¹⁵ but evaluates forest project start dates case-by-case and may register projects with an earlier start date. The burden of proof is on the Project Proponent to demonstrate to ACR that GHG mitigation was an objective from project inception.

B. ACR's Three-Prong Additionality Test

The demonstration of additionality can be difficult, and no single test is best for all circumstances. ACR uses an approach that combines three key tests for assessing additionality. These tests help ACR to determine whether realizing a GHG emissions reduction/removal goal was a reason, even if only one among many, for implementing the project activity. ACR's three-prong test requires projects to demonstrate that they exceed currently effective and enforced laws and regulations; exceed common practice in the relevant industry sector and geographic region; and face at least one of three implementation barriers – financial, technological, or institutional. The three-prong test is described in Table 2.

¹⁵ The date of publication of Winrock's *Guide to Monitoring Carbon Storage in Forestry and Agroforestry Projects* (K.G. MacDicken, Winrock International - Forest Carbon Monitoring Program, October 1997).

Table 2 – ACR’s Three-Prong Additionality Test

Test	Key Questions
Regulatory Surplus	<p>Is there an existing law, regulation, statute, legal ruling, or other regulatory framework in effect now or as of the project start date that mandates the project or effectively requires the GHG emissions reductions?</p> <p>Yes = Fail; No = Pass</p>
Common Practice	<p>In the field or industry/sector, is there widespread deployment of this project, technology, or practice within the relevant geographic area?</p> <p>Yes = Fail; No = Pass</p>
Implementation Barriers	<p><i>Choose one (1) of the following three (3):</i></p> <p>Financial</p> <p>Does the project face capital constraints that carbon revenues can potentially address; <i>or</i> is carbon funding reasonably expected to incentivize the project’s implementation; <i>or</i> are carbon revenues a key element to maintaining the project action’s ongoing economic viability after its implementation?</p> <p>Yes = Pass; No = Fail</p>
	<p>Technological</p> <p>Does the project face significant technological barriers such as R&D deployment risk, uncorrected market failures, lack of trained personnel and supporting infrastructure for technology implementation, or lack of knowledge on practice/activity?</p> <p>Yes = Pass; No = Fail</p>
	<p>Institutional</p> <p>Does this project face significant organizational, cultural, or social barriers that the accrual of benefits from a GHG emissions reduction/removal project action will help to overcome?</p> <p>Yes = Pass; No = Fail</p>
<p><i>If the project passes the Regulatory Surplus and Common Practices tests, and at least one Implementation Barrier test (i.e., financial, technological, or institutional), ACR considers the project additional.</i></p>	

ACR does not require methodologies to mandate application of a particular additionality tool. Methodologies must require the Project Proponent to address ACR’s additionality tests, and the GHG Project Plan must present a credible demonstration, acceptable to

ACR and the verifier, that the project passes these tests. Project Proponents may find an additionality tool helpful in making this argument.

C. Regulatory Surplus Test

The regulatory surplus test involves existing laws, regulations, statutes, legal rulings, or other regulatory frameworks that directly or indirectly affect GHG emissions associated with a project action or its baseline candidates, and which require technical, performance, or management actions. In the case of forestry, national, state or local forest management/forest practice rules may require managing operations according to a certain set of criteria. In determining whether an action is surplus to regulations, ACR does not consider voluntary agreements without an enforcement mechanism, proposed laws or regulations, optional guidelines, or general government policies.

Projects that are deemed to be regulatory surplus are considered surplus for the duration of their crediting period. If regulations change during the crediting period, this may make the project non-additional at the time of an application for crediting period renewal, but does not affect its additionality during the current crediting period.

D. Common Practice Test

The common practice test requires Project Proponents to evaluate the predominant forest industry technologies and practices in the project's geographic region, as determined by the degree to which those technologies or practices have penetrated the market, and demonstrate that the proposed project will reduce GHG emissions below levels produced by common technologies or practices within a comparable environment (e.g., geographic area, regulatory framework, investment climate, access to technology/financing, etc). The burden of proof is with the Project Proponent to demonstrate that a particular forestry practice exceeds common practice.

Projects that are deemed to go beyond common practice are considered beyond common practice for the duration of their crediting period. If common practice adoption rates of a particular practice change during the crediting period, this may make the project non-additional and thus ineligible for renewal, but does not affect its additionality during the current crediting period.

E. Implementation Barriers Test

An implementation barrier represents any factor or consideration that would prevent the adoption of the practice/activity proposed by the Project Proponent. Generally, there are no barriers to the continuation of current activities, with the exception of regulatory or market changes that force a shift in a project activity, or the end of equipment's useful lifetime.

Under the implementation barriers test, Project Proponents shall choose at least one of three barrier assessments: i) financial, ii) technological, and iii) institutional. Project Proponents may demonstrate that their project faces more than one implementation barrier, but ACR does not require more than one barrier.

