



The American Carbon Registry® Forest Carbon Project Standard

Version 2.0
April 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 ACR for trade in the global voluntary and U.S. pre-compliance carbon markets.

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Acronym List

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
USEPA	United States Environmental Protection Agency
VCS	Voluntary Carbon Standard

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. We thank the many Project Proponents, verifiers and other stakeholders who provided feedback on the public comment draft, as well as the standard's anonymous scientific peer reviewers.

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 Parts 2 (project-level guidance) and 3 (verification); 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 tool for 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 was founded in 1996 by the Environmental Defense Fund and Environmental Resources Trust, and joined the non-profit 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.

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 protocols.

Purpose

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. This standard establishes the quality level that every forest project must meet in order for ACR to transform its GHG emission 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 provide commercial flexibility for Project Proponents and encourage widespread participation by landowners, while maintaining environmental integrity and scientific rigor necessary to ensure that projects are recognized as being of the highest quality, whether used for voluntary or pre-compliance early action purposes. Forest project-based offsets developed according to this standard and associated methodologies will represent emissions reductions and removal enhancements that are real, measurable, in excess of regulatory requirements

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and common practice, additional to business-as-usual, net of leakage, verified by a competent independent third party, and used only once. Similarly, the standard's requirements on permanence and risk mitigation are intended to provide the greatest possible flexibility to Project Proponents and landowners while ensuring that forest offsets, which have an inherent risk of reversal, are fully fungible with other offsets, emission reductions and allowances without the need for discounting.

Applicability

The *Forest Carbon Project Standard* includes requirements for afforestation and reforestation (AR), improved forest management (IFM), and reducing emissions from deforestation and degradation (REDD) (including avoided conversion of forest to non-forest). 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 guidance in the *ACR Standard*. All projects must use an approved methodology, which may be an existing or modified methodology approved by ACR, an ACR-published methodology, or a new methodology. All new methodologies, whether proposed by a Proponent or published by ACR, require a rigorous public consultation and scientific peer review process. GHG Project Plans are reviewed by ACR against the *ACR Standard* and relevant sector standard, and all projects must 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.

Chapter 1: Scope

Please see the *ACR Standard*, 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 for forest projects.

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: Forest 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 the following. The process for approval of methodologies is detailed in Chapters 7 and 8 of the *ACR Standard*.

- Methodologies developed by ACR and approved through the public consultation and external scientific peer review process;
- Approved methodologies listed at www.americancarbonregistry.org;
- 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 developed by Project Proponents and approved by ACR through the public consultation and external scientific peer review process.

The following broad categories are eligible. Within each category, a GHG Project Plan will outline specific activities to reduce GHG emissions and/or enhance removals (e.g.

IFM via extending rotations or increasing stocking, REDD via avoiding development of forested lands, etc.)

- *Afforestation/Reforestation (AR)*, 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. In general, the term afforestation is applied to activities to establish forest on lands that have been in another land use for some relatively long period, while activities to reestablish forest on lands that were in forest cover relatively recently are termed reforestation. While ACR recognizes that specific definitions and thresholds exist distinguishing afforestation from reforestation, ACR does not make a specific distinction. Both afforestation and reforestation are eligible.

Project Proponents must document that AR project lands were not cleared of native trees during the 10 years preceding the project start date in order to implement an AR project. This exclusion does not apply to natural disturbances. Also, some reforestation projects require removal of native non-tree vegetation in order to establish trees and/or accelerate ecosystem restoration. An example is the removal of heavy brush from areas where brush has invaded after fire and prevented or significantly slowed the return of trees due to competition, water limitations, lack of a nearby seed source or other factors. Brush removal for site preparation does not make a reforestation project ineligible, though emissions from brush removal, if they exceed the *de minimis* threshold, must be accounted for in the GHG Project Plan.

- *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 rotation lengths in 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,¹ increasing the stocking of trees on understocked areas, and increasing carbon stocks in harvested wood products.

Thinning of native tree species (e.g. of suppressed understory trees in older stands) to promote growth does not make an IFM project activity ineligible, but must be included in project accounting.

- *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.

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 as 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. Scope: Eligible Land Ownerships

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, project activity is additional and meets all other requirements of the *ACR Standard and Forest Carbon Project Standard*. Projects on public lands, like any other project, must demonstrate that the activity is not required by regulations and meets other additionality criteria.

¹ 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. Avoided degradation can be considered a type of IFM (if the degraded forest still meets the applicable country definition of forest rather than a conversion to non-forest). Included within REDD is the avoided conversion of forest to non-forest in the U.S.

E. 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 Renewable Energy Credits (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.² 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 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.

² 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 emission 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. In general, the basis for ACR's accounting principles is ISO 14064 Part 2.

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.

For projects aggregating multiple forest landowners, the Project Proponent should clearly define the boundaries of each land area on which project activities are to be implemented. Project Proponents are advised against designing aggregated projects that attempt to span too large a geographic region or multiple forest types, since this will make it difficult and/or costly to achieve ACR's targets for measurement accuracy and precision, even with stratification. Ultimately, however, the design of aggregated projects is left to the Project Proponent, who must design sampling plans that achieve the desired targets for accuracy and precision.

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 emissions or removals in the project scenario vs. emissions or removals in the baseline scenario, 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. The precision target is to be met across the project, not within particular carbon pools or strata.

Aggregated projects must meet this guideline at the level of the project overall, not at the level of each individual landholding in the project. When designing initial inventory, monitoring and verification plans, the +/- 10% of the mean at 90% confidence target should be pursued at the level of the aggregated project. Stratification, as well as designing projects within a single geographic region and relatively similar forest types, will help make this target achievable at reasonable sampling intensities and costs. See Chapter 7.

D. Relevance and Completeness

Project Proponents shall apply the guidance in ISO 14064:2 and 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.

Practical and cost concerns dictate that some GHG emission sources/sinks falling below an appropriate *de minimis* threshold may be excluded from ongoing measurement and monitoring. ACR's general *de minimis* threshold is 1% for any individual GHG source/sink, and 3% for sources/sinks in aggregate. If the *ex ante* estimation of a single source/sink falls below the 1% threshold, the source/sink may be always excluded. Any source or sink for which the *ex ante* estimation is between 1% and 3% may be excluded provided the aggregate emissions thus excluded as *de minimis* do not exceed 3% of the final calculation of emission reductions.

A source/sink not initially considered *de minimis* in *ex ante* calculations, but found to be *de minimis* in subsequent monitoring, may be omitted from subsequent monitoring and verification, but only if the Project Proponent presents evidence that the source/sink is

likely to remain indefinitely below the *de minimis* thresholds (i.e. that the monitoring event in which an individual source/sink was less than 1%, or sources/sinks in aggregate were less than 3%, was not merely a temporary condition with the source(s)/sink(s) likely to return to levels above the *de minimis* thresholds).

Any decreases in carbon pools and/or increases in GHG emission sources must be included if they exceed the *de minimis* thresholds. 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. However, the specific types of leakage that must be accounted for and mitigated depend on the project type and design of the activity (e.g., IFM-extend rotations projects that increase yield of wood products are not likely to cause leakage). Specific requirements for quantification and mitigation of leakage are detailed in Chapter 6.

Chapter 3: Eligibility Requirements

A. Forest Definition

ACR requires Project Proponents to use a nationally approved “forest” definition for the country where the 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 Annex 1 - Definitions.

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, project activity is additional and meets all other requirements of the *ACR Standard* and *Forest Carbon Project Standard*. Projects on public lands, like any other project, must demonstrate that the activity is not required by regulations and meets other additionality criteria.

C. Eligibility Criteria

Table 1 details eligibility criteria for forest projects, provides a definition of each criterion, and articulates ACR requirements. GHG Project Plans should address each of these criteria.³

Table 1 - Eligibility Criteria for Forest Carbon Offset Projects

Criterion	Definition	Requirement
Start Date	ACR defines the start date for forest	Forest projects with a Start Date of November 1, 1997 ⁴ or later are eligible for ACR registration. ACR

³ A template for GHG Project Plans is available at <http://www.americancarbonregistry.org/carbon-accounting/tools-templates>.

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	<p>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 relative to the baseline. For REDD, the start date is when the Project Proponent implemented the project action physically and/or legally.</p>	<p>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 project continuance, monitoring and</p>	<p>ACR requires Project Proponents to commit to a minimum term of forty (40) years. The minimum term begins on the Start Date (not the first or last year of crediting). The rationale for the 40-year minimum term is addressed in Chapter 5. The minimum term is not related to permanence.</p>

⁴ 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).

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	<p>verification.</p>	<p>Note that the minimum term is a requirement of the Project Proponent, not necessarily of the landowner. ACR enters into legal agreements only with the Project Proponent. Agreements between Project Proponent and landowner may also have a 40-year term, or may have a shorter term and/or a “buy-out” option, if necessary to provide flexibility for broad participation, provided the Proponent commits to replace issued ERTs in the event of landowners opting to discontinue project activities. See Chapters 5 and 7.</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.</p>
<p>Crediting Period</p>	<p>Crediting period is the finite length of time for which a GHG Project Plan is valid, and during which a project can generate offsets against its baseline scenario.</p>	<p>AR projects, and all IFM projects except stop-logging projects, will have a crediting period of twenty (20) years.</p> <p>Stop-logging IFM projects and all REDD projects will have a crediting period of ten (10) years. The shorter crediting period for these activities is necessary due to potentially more rapid change in baseline conditions.</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</p>

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		<p>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 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., project lands).</p>	<p>The Project Proponent is the individual or entity that undertakes, develops, and/or owns a project. The Project Proponent and forest landowner owner may be the same or different entities.</p> <p>The Project Proponent must document that it owns or has control over the GHG sources and/or sinks from which the reduction or removals originate. The Project Proponent need not own the forest lands or GHG sinks thereon, provided the Project Proponent can document that title to both lands and offsets is clear, unique, and</p>

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		uncontested.
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 pass a regulatory surplus 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 projects in the U.S., 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, and 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.</p>
Land eligibility	<p>Land eligibility restrictions may apply</p>	<p>For AR projects, Project Proponents shall provide documented evidence in the GHG Project Plan</p>