- *Financial* - Financial barriers can include high costs, limited access to capital, or an internal rate of return in the absence of carbon revenues that is lower than the Proponent's established minimum acceptable rate. Financial barriers can also include high risks such as unproven technologies or business models, poor credit rating of project partners, and project failure risk. If electing the financial implementation barrier test, Project Proponents should include solid quantitative evidence such as NPV and IRR calculations.
- *Technological* - Technological barriers can include R&D deployment risk, uncorrected market failures, lack of trained personnel and supporting infrastructure for technology implementation, and lack of knowledge on practice/activity.
- *Institutional* - Institutional barriers can include institutional opposition to technology implementation, limited capacity for technology implementation, lack of management consensus, aversion to upfront costs, and lack of awareness of benefits.

F. Performance Standard Approaches

ACR's three-prong approach is designed as a rigorous test for demonstrating project-based additionality. ACR meanwhile recognizes that many forest Project Proponents are beginning to consider various performance standard approaches in which additionality

ACR Forest Carbon Project Standard

is demonstrated by showing that a proposed forest carbon project activity exceeds a performance standard baseline developed for the particular region and forest type in which the project takes place. The *Forest Carbon Project Standard* provides this option by allowing Project Proponents to choose the regulatory surplus plus performance standard path to demonstrate additionality. The standard does not, however, attempt to describe what the performance standard baseline would be for various regions and forest types, which can only realistically be done in a methodology. In the future ACR may publish performance standard-based forestry methodologies, approve other existing performance standard methodologies for use on ACR, or approve performance standard methodologies proposed by Project Proponents through ACR's public consultation and scientific peer review process.

Chapter 5: Permanence and Risk Mitigation

Permanence refers to the potential for reversal of GHG reductions and removals. While the permanence issue is easily addressed for some project types, since the emission reductions occur at the time the technology is put in place and are irreversible, terrestrial and geologic sequestration projects have the potential for GHG reductions and removals to be reversed when a project has exposure to risk factors, including unintentional reversals (e.g., fire, flood, insect infestation etc.) and intentional reversals (e.g., landowners choosing to discontinue project activities).

Accurate assessment and effective mitigation of risk, whether through the ACR buffer pool or another ACR-approved risk mitigation mechanism, are crucial to support the credibility and fungibility of forest project-based offsets in voluntary and pre-compliance markets. To avoid being discounted in value relative to other project types, such projects must fully mitigate reversal risk. Without full mitigation of risk, buyers are likely to discount forest offsets, which will translate into weaker incentives for forest landowners to adopt climate change-mitigating practices and fewer of the economic and environmental co-benefits forest carbon projects uniquely provide. It is for these reasons that ACR's risk assessment and mitigation requirements for forestry projects are rigorous and detailed.

ACR does not, however, equate permanence with minimum project term. ACR mandates Project Proponents commit to a minimum project term of 50 years for forest carbon projects for essentially two reasons. First, ACR believes this strikes the right balance between requiring a real and significant commitment to maintain forest carbon activities, and providing flexibility to incentivize adoption by a broad range of landowners – ultimately leading to a greater supply of forest offsets, with their attendant environmental and economic co-benefits. Second, this is the timeframe over which draft U.S. legislative frameworks and international negotiations propose effective de-carbonization of major emitting sectors, with reductions of 60-80% below recent GHG emission levels by 2050. In this sense, offsets in general and terrestrial projects in particular provide a “bridge” to achieve near-term reductions more cost-effectively, rather than an ultimate solution. Thus, ACR does not suggest 50 years (or any other project term, short of perpetual) provides permanence. Rather, ACR mandates that projects have effective risk mitigation measures in place to compensate fully for any loss

of sequestered carbon whether this occurs through an unforeseen natural disturbance or through a Project Proponent or landowner's choice to discontinue forest carbon project activities. Effective and complete mitigation of losses, rather than project term, provides permanence.

A. Assessment of Risk

To assess the risk of reversal, ACR requires forest carbon Project Proponents to conduct a risk assessment addressing both general and project-specific risk factors. General risk factors include risks such as financial failure, technical failure, management failure, rising land opportunity costs, regulatory and social instability, and natural disturbances. Project-specific risk factors vary by project type but for forestry, include land tenure, technical capability and experience of the project developer, fire potential, risks of insect/disease, flooding and extreme weather events, illegal logging potential, and others.

ACR requires Project Proponents to conduct their risk assessment using the *ACR Tool for Risk Analysis and Buffer Determination*. Prior to release of the ACR tool, Project Proponents may use the VCS Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination.¹⁶ The output of either tool is an overall risk category for the project, translating into a number of offsets that must be deposited in the ACR buffer pool to mitigate the risk of reversal (unless the Proponent elects another ACR-approved risk mitigation mechanism).

The risk category and buffer percentage remain unchanged for five years, at which point risk may be re-assessed as part of a full verification, and the required buffer percentage may increase or decrease. An exception is in the event of a reversal, in which case the project baseline, risk level and buffer contribution (if applicable) will be re-assessed immediately.

B. Primary Risk Mitigation Mechanism: the ACR Buffer Pool

Proponents of projects with a reversal risk must choose a risk mitigation mechanism. For Project Proponents choosing the ACR buffer pool, the project contributes either a

¹⁶ <http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf>.

portion of its offsets, or an equal number of other ERTs, to a buffer account held by ACR in order to replace unforeseen losses in carbon stocks. ACR has sole management and operational control over the offsets in the buffer pool. In the event of a reversal, ACR retires from the buffer an adequate number of offsets to compensate for the reversal.

To provide flexibility to Project Proponents who prefer to market all the offsets from their project, contributions to the buffer pool need not come from the project itself whose risk is being assessed and mitigated. Through adherence to ACR standards and criteria all ERTs are fungible, i.e. one metric ton GHG reduction or removal from any project is of equal benefit to the atmosphere as any other project. Therefore, a Project Proponent may make its required buffer contribution by, for example, purchasing ERTs of any type and vintage from another project registered on ACR.

C. ACR Actions and Project Proponent Responsibilities in the Event of a Reversal

In the event of an unanticipated reversal – whether unintentional (e.g., fire or natural disaster) or intentional (e.g., a participating landowner choosing to discontinue project activities before the minimum project term) – ACR will retire ERTs from the buffer pool to compensate for the reversal, and the Project Proponent must replenish the buffer, in the manner specified below.

Fees for retirement of ERTs to compensate for a reversal will be charged to the Project Proponent at published per-ton rates posted at

<http://americancarbonregistry.org/membership/member-benefits-and-fees>.

Unintentional reversals

For the first unintentional reversal from a project (or phase of a project or subset of project lands), ACR will retire from the buffer pool the corresponding number of tons. This will require a quantification of carbon stocks after the reversal, at the Project Proponent's expense, to ascertain how many tons have been lost. If the number of ERTs that must be retired to mitigate the reversal exceeds the number of buffer ERTs deposited to date by the Proponent, this difference will come from other tons in the buffer pool; in this way reversal risk is spread across all contributing projects.

ACR Forest Carbon Project Standard

Following the first unintentional reversal, the Project Proponent must replenish its own buffer contribution – i.e. deposit sufficient ERTs to replace those retired to mitigate the reversal, but only up to the amount of its buffer contributions up to the time of the reversal. As with the original buffer contribution, deposits to replenish the buffer after such a reversal may be made using ERTs of any type and vintage. Following a reversal the project's risk will be reassessed and may increase.

In the event of any subsequent unintentional reversal from a project (or phase of a project or subset of project lands), ACR will retire from the buffer the corresponding number of tons, again based on a quantification of carbon stocks after the reversal. If the second or later reversal exceeds the Project Proponent's buffer contributions up to that time, the Proponent will be required to make the buffer whole – i.e. deposit ERTs equal to all those retired to mitigate the reversal, not limited to the amount of its own buffer contributions up to that time. This greater penalty is to reflect the project's greater risk, as evidenced by the same lands having experienced more than one unintentional reversal during the project term. The Project Proponent must make the buffer whole before any further ERT issuance will occur. As with the original buffer contribution, deposits to replenish the buffer after such a reversal may be made using ERTs of any type and vintage.

Intentional reversals

ACR recognizes there are circumstances in which the Project Proponent or a participating landowner (in the case of aggregated projects) will choose to exercise a “buy-out” option or otherwise discontinue project activities before the minimum project term. ACR considers this an intentional reversal, and offers flexibility for such circumstances provided there is a mechanism to mitigate fully the loss of carbon sequestration. The mitigation responsibility in such cases rests with the Project Proponent, who may have contractual arrangements with landowner(s) to ensure the Proponent is made whole.

In the case of an intentional reversal, by the Proponent or by a participating landowner in an aggregated project, ACR will retire from the buffer pool the number of ERTs issued – from the start date up to the time of the intentional reversal – corresponding to the portion of the project that has been reversed. If a Proponent is aggregating multiple

ACR Forest Carbon Project Standard

landowners and only a subset discontinue participation, then ACR only retires ERTs issued for those landowner(s), not for the project overall.

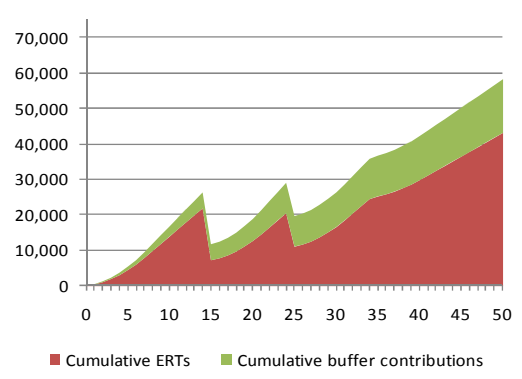
The Project Proponent is then required to deposit a number of ERTs equal to those retired, i.e. all those issued to that Proponent (or subset of Proponent's landowners) from start date up to the time of the intentional reversal. As with the original buffer contribution, deposits to replenish the buffer after an intentional reversal may be made using ERTs of any type and vintage.

Since the withdrawal of one or more landowners also changes the project baseline, in addition to retiring buffer tons the Project Proponent will be required to re-calculate and re-verify the baseline.