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	<p>to certain types of offset projects.</p>	<p>that no project areas have been cleared of native trees 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>Some reforestation projects require removal of native non-tree vegetation in order to establish trees and/or accelerate ecosystem restoration. An example is the removal of heavy brush from areas where brush has invaded after fire and prevented or significantly slowed the return of trees due to competition, water limitations, lack of a nearby seed source or other factors. Brush removal for site preparation does not make a reforestation project ineligible, though emissions from brush removal must be accounted for in the GHG Project Plan if they exceed the <i>de minimis</i> threshold.</p> <p>Thinning of native tree species (e.g. of suppressed understory trees in older stands) to promote growth likewise does not make an IFM project activity ineligible, but must be included in project accounting.</p>
<p>Permanence</p>	<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 other natural</p>	<p>Project Proponents must assess reversal risk using an ACR-approved risk assessment tool.</p> <p>Project Proponents must 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>

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	<p>disturbances may cause unintentional reversals. The decision to discontinue project activities is an intentional reversal.</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> <p>Risk mitigation cannot remove the inherent impermanence of forest offsets, but can provide fungibility with other offsets and allowances. Permanence is not related to Minimum Project Term.</p>
<p>Net of Leakage</p>	<p>Leakage is an increase in GHG emissions or decrease in sequestration outside the project boundaries that occurs because of the project action.</p>	<p>ACR requires Project Proponents to assess, account for, and mitigate certain types of 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,</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>, relevant sector standard, and <i>ACR Verification Guidelines for GHG Projects</i>.</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</p>

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	<p>and transparency of the quantification data and methods.</p>	<p>and such measurements as the verifier requires in order to provide a reasonable level of assurance that the GHG assertion is without material discrepancy. ACR’s materiality threshold is +/- 5%.</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 in the GHG Project Plan a mitigation plan for any foreseen negative community or environmental impacts. ACR also requires written disclosure by the Project Proponent, in its Annual Attestation, of any negative environmental or community impacts or claims (by community members only, not external stakeholders) of negative environmental and community impacts.</p> <p>ACR’s requirements for evaluation and mitigation of community and environmental impacts are addressed in more detail in the <i>ACR Standard</i>. While ACR requires community and environmental impacts to be addressed in the GHG Project Plan and Annual Attestations, and provides optional tools for community and environmental impact assessment, ACR does not require a formal community or environmental impact assessment or mandate specific processes for stakeholder consultation.</p>

Chapter 4: Additionality

Additionality is a test intended to ensure that GHG reductions and removals are in addition to those that would have occurred under current forestry laws and regulations, current forest industry practices, and without carbon market incentives. ACR provides Project Proponents two paths to fulfill the additionality requirement: projects may *either* use an ACR-approved performance standard and show that the activity is surplus to regulations, *or* pass a three-prong additionality test as described below.

A. Start Date

ACR generally recognizes as eligible forest projects with a start date after November 1, 1997.⁵ If this requirement is met, ACR requires Project Proponents to demonstrate additionality, either via the performance standard plus regulatory surplus test or via the three-prong approach, but does not require any explicit documentation of GHG mitigation as an original project objective.

ACR recognizes that companies and organizations have been implementing forest carbon projects for GHG mitigation and/or in anticipation of GHG regulations since earlier than 1997. Projects with a start date earlier than 1997 may be approved on a case-by-case basis, but in this case ACR requires Project Proponents to provide documentation that GHG mitigation was an objective from project inception, in addition to demonstrating additionality.

B. The Three-Prong Additionality Test

For Project Proponents choosing the project-based (rather than performance standard) approach to additionality, ACR requires the GHG Project Plan to demonstrate that, as of the project Start Date, the project activities 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.

⁵ 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 – The 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 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 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, and are carbon market incentives a key element in overcoming these barriers?</p> <p>Yes = Pass; No = Fail</p> <p>Institutional Does this project face significant organizational, cultural, or social barriers to implementation, and are carbon market incentives a key element in overcoming these barriers?</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 practices, proposed laws or regulations, optional guidelines, or general government policies.

Only mandated forest management practices, not actions left to landowner discretion, are considered in the regulatory surplus test. Voluntary practices, if they have become established as part of a landowner's business-as-usual land management, may be considered part of the baseline (for a project using a project-level baseline), but are not part of the regulatory surplus test.

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 been adopted in that region, regulatory framework, forest type, etc.; and demonstrate that the proposed project activity exceeds common practice.

The common practice component of the three-prong additionality test is different from a performance standard requiring projects to demonstrate lower emissions per unit of output than a defined baseline. Proponents choosing the project-level approach to

additionality and therefore the three-prong test should provide evidence to document what is common practice forest management for that forest type in that region, e.g. through management plans of other landowners or alternatively the opinions of established forestry consultants.⁶

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.

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, documentation such as appraisal documents, etc.
- *Technological* - Technological barriers can include R&D deployment risk, uncorrected market failures, lack of trained personnel and supporting

⁶ See for example the common practice baseline requirements in the methodology for Improved Forest Management through Extension of Rotation Age (http://v-c-s.org/methodology_eifmm.html).

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

While the three-prong test is offered as a rigorous basis for demonstrating project-level additionality, ACR recognizes that some forest Project Proponents will prefer a “performance standard” approach. In such an approach additionality is demonstrated by showing that a proposed project activity is (1) surplus to regulations and (2) exceeds a performance standard benchmark representing the emissions and removals associated with typical forest management within the region and forest type in which the project takes place. Any project that exceeds the performance benchmark is considered additional to what would be expected under a business-as-usual scenario.

The baseline, in a classic performance standard, is measured in terms of emissions per unit output (e.g. tCO₂e per MWh, per bushel of corn, etc.), and any activity with lower emissions per unit output than the benchmark is recognized as additional provided the activity is surplus to regulations. In practice, performance standards will tend toward some over-crediting (crediting business-as-usual activities that happened to have lower emissions per unit output than the benchmark), balanced by under-crediting. The performance standard approach is highly desirable for efficiency and scalability. As the volume of projects and total emission reductions/removals increases, and provided all projects use the performance standard, under-crediting will tend to balance over-crediting.

To date performance standard approaches for forestry (e.g. Improved Forest Management) have been flawed. Performance standards based purely on forest carbon stocks, assigning credits to projects whose carbon stocks happen to exceed a regionally defined average carbon stock, have significant danger of crediting non-additional activities, and may or may not require Proponents to institute a change in practice from business-as-usual. The crediting profile of such projects will tend to be a large “bump”

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of up-front credits that represent no real or additional reduction in atmospheric CO₂ concentrations. These approaches also tend not to have an appropriate balance of over- and under-crediting, since projects with carbon stocks exceeding the benchmark will register for credit, while any that do not will not enroll. Other approaches, assigning credit to all growth compared to a base-year stock, likewise pose significant danger of crediting non-additional activities.

This standard does not attempt to delineate a performance standard for various regions and forest types, which can only realistically be done in a methodology. The standard recognizes the regulatory surplus plus performance standard path to demonstrate additionality, however, and offers the following additional guidance for methodology development/acceptance.

The regulatory surplus component of this additionality demonstration will be the same as that described in Section C.

For the performance standard component ACR *will not* approve:

- Stocks-based performance standards that provide credit for activities without atmospheric benefit;
- Approaches that do not provide an appropriate balance of over- and under-crediting;
- Performance standards that require no change in practice from the business-as-usual;
- Approaches that provide credits vs. a base year, rather than a project-level baseline or appropriate industry-level performance standard.

ACR instead encourages methodologies in which performance standards are based on rates of net sequestration and emissions, or on emissions intensity, per unit output (e.g. per unit harvested wood products), similar to performance standards in other sectors. One acceptable approach would be a performance standard that accounts for net emissions from timber removals, wood processing and net sequestration to provide a benchmark in tCO₂ per unit production for different regions and forest types. Baseline emissions derived from the performance standard factor can be compared to actual with-project emissions and sequestration, measured/*modeled ex ante* and monitored over time, to give net GHG emission reductions/removals creditable to the project

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activity (with appropriate deductions for leakage and risk mitigation). This approach is less subject to gaming and less prone to crediting non-additional tons than a stocks-based approach, and has the added benefit of not requiring Proponents to forecast business-as-usual forest management far into the future (since the performance standard (periodically updated) is simply applied to actual harvested volume year-by-year). Any activities that increase sequestration, decrease or delay timber removals, reduce emissions from slash, improve milling efficiency, or shift from shorter to longer-term wood products will yield lower emissions per unit output than the performance standard baseline.

ACR may publish its own and/or approve performance standard methodologies developed by others, in either case using the public consultation and scientific peer review process described in the *ACR Standard*, Chapter 8.

Chapter 5: Permanence and Risk Mitigation

Permanence refers to the potential for reversal of GHG reductions and removals. Some project types do not have a risk of non-permanence, 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).

A. Permanence vs. Risk Mitigation and Fungibility

AFOLU carbon protocols sometimes confuse permanence with the length of time for which a Project Proponent or landowner is required to commit to maintaining the project activity. In fact, no length of time short of perpetual is truly permanent, nor is there a sound scientific basis for any arbitrary number of years. Forest projects cannot be made permanent; rather, the risk of reversal can be mitigated to make them fungible with other types. Setting too long a required project term may pose barriers to many landowners, reducing market participation, yet not providing permanence.

ACR does not, therefore, suggest that ACR's required minimum project term is a mechanism for permanence. ACR requires forest Project Proponents to commit to a minimum term of 40 years for project continuance, monitoring and verification because ACR views forest and other AFOLU activities as a "bridge" strategy to achieve near-term reductions cost-effectively over the period from now through 2050 – the timeframe over which U.S. legislative frameworks and international negotiations propose effective de-carbonization of major emitting sectors, with reductions of around 80% below current GHG emissions. Requiring Project Proponents to commit to 40 years ensures these activities will continue over the relevant timeframe, or if they or their landowners choose to discontinue activities, that any credited ERTs will be replaced. Not requiring a longer term, and providing flexibility mechanisms for Project Proponents to design shorter landowner contracts, will incentivize participation by a broad range of landowners – ultimately leading to a greater supply of forest offsets, with their attendant environmental and economic co-benefits.

Rather than suggesting the minimum project term can make forest offsets permanent, ACR focuses on risk mitigation and fungibility. Forest offsets can never be, and as a bridge strategy need not be permanent, but risk mitigation ensures that any losses of sequestration (increases in atmospheric GHG concentrations), whether occurring through an unforeseen natural disturbance or through a Project Proponent or landowner's choice to discontinue forest carbon project activities, are quickly compensated and the atmosphere "made whole."