If a Proponent does not replenish the buffer in a timely matter following an intentional reversal, ACR retains the right to freeze the Proponent's project account and use any existing ERTs as needed in order to retire sufficient ERTs to compensate for the reversal. Forest carbon ERTs transferred to the buffer in order to compensate for an intentional reversal may be replaced by other ERTs by the Proponent.

Project Proponents should note that timber harvest included in the Project Plan is not considered an intentional reversal. Harvest may be included in the project scenario, simply at

This is a hypothetical illustration of retirements by ACR, and required deposits by the Project Proponent, in the event of reversals. The graph shows cumulative net sequestration (assuming the baseline and any leakage deductions have already been subtracted) and cumulative buffer contributions. The graph does not attempt to show the schedule of refunding buffer tons as described in Section D, nor the periodic reassessment of risk as described in Section F.



At year 15, there is an unintentional reversal – a natural disturbance causing the loss of 15,000 tons CO₂e cumulative sequestration. Proponent buffer contributions to this point, assuming a 20% contribution, are 4,460 tons. ACR retires 15,000 tons to mitigate the loss. The Proponent contributes 4,460 tons and the remainder is covered by the buffer.

At year 25, there is a second unintentional reversal causing the loss of 10,000 tons. Proponent contributions to this point are 8,600 tons. ACR retires 10,000 tons to mitigate the loss. The Proponent is required to deposit 10,000 tons (not merely the 8,600 deposited to date) for this second reversal.

At year 35, there is an intentional reversal in which landowner(s) representing $\frac{1}{3}$ of the sequestration opt out of the project. Sequestration, and crediting, continue on the remaining lands. Proponent contributions to date are 11,360 tons. ACR retires 8,400 tons ($\frac{1}{3}$ of all ERTs issued to date), to reflect the loss of that sequestration. The Proponent is required to deposit an equal amount.

different levels or intervals than in the baseline scenario. Only harvest liquidating the project's carbon stocks, e.g. with a landowner's decision to discontinue forest carbon project activities, is treated as an intentional reversal.

D. Return of Buffer Contribution over Time if No Reversals

Most forest projects will never experience an unintentional or intentional reversal, and thus will not require retirement of ERTs contributed to the buffer. Buffer ERTs not used to compensate for a reversal will be refunded over time to the Project Proponent, at the rate of 5% for each five-year interval at which the project undergoes a full verification. (This full verification is also the occasion for reassessment of project risk, as described in Section F.) The refund of buffer ERTs in the event of no reversals is illustrated in Table 3, for a project with an initial buffer contribution of 20%.

Table 3 - Size of Buffer Contribution over Time, Reflecting Refund of Buffer ERTs in the Event a Project Experiences No Reversals (project with initial 20% buffer)

Years since initial project verification	0	5	10	15	20	25	30	35	40	45	50
	First Crediting Period						Second Crediting Period				
Total buffer percentage	20.0	19.0	18.1	17.1	16.3	15.5	14.7	14.0	13.2	12.6	12.0

E. Treatment of Remaining Buffer at End of Project Life

Any buffer ERTs that have not been retired or refunded by the end of a project's term (e.g. 50 years if the Proponent chooses not to renew crediting) will be retained and retired by ACR. Since ACR does not require monitoring and verification beyond the minimum project term, Project Proponents choosing not to renew for another crediting period are conservatively assumed to have discontinued project activities and thus ACR retires any remaining buffer contributions. Project Proponents who do renew crediting will continue to contribute to the buffer pool per their project-specific risk assessment, and continue to have the buffer refunded to them per the schedule above.

ACR Forest Carbon Project Standard

Many Project Proponents will not, of course, simply liquidate carbon stocks at the end of the minimum project term, but will continue managing lands for forest products, carbon and other uses even if they choose not to incur the cost of monitoring, verifying and registering the project. ACR thus offers Proponents the option to provide, no less frequently than every five years, ground-based photos and/or satellite imagery documenting project continuance. Proponents must provide ACR advance notice that they intend to exercise this option. No further credits will be issued, since ACR does not issue ERTs without the required attestations, monitoring and verification, but this documentation of project continuance will allow the refund of buffer contributions to continue.

F. Reassessment of Risk and Buffer Contribution over Time

The full verification every five years (or more frequently at Project Proponent's discretion) includes a field visit by the verifier, carbon stock measurements as required by the verifier, and a reassessment of the risk of reversal. This verification thus offers Project Proponents the opportunity to demonstrate that the risk of reversal has decreased, allowing the Proponent to decrease its required contribution to the ACR buffer pool (or other ACR-approved risk mitigation mechanism as applicable).

At each five-year interval, the Proponent should use the *ACR Tool for Risk Analysis and Buffer Determination* to assess general and project-specific risk factors and derive an overall risk category for the project.

G. Alternate Risk Mitigation Mechanisms

In lieu of contributing project offsets or other ERTs to the buffer pool, Project Proponents may wish to use an ACR-approved insurance policy as an alternate risk mitigation mechanism. The policy must guarantee replacement value of the offsets lost in the case of a partial or complete reversal, with no hidden costs or exclusions. ACR will conduct due diligence on the proposed insurance product, at the Project Proponent's or insurance provider's expense, prior to approving its use in lieu of a buffer contribution.