Secondly, effective mitigation of risk makes offsets that are inherently at risk of loss fully fungible with other offsets and allowances. This fungibility of forest offsets is crucial in voluntary and especially in compliance markets, where regulated entities will presumably have little interest in investing in an offset that could make a compliance obligation met many years ago suddenly and unexpectedly re-appear. To avoid being substantially discounted relative to other offset types, such projects must fully mitigate reversal risk. If the mechanism for dealing with impermanent offsets is not risk mitigation and fungibility, but rather heavy discounting, then low prices for forest offsets will translate into weaker incentives for landowners to adopt these practices and fewer of the economic and environmental co-benefits they uniquely provide.

B. Assessment of Risk

To assess the risk of reversal, ACR requires forest 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. Project Proponents include this assessment in their GHG Project Plan and it is evaluated by both ACR and the verifier.

Project 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.⁷ The output of either tool is an overall risk category for the project,

⁷ <http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Non-Permanence%20Risk%20Analysis%20and%20Buffer%20Determination.pdf>. While Proponents may use the VCS tool, ACR does not require double verification per the VCS process.

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).

If no reversals occur, the project's risk category and buffer percentage remain unchanged for five years. Risk should be re-assessed every five years, at the time of the required full verification. On re-assessment the project's risk category and buffer percentage (if applicable) may increase or decrease. An exception is in the event of a reversal, in which case the project baseline, risk category and buffer contribution (if applicable) should be re-assessed and re-verified immediately.

The re-assessment of risk, at which the buffer percentage may increase or decrease, is independent of the gradual refund of a project's buffer contribution over time in the event of no reversals. A project with no reversals and decreasing risk may benefit from both buffer refunds and a declining buffer percentage.

C. Mitigation of Risk via 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 portion of its offsets, or an equal number of ERTs of another type and vintage, 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 mitigated. Through adherence to ACR standards 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 purchasing ERTs of any type and vintage from another project registered on ACR.

ACR manages the buffer pool to mitigate reversals, whether unintentional (e.g., fire or natural disaster) or intentional (e.g., a participating landowner choosing to discontinue

project activities). Buffer pool management is based on conventional insurance, in which a premium (buffer percentage) is determined based on assessed risk, and in the case of a covered event the insurance company pays damages above a deductible amount.

First unintentional reversal

For the first unintentional reversal from a project (or phase of a project, or subset of project lands in the case of aggregated projects), ACR mitigates the loss by retiring from the buffer pool the corresponding number of tons. This will require quantification of carbon stocks after the reversal, at the Project Proponent's expense, to ascertain how many tons have been lost. Fees for retirement of ERTs reversal will be charged to the Project Proponent at published per-ton rates.⁸

If the reversal is less than the Project Proponent's buffer contributions up to that time – i.e. the Proponent's own contributions can cover the reversal – then the buffer provides the ERTs retired to mitigate the reversal. If the reversal exceeds the number of buffer ERTs deposited to date by the Proponent, the Project Proponent is required to pay a “deductible” of 10% of the reversal, and the buffer pool covers the remainder. The deductible may be paid using ERTs of any type and vintage.

Following the first unintentional reversal, the Proponent is not required to replenish the buffer, but the project is considered a greater risk and the assessed buffer percentage (premium) will increase. The baseline must also be re-assessed.

Subsequent unintentional reversal

For subsequent unintentional reversals in an amount less than the Proponent's cumulative buffer contributions less retirements, the buffer again provides the ERTs retired to mitigate the reversal. However, projects with repeated small reversals will have a continually increasing risk category and required buffer percentage (high premium to insure a risky project).

If there is a subsequent unintentional reversal in an amount that exceeds the Proponent's cumulative buffer contributions less retirements – i.e. the same project has

⁸ See www.americancarbonregistry.org.

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relied more than once on the pooled buffer contributions of other projects – ACR treats this reversal differently. The Proponent is required to cover the full extent of the reversal rather than only a deductible amount, i.e. to make the buffer whole by replenishing all those ERTs retired to compensate the reversal. The Project Proponent must make the buffer whole before any further ERT issuance will occur. As with the original buffer contribution, this deposit may be made using ERTs of any type and vintage. Project Proponents may choose to bank ERTs and/or futures at the start of a project to hedge this risk.

Intentional reversals

ACR recognizes there are circumstances in which a Project Proponent (or participating landowner), despite having initially intended to continue project activities for a long period, will encounter changed circumstances that make it desirable to discontinue project activities. Likewise, ACR recognizes that some landowners may not be willing to commit to activities for the minimum term ACR requires of Project Proponents.

For both of these scenarios, ACR provides the flexibility of a “buy-out option” in which a Project Proponent may discontinue the project, or a participating landowner may drop out, provided the loss of carbon sequestration is fully mitigated. This buy-out option requires the Proponent to replace all ERTs issued up to the time the option is exercised, again with ERTs of any type and vintage. The mitigation responsibility in all cases rests with the Project Proponent. The Proponent may have contractual arrangements with landowner(s) to ensure the Proponent is made whole, and may consider options (banking ERTs in escrow, investing in futures, insurance products etc.) to hedge the risk of a portion of landowners choosing to discontinue project activities.

In the case of an intentional reversal by a Project Proponent (or subset of the landowners in an aggregated project), ACR conservatively considers the cumulative sequestration of that portion of the project to be lost, whether or not the Proponent or landowner actually liquidates carbon stocks. ACR retires from the buffer pool the number of ERTs issued from the start date up to the time of the intentional reversal. If only a subset of landowners in an aggregated project discontinue participation, ACR only retires ERTs issued to date for that subset of landowners.

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The Project Proponent is then required to deposit the same number of ERTs, i.e. all those issued since the start date for whatever portion of landowners discontinue participation. As with the original buffer contribution, this deposit may be made using ERTs of any type and vintage.

If a Proponent does not replenish the buffer in a timely manner, ACR retains the right to freeze the Proponent's project account and use any existing ERTs as needed in order to compensate for the reversal. Forest carbon ERTs transferred to the buffer to compensate for an intentional reversal may be refunded to the Proponent if the Proponent replaces them with other ERTs.

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 the baseline (though the method used to determine the baseline will generally remain constant) and re-verify.

Timber harvest included in the Project Plan is not considered an intentional reversal. Only the decision to discontinue forest carbon project activities, monitoring and verification is treated as an intentional reversal.

D. Landowners Exercising Buy-Out Option but Maintaining Activity

It is conceivable that some Project Proponents will exercise their buy-out option (replace all issued ERTs), not in order to discontinue the project or liquidate carbon stocks, but rather re-enroll the project in another voluntary, or state or federal compliance program.

ACR provides the option, in the *ACR Standard* Chapter 10, for any project to de-list tons at published fees in order to register them with another program. However allowing Project Proponents an option to discontinue activities without replacing all issued ERTs, because of the Proponent's stated intent not to reverse but rather to re-enroll the project, would require ACR to track the actions of the Proponent after the project leaves the registry.

ACR recognizes the need for registry flexibility and on a case-by-case basis, may discuss with Proponents options for mutual dissolution and re-enrollment of a project. At present it is not feasible to state a general policy on this issue because of the difficulty of tracking Project Proponent intent and subsequent actions.

E. 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 with no reversal. At each five-year verification, if a project has experienced no reversals, ACR will refund 5% of the cumulative buffer contributions, net of any buffer retirements. This does not affect the project's buffer percentage, which is based on an assessment of general and project-specific risk factors, re-assessed every five years. It is a simple refund of buffer tons earlier deposited.

F. Treatment of Remaining Buffer at End of Project Life

Any buffer ERTs that have not been retired to compensate for a reversal, or refunded, at the end of a project's term (e.g. 40 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 if no reversals occur.

Many Project Proponents will not, of course, simply liquidate carbon stocks at the end of the minimum project term, but will continue sustainable management even if they choose not to incur the cost of monitoring, verifying and registering a 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 periodic refund of buffer contributions to continue.

G. Reassessment of Risk and Buffer Contribution over Time

The assessment of general and project-specific risk factors described in Section B should be conducted every five years, at the interval of a full verification including field visit by the verifier, in order to assess whether risk has remained the same, increased, or decreased. 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 Project Proponents selecting the ACR buffer pool for reversal risk mitigation, ACR endeavors to require the smallest buffer percentage that effectively mitigates assessed risk. Over time as a project continues and is periodically verified, a project that experiences no reversals, and demonstrates to ACR and the verifier that project risk has decreased, has the opportunity *both* to receive periodic buffer refunds per Section F, and to decrease its percentage contribution to the ACR buffer pool.

H. Alternate Risk Mitigation Mechanisms

Some Project Proponents will prefer not to set aside project ERTs, or even purchase and contribute ERTs of other type or vintage, in order to make a buffer contribution. In lieu of buffer contributions, Project Proponents may use an ACR-approved insurance policy as an alternate risk mitigation mechanism. Insurance may be a financial product based on an actuarial analysis of project risk, considering the region, forest type, threats, mitigating factors etc., similar to the assessment done for property insurance. The insurance product must guarantee replacement value of the offsets lost in the case of a reversal with no hidden costs or exclusions. ACR must approve the proposed insurance product following due diligence by ACR, at the Project Proponent's or insurance provider's expense.

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. Removals of non-tree vegetation as part of site preparation should be included if these exceed the *de minimis* threshold.

B. Baselines: IFM

IFM includes both avoided degradation projects⁹ 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 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.

⁹ See footnote 1. Projects that avoid forest degradation, but in which the baseline is not a conversion to non-forest per the applicable forest definition, are included within IFM. Projects that avoid conversion to non-forest are considered REDD.

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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 of real atmospheric benefit, and that application will lead to minimal over-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 (or than a base year). Performance standards based on net sequestration and emissions, or emission intensity per unit output are encouraged (see Chapter 4).

For decomposition of logging slash, stumps and roots in the baseline scenario, Project Proponents have two options. For simplicity, these pools may be assumed to be immediately emitted following harvest or loss of aboveground standing biomass, since this is conservative and greatly simplifies accounting. Alternately, Project Proponents may calculate a rate of decomposition of logging slash, stumps and roots and account for these pools over time. The latter approach is more challenging but provided it can be justified to ACR and the verifier, will be accepted.

Wood products 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. For wood products, while it is possible to track annual emissions through retirement, burning and decomposition, ACR accepts and encourages the simpler 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.¹⁰

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.