ACR may approve additional alternate risk mitigation mechanisms in the future.

Chapter 6: Baselines and Leakage

This chapter provides guidance on baselines and leakage for the three forest carbon project types currently recognized by ACR.

A. Baselines: AR

The AR baseline is the carbon stock present shortly prior to site preparation, or the most likely carbon stock in the absence of project implementation. If trees are present within the project boundary at the project start, Project Proponents may only count sequestration in pre-existing trees as offsets if growth of the trees is also projected in the baseline.

If re-growth of forest cover is occurring or is likely to occur absent the project action, but the project action (planting, seeding and/or the human-induced promotion of natural regeneration) accelerates the return to forest, then Project Proponents should include the natural re-growth rates in the baseline scenario.

Project Proponents must quantify any removals using forest management project accounting methods.

AR Project Proponents should document in the GHG Project Plan that the project lands were not in forest use immediately prior to the project, and should provide evidence that the forest entity did not convert to non-forest use in order to implement an AR project. Demonstrating that the lands had been in non-forest use for several years is often sufficient to show that the forest entity did not convert from forest in order to prepare for an AR project. AR project areas may have experienced loss of forest cover within the last ten years if the loss was caused by fire or natural disturbance.

B. Baselines: IFM

IFM includes both avoided degradation projects and projects that increase carbon stocks in existing forests. The IFM baseline shall quantify and justify harvest and forest growth in the absence of a carbon project.

For project specific baselines, required inputs include the results of a recent timber inventory of the project lands, current published prices for wood products of grades

ACR Forest Carbon Project Standard

that the project could produce, current costs of logging, reforestation and related costs, projections of changes in wood prices and logging costs (in real terms), and carrying costs.

Performance standard approaches are encouraged but shall not be based on a single carbon stock by region or region/forest type. Performance standards must provide evidence that application will lead to minimal and balanced over- and under-crediting of project activities. Performance standards must also provide evidence of a change in management to decrease emissions and/or enhance sequestration; credit cannot be given for a particular landowner simply having higher carbon stocks than the performance standard baseline for that region.

Project Proponents shall calculate and include decomposition of logging slash, stumps and roots in the baseline.

Wood products¹⁷ must be accounted for in an IFM baseline scenario, as excluding these would tend to exaggerate emissions in the baseline and thus over-estimate reductions.

C. Baselines: REDD / Avoided Conversion

A differentiation exists for REDD projects between planned legally sanctioned deforestation and illegal unsanctioned deforestation. Baselines for planned deforestation and U.S. avoided conversion of forest to non-forest can be directly calculated, while unplanned deforestation must be modeled.

Avoiding deforestation displaces some use of the forest, often clearing of land for market or subsistence agriculture, or for developed uses such as buildings and roads. Therefore activity shifting leakage must always be considered for REDD projects. Typically, deforestation is not the result of removal of wood for wood products, but it is possible for timber harvest to facilitate deforestation or forest degradation. Utilization of wood products may be ancillary to deforestation, however if timber products would have been produced as a result of deforestation, market effects leakage must be considered.

¹⁷ For wood products, ACR accepts and encourages the approach of considering all stocks still in use or landfilled after 100 years to be permanently sequestered, with the balance considered as an immediate emission.

For unplanned deforestation to determine the appropriate scale for setting a baseline, Project Proponents must consider the cause of deforestation that the project will address, then consider the geographic range over which that activity is occurring. The scale might be the entire country. The goal is to determine potential leakage emissions from deforestation that have occurred across the entire area in which the project might have an effect.

For planned deforestation and avoided conversion of forest to non-forest, Project Proponents must consider the probability of conversion as well as the carbon stock of the post-deforestation/conversion land use. The baseline agent of deforestation/conversion must be identified (or at a minimum a class of agent) and methods must be in place to determine activity-shifting leakage emissions.

D. Leakage: AR

If an AR project displaces people or activities, the Project Proponent shall survey a sample of displaced people and their activities, or use other appropriate means to determine whether activities have been shifted to new locations in ways that displace emissions. The Project Proponent shall apply to the project the observed rate of displacement of emissions. If the project displaces people, and the Project Proponent does not complete a survey, ACR assumes that displaced people are continuing their pre-project activities on other locations.

ACR does not generally require accounting of market effects leakage for AR projects for the following reasons. If AR project activities cause a decrease in supply of emitting goods, given uncertainty about the accuracy of econometric modeling, ACR does not apply modeled market leakage rates. If there are multiple, peer-reviewed studies on market leakage rates that establish certainty within the industry and demonstrate that leakage likely exceeds the *de minimis* threshold, ACR may approve a methodology and adopt those leakage rates as part of a future iteration of this Standard.

If AR project activities cause an increase in supply of emitting goods, *and* given uncertainty about what constitutes a carbon emitting good that a forest project might generate, ACR does not apply modeled market leakage rates to this category of leakage. If there are multiple, peer-reviewed studies on market leakage rates that establish certainty within the industry and demonstrate that leakage likely exceeds the *de*

minimis threshold, ACR may approve a methodology and adopt those leakage rates as part of a future iteration of this Standard.