¹⁰ For forest projects in the U.S., see for example the Forestry Appendix of the Technical Guidelines for the US Department of Energy's Section 1605(b) Voluntary Reporting of Greenhouse Gases Program. Table 1.6 provides, for different regions and timber types, proportions of extracted timber still in use or sequestered in a landfill 100 years after production. See <http://www.pi.energy.gov/enhancingGHGregistry/documents/PartIForestryAppendix.pdf>.

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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.

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. The geographic scope of AR activity-shifting leakage assessment should be constrained to the area in which the AR activity can reasonably be expected to have displaced people or activities.

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. Project Proponents are referred to the *VCS Tool for AFOLU Methodological Issues* for assessing and deducting IFM leakage when timber production is decreased.¹¹

¹¹ See <http://v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf>, Step 5 and Table 2.

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.

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: Guidelines for Aggregated Projects

Central to the mission of the American Carbon Registry is mobilizing environmental markets to achieve real and significant GHG reductions while making it feasible for a broad range of agricultural and forest landowners to participate in these markets. GHG reductions can be achieved by various market participants and at various scales, but will only contribute to enhancing rural incomes and sustaining natural resources if mechanisms are in place to make it feasible for landowners large and small to implement GHG mitigation activities.

For smaller forest landowners, who represent the majority of forest lands in the U.S. and globally, aggregation – the pooling of activities on more than one landholding into a single project – can play an important role in providing transaction cost efficiencies and diversifying risk. ACR does not require aggregation or discourage any landowner from bringing a project to ACR directly, but recognizing the increasing prevalence of aggregated projects, provides these guidelines to Project Proponents aggregating multiple landowners.

A. Minimum Term and Risk Mitigation

ACR's requirements for minimum project term and options for mitigating reversal risk are provided in Chapter 5. For the reasons explained there, ACR requires of the Project Proponent a minimum term of 40 years for project continuance, monitoring and verification. Most forest landowners are committed to long-term sustainable management and some are willing to commit to a forest carbon project for 40 years or longer. However, ACR recognizes that this commitment poses a barrier for some and aims to incentivize the participation of all landowners. ACR only requires the Project Proponent to commit to the minimum term, not necessarily the landowner, and allows Project Proponents to dictate the term and other aspects of their agreements with landowners. Contractual agreements between Project Proponents and landowners will be reviewed by ACR to assess the risk of reversal, but ACR does not require a specific term or execute agreements directly with landowners.

Project Proponents generally have greater resources and ability to diversify risk across a portfolio of projects than individual small landowners. Proponents may choose to

execute shorter agreements with landowners; landowners will generally renew these agreements if carbon revenues and other benefits exceed costs, but if an individual landowner chooses to discontinue participation, there is no disadvantage in terms of atmospheric GHG concentrations as long as the Proponent has put in place mechanisms to mitigate the reversal by replacing issued ERTs. Proponents may do this using banked ERTs, from the project or any other type or vintage, or through futures, financial insurance or other mechanisms. Diversification of risk across a group of participating landowners, and the likelihood that most landowners will renew rather than discontinue participation at the end of a contract term, makes this a relatively manageable risk for the Proponent.

As noted in Chapter 5, permanence is not provided through a minimum term of 40 or any other arbitrary number of years. Rather, forest offsets are inherently at some risk of reversal; this risk is mitigated, and the offsets made fungible with other offsets, emission reductions and allowances, through mechanisms to ensure that tons are replaced and retired in the event of a participating landowner discontinuing activities or experiencing an unintentional reversal.

B. Risk Assessment

The risk of unintentional reversals may be lower for aggregated projects, since risk is diversified across a group of geographically dispersed landowners. The risk of intentional reversals could also be lower; in a large aggregated project, the probability is great that at least one landowner will choose to discontinue participation, but this probability may be spread across multiple landowners and a large number of acres so that the probability of intentional reversals significantly affecting the project as a whole is lower.

ACR does not state that assessed risk will invariably be higher or lower for aggregated projects. The Project Proponent may present an argument in the GHG Project Plan regarding diversification of risk and the effect this has on the project's overall risk category and therefore buffer contribution (if applicable). The risk assessment will be evaluated by both ACR and the verifier.

C. Inventory Cost Controls

Forest offsets in an aggregated project must be quantified with equal accuracy and precision to non-aggregated projects in order not to be discounted. This can be challenging for small landowners because of the significant up-front cost of an inventory, for example for IFM or REDD/avoided conversion projects.

As noted in Chapter 2, ACR requires a 90% statistical confidence interval of sampling of 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.

ACR does not use a different target for aggregated projects. The +/- 10% at 90% confidence precision target is applied at the level of the project overall, i.e. the summed landowners in the case of aggregated projects. Project Proponents may use stratification to reduce inventory sampling intensity and cost to achieve this target. ACR advises Proponents to design projects within a single geographic region and relatively similar forest types, which combined with careful stratification in designing an inventory will help make the +/- 10% at 90% confidence target achievable at reasonable costs spread across the overall project. ACR does not require any minimum number of inventory plots per landholding as long as the target is achieved for the project overall.

D. Monitoring and Verification Cost Controls

Another significant factor for smaller landowners is the expected costs of monitoring and verification over time. As above with initial inventories, standards for monitoring and verification are applied at the level of the overall project whether this is a single large landholding or an aggregated group of smaller landholdings.