E. Leakage: IFM

ACR will register only those offsets from IFM projects that can account for leakage pursuant to this standard, as included in the GHG Project Plan and based on ACR-approved methodologies as appropriate.

If an IFM project, over a crediting period, results in constant or increasing yield of wood products, the project is not reducing the supply of goods produced from project lands. Even if there is some shifting of production in time, and some change in the types of products produced, ACR does not require Project Proponents to assign leakage to IFM projects that maintain or increase wood production.

If an IFM project decreases harvesting beyond the *de minimis* threshold, then the Project Proponent must quantify the leakage. If an IFM project reduces production of wood products beyond the *de minimis* threshold, averaged over the minimum life of the project, the Project Proponent must apply to the project leakage provisions for reduced timber production in the project area.

F. Leakage: REDD / Avoided Conversion

ACR will register only those offsets from REDD projects that can account for leakage pursuant to this standard, as included in the GHG Project Plan and based on ACR-approved methodologies as appropriate.

To establish and quantify activity-shifting leakage for REDD projects avoiding unplanned deforestation, the Project Proponent must first establish the cause of the conversion to non-forest use. Second, the Proponent should determine the scale at which displacement is likely to occur. For subsistence use, the range of likely displacement might be only a few miles or few tens of miles. If the likely agents of deforestation can be identified, their future activities can be directly monitored; otherwise a leakage zone shall be identified and deforestation and degradation in this zone shall be monitored relative to a baseline.

ACR Forest Carbon Project Standard

For planned deforestation and avoided conversion of forest to non-forest, either the baseline deforestation agent (or the class of agent) shall be monitored to determine activity-shifting leakage, or default leakage deduction rates shall be proposed, justified and approved. Where there is no reduction in the number of housing units developed or no reduction in the future crop of livestock production, then it will be possible to justify no activity-shifting leakage.

For market effects, a Project Proponent can elect to replace production of market goods to a location suitable for production. If a project does not replace the entire displaced supply, a leakage deduction shall be calculated. Given uncertainty about the accuracy of econometric modeling, ACR only requires calculation of market effects leakage deductions for timber products at this time; however all potential forms of market effects leakage must be discussed in the GHG Project Plan.

Chapter 7: Accepted Methodologies and Tools

ACR recommends use of ACR's own published methodologies and tools where available. However, to provide flexibility to Project Proponents, ACR accepts methodologies and tools approved by other GHG emission systems as described below to the extent that their normative reference is ISO 14064, Parts 1-3:2006, they are industry best practice, and are approved by the relevant GHG emission system. Any Project Proponent proposing to use an ACR-approved methodology from another GHG emission system must comply with the *ACR Standard* and any relevant ACR sector standard.

A. GHG Measurement Tools and Methodologies

ACR generally accepts methodologies and tools approved for use by the Clean Development Mechanism (CDM), the U.S. Environmental Protection Agency (U.S. EPA) Climate Leaders Program, or the Voluntary Carbon Standard (VCS). ACR also gives Project Proponents the flexibility to propose modifications to ACR, CDM, U.S. EPA, and VCS methodologies and tools.

A list of presumptively approved methodologies is on the ACR website at www.americancarbonregistry.org. Methodologies in this list are presumptively approved because they have been approved for use by these programs, because they were authored by Winrock technical staff and have been successfully peer reviewed, or because they have been reviewed and found to reflect best practice in GHG accounting based on currently available science.

If a Project Proponent wishes to apply an existing methodology not included on this list, the Proponent should submit the methodology for review by ACR's methodology review committee, at currently published fees. The committee will assess the methodology and determine whether it is approved for use without modifications, approved contingent on certain modifications, or not approved.

Links to all current CDM, VCS and Climate Leaders methodologies are below.

- CDM methodologies: <http://cdm.unfccc.int/methodologies/index.html>
- EPA Climate Leaders cross-sector guidance and sector-specific guidance: <http://www.epa.gov/stateply/resources/index.html>

ACR Forest Carbon Project Standard

- EPA Climate Leaders offset project methodologies:
<http://www.epa.gov/stateply/resources/optional-module.html>.
- VCS methodologies: <http://v-c-s.org/methodologies.html>.

Table 4 provides links to some methodologies and tools Project Proponents may find useful for forest carbon projects. This is not an exhaustive list of those ACR recommends or approves. As noted above, Proponents wishing to apply a methodology or tool not included in this table or the presumptively approved list at the link above should consult ACR.

Table 4 – Recommended Tools, Methodologies, and Factors

CDM – All baseline and monitoring tools and methodologies (projects)	http://cdm.unfccc.int/methodologies/PAMethodologies/approved.html
CDM – Afforestation and reforestation tools and methodologies (projects)	http://cdm.unfccc.int/methodologies/ARmethodologies/approved_ar.html
CDM – GHG sources and sinks significance test	http://cdm.unfccc.int/EB/031/eb31_repan16.pdf
CDM – <i>Tool for the Demonstration and Assessment of Additionality</i> (version 04) (projects)	http://cdm.unfccc.int/EB/036/eb36_repan13.pdf
IPCC – <i>Guidelines</i> (2006) for ex-ante determination and quantification of the baseline and project scenario, including leakage assessment (projects)	www.ipcc-nggip.iges.or.jp/public/2006gl/vol4.htm
IPCC – <i>Fourth Assessment Report</i> (2007) global warming potential factors (projects and inventories)	http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch02.pdf
VCS – <i>Tool for Non-permanence Risk Analysis and Buffer Determination</i> (2008) (for use only until release of ACR <i>Tool for Risk Analysis and Buffer Determination</i>)	http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf

B. Review Process for GHG Methodologies and Tools

See *ACR Standard*, Chapters 7 and 8.

C. Methodologies and Tools for Community and Environmental Impact Assessment

See *ACR Standard*, Chapter 7.

Draft for Public Comment

Chapter 8: Monitoring, Verification and Contractual Requirements

Once a project's GHG Project Plan has been certified by ACR as meeting all applicable requirements, the project has been verified, and ACR has accepted the verification statement, ACR will register the project and begin issuing ERTs. Subsequently, crediting (i.e. issuance of new ERTs) is generally on an annual basis, though may be more or less frequent at the Project Proponent's discretion, and continues for the duration of the applicable crediting period provided each of the following requirements is met.

A. Annual Attestation

Each year, ACR requires the Project Proponent to submit a signed Attestation that:

- Confirms the continuance of project activities;
- Confirms that ownership remains clear and uncontested;
- Discloses any negative environmental or community impacts or claims of negative environmental and community impacts, and documents plans to mitigate any reported negative environmental or community impacts;
- Addresses any significant change in external conditions that would affect the quality or environmental integrity of the project.

ACR conducts a desktop review of the Attestation and if there are no issues or questions, ACR will re-certify the project as eligible, continue listing the project as registered, and issue new ERTs to the project for the following twelve (12) months (or shorter period if requested by Proponent).

B. Desk-based Verification on Request for New Issuance

At each interval that the Project Proponent requests issuance of new ERTs – typically annually, but may be more or less frequent – the Project Proponent must submit a verification statement that is the product of a desk-based audit by an ACR-approved verifier. For forestry projects, the desk-based audit may use satellite or other aerial

imagery, or other means acceptable to the verifier, to verify project continuance and boundaries.¹⁸

C. Full Verification Every Five Years

ACR requires for all forest carbon projects a full verification, including a field visit to the project site, no less frequently than every five (5) years. The Project Proponent must contract with an ACR-approved third-party verifier to conduct this verification.

The scope of this verification should include such carbon stock measurements as the verifier requires in order to verify, an updated assessment of the risk of reversal, and an updated buffer determination (unless the Project Proponent has elected another ACR-approved risk mitigation mechanism). For example, if there is a tree measurement in June 2010, a calculation of carbon stocks in August 2010 and an initial verification in September 2010, ACR will consider the forest offsets valid through the end of December 2015, provided the Project Proponent supplies its Annual Attestations and desk-based verification statements at the required intervals.

The full verification with updated risk assessment also offers Project Proponents the opportunity to demonstrate that the risk of reversal has decreased and thus decrease its contribution to the ACR buffer pool, as described in Chapter 5.

D. Application for Renewal of Crediting Period

A project's crediting period is the finite length of time for which the baseline scenario is valid, and during which a project can generate offsets against its baseline. The approved crediting period for AR projects, and all IFM projects except stop-logging, is 25 years; the approved crediting period for IFM stop-logging and all REDD projects is 10 years.

A Project Proponent may apply to renew the crediting period by:

- Re-submitting the GHG Project Plan in compliance with then-current ACR standards and criteria;
- Re-evaluating of the project baseline;

¹⁸ High-quality, up-to-date imagery for the United States is available free from the USDA-FSA National Agricultural Imagery Program.

ACR Forest Carbon Project Standard

- Demonstrating additionality against then-current regulations, common practice and implementation barriers;
- Using ACR-approved baseline methods, emission factors, tools and methodologies in effect at the time of crediting period renewal;
- Undergoing verification by an ACR-approved verifier.

ACR does not limit the allowed number of renewals, since at each crediting period renewal the Project Proponent must demonstrate that the Project is additional and meets all ACR requirements.

A positive verification statement is necessary in order for ACR to renew the crediting period and continue issuing offsets generated by the project. Upon acceptance by ACR of the verification statement, ACR will issue new ERTs each year (or more or less frequently, at Proponent's request) for the duration of the new crediting period, provided the Proponent submits its Annual Attestation, periodic desk-based verifications, and full verifications at least every five years.

E. Legal Arrangements between ACR, Project Proponent and Landowners

The ACR member agreement is the governing legal document detailing rights and responsibilities of ACR and its members (including Project Proponents). In addition, for forest Project Proponents electing the buffer pool for risk mitigation, ACR and the Proponent will enter into an agreement regarding the required buffer contribution, ACR responsibilities to retire buffer tons and Proponent responsibilities to replenish buffer tons in the event of a reversal, and the treatment of unintentional vs. intentional reversals.

ACR does not enter into any contract or agreement with landowner(s), except in the case where the landowner and Project Proponent are the same. Project Proponents thus execute their own agreements with landowners addressing rights and responsibilities, offset title, compensation, recourse in case of reversals, and responsibilities of landowners to the Proponent should they choose to discontinue project activities.

ACR requires a minimum term of fifty (50) years for all forest carbon projects, beginning on the project start date. The Project Proponent, if not itself the landowner, should

ACR Forest Carbon Project Standard

provide evidence of an agreement with the landowner(s). Agreements between Project Proponent and landowner may also have a 50-year term, or may have a shorter term and/or a “buy-out” option, provided the Proponent commits to replace any credits that are lost by landowners choosing to discontinue project activities before the end of the minimum project term, as described in Chapter 5. Proponent-landowner agreements with a shorter term and/or buy-out option will be assessed a higher reversal risk.

Agreements that “run with the land” and are recorded, including easements or other legal restrictions, may be deemed a lower reversal risk and require an accordingly smaller buffer contribution. However, in order to encourage broad landowner participation in carbon markets, ACR does not prescribe a particular mechanism such as an easement or other legal restriction but leaves this decision to the Project Proponent and landowners.

For projects outside the United States, Project Proponents should submit for ACR’s review a translated sample landowner agreement, along with a legal review of the agreement from an expert in the host country's laws regarding validity and enforceability.

References

Clean Development Mechanism (CDM) – List of Accepted Tools and Methodologies.

<http://cdm.unfccc.int/methodologies/PAmethodologies/approved.html>

Good Practice Guidance for Land Use, Land-Use Change, and Forestry (especially Chapter 4.3 on LULUCF projects). IPCC. http://www.ipcc-nggip.iges.or.jp/public/gpglulucf/gpglulucf_contents.htm.

International Standards Organization (ISO) 14064-1:2006(E) - Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal.

International Standards Organization (ISO) 14064-2:2006(E) - Greenhouse gases — Part 2: Specification with guidance at the project level for quantification, monitoring and reporting of greenhouse gas emission reductions or removal enhancements.

International Standards Organization (ISO) 14064-3:2006(E) - Greenhouse gases — Part 3: Specification with guidance for the validation and verification of greenhouse gas assertions.

International Standards Organization (ISO) 14065:2007(E) - Greenhouse gases — Requirements for greenhouse gas validation and verification bodies for use in accreditation or other forms of recognition.

Intergovernmental Panel on Climate Change (IPCC) 2007. Fourth Assessment Report.

http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf

Intergovernmental Panel on Climate Change (IPCC), 2006. *Guidelines for National Greenhouse Gas Inventories Volume 4 Agriculture, Forestry and Other Land Use*.

<http://www.ipccnggip.iges.or.jp/public/2006gl/vol4.html>

Pearson, T., S. Walker and S. Brown. 2006. *Afforestation and Reforestation under the Clean Development Mechanism: Project Formulation Manual*. ITTO and Winrock International.

<http://www.winrock.org/ecosystems/tools.asp?BU=9086>

United States Environmental Protection Agency (U.S. EPA), Climate Leaders Program, GHG Inventory Protocol (May 2005).

<http://www.epa.gov/climateleaders/resources/inventory-guidance.html>

ACR Forest Carbon Project Standard

Voluntary Carbon Standard (VCS), Voluntary Carbon Standard – Guidance for forestry, agriculture and other land use projects (18 November 2008). <http://www.v-c-s.org/docs/Guidance%20for%20AFOLU%20Projects.pdf>

Voluntary Carbon Standard (VCS), Voluntary Carbon Standard – Tool for AFOLU Non-Permanence Risk Analysis and Buffer Determination (18 November 2008). <http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf>

Voluntary Carbon Standard (VCS), Voluntary Carbon Standard – Tool for AFOLU Methodological Issues (18 November 2008). <http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf>

Voluntary Carbon Standard (VCS), Voluntary Carbon Standard 2007.1- Specification for the project-level quantification, monitoring and reporting as well as validation and verification of greenhouse gas emission reductions or removals (November 2008). http://www.v-c-s.org/docs/Voluntary%20Carbon%20Standard%202007_1.pdf

World Resources Institute and World Business Council for Sustainable Development (WRI/WBCSD), Greenhouse Gas Protocol Initiative, *The GHG protocol for corporate accounting* (May 2005). <http://www.ghgprotocol.org/standards/corporate-standard>

The Land Use, Land-Use Change, and Forestry (LULUCF) Guidance for GHG Project Accounting (LULUCF Guidance). <http://www.ghgprotocol.org/files/lulucf-final.pdf>

Contact Information

American Carbon Registry™

c/o Winrock International
2121 Crystal Drive, Suite 500
Arlington, Virginia 22202 USA
Tel: 1+ (703) 302-6500

info@americancarbonregistry.org
<http://www.americancarbonregistry.org>