In the case of periodic monitoring, Proponents of aggregated projects should design a stratification and sampling plan to achieve the +/- 10% at 90% confidence precision target at the level of the overall project. ACR does not require any minimum number of monitoring plots per landholding as long as the target is achieved for the project overall. Proponents may alternately report the mean minus the lower bound of the 90% confidence interval, if the incremental costs of achieving the target exceed expected

incremental revenues. ACR leaves to the Proponent the decision whether the cost of additional sampling in order to achieve the +/- 10% at 90% confidence target is justified in order to be able to report the mean rather than lower bound.

For verification, ACR's general requirements are a reasonable (as opposed to limited) level of assurance, materiality threshold of +/- 5% in the GHG assertion, a desk-based audit annually (or at each request for issuance of new ERTs, if different from annually), and full verification including field visit no less often than every five years. ACR's verification requirements are closely modeled on ISO 14064-3.¹²

The field visit every five years should include such measurements as the verifier requires to provide a reasonable level of assurance that the GHG assertion is without material discrepancy. ACR expects the verifier to conduct a risk-based assessment of the probability the verified GHG reductions/removals will be materially different from those reported by the Project Proponent. For aggregated landholdings, an initial random sample may be sufficient to detect whether more intensive sampling is required to verify the GHG assertion at the ACR materiality threshold. The verifier could randomly select a subset of the project for field verification, then visit additional properties to further investigate any discrepancies discovered in the initial selection. ACR does not require the verifier to visit every landholding or to conduct any minimum number of measurements, provided the GHG assertion for the overall project can be verified at a reasonable level of assurance and the verification statement worded accordingly.

E. Programmatic Project Development Approach

Related to but distinct from aggregation is the concept of a programmatic approach to project development. While an aggregated project may include a variety of lands but all with the same overall baseline and Start Date, a programmatic approach adds the further nuance of incrementally adding lands into the project over time. This is important for flexibility but makes project design, baseline definition, start date, monitoring and verification more complex.

A programmatic aggregated project is treated as a single project with an overall baseline and monitoring/verification plan. The methodology for such projects will need to

¹² See *ACR Standard v2.0* and *ACR Verification Guidelines for GHG Projects*.

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establish applicability conditions and procedures for the addition of new lands to the program, so that it does not become necessary to re-define the baseline each time a new landholding is added. Individual landholdings within the programmatic project may have different Start Dates, but this means there could be multiple baseline durations and Crediting Periods within the project, requiring the Proponent to design a clear plan and schedule for project accounting, monitoring and verification. Practical and cost considerations may dictate that each project be limited to a single geographic region and relatively similar forest types, and that new lands be added at the required verification interval every five years.

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.¹³ Subsequently, 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 and continue listing the project as registered. ACR requires both an Annual Attestation addressing the above issues, and third-party verification (either desk-based per section B below or field-based per section C, as the case may be) in order to issue new ERTs.

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

¹³ There is an optional early registration, at the Proponent's discretion, after certification of the GHG Project Plan. If the Proponent chooses to exercise this option, ACR will list the project as "pending verification and issuance" and post such project information as the Proponent desires. No ERTs are issued until after verification.

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.¹⁴

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 provide a reasonable (as opposed to limited) level of assurance that the GHG assertion is without material discrepancy (per ACR's materiality threshold of +/- 5%). It should also include 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 all components of the GHG Project Plan are considered valid, and during which a project can generate offsets against its baseline scenario. The approved crediting period for AR projects, and all IFM projects except stop-logging, is 20 years; the approved crediting period for IFM stop-logging and all REDD projects is 10 years.

¹⁴ High-quality, up-to-date imagery for the United States is available free from the USDA-FSA National Agricultural Imagery Program.

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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;
- 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, Proponent responsibilities, and the treatment of unintentional and intentional reversals per Chapter 5.

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 execute their own agreements with landowners addressing rights and responsibilities, offset title, contract term, recourse in case of reversals, and responsibilities of landowners to the Proponent should they choose to discontinue project activities.

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ACR requires a minimum term of forty (40) years for all forest carbon projects, beginning on the project Start Date. The Project Proponent, if not itself the landowner, should provide evidence of an agreement with the landowner(s). Agreements between Project Proponent and landowner may also have a 40-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.

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 sample landowner agreement, translated into the operating language of the ACR, along with a legal review of the agreement from an expert in the host country's laws regarding validity and enforceability.

Chapter 9: 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 2 and 3, 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), and some U.S. Environmental Protection Agency - Climate Leaders and Voluntary Carbon Standard (VCS) methodologies if approved by ACR. Project Proponents may also propose modifications to existing ACR, CDM, U.S. EPA, and VCS methodologies and tools.

A list of approved methodologies is at www.americancarbonregistry.org. Methodologies in this list are 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. These methodologies have undergone public consultation, in addition to peer review, under the applicable programs. New methodologies, whether proposed by Project Proponents or published by ACR, undergo both public consultation and scientific peer review.

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.¹⁵ The committee will assess the methodology

¹⁵ ACR's fee schedule is posted at www.americancarbonregistry.org. ACR charges fees for GHG Project Plan screening, review of new methodologies and methodology revisions, etc. These fees are designed as the minimum necessary to recover ACR's costs of operating the registry and accepting new methodologies and projects. Meanwhile transaction and issuance fees are significantly lower than those of most other registries. ACR is a non-profit organization and as such all fees (fixed and per-ERT) only recover costs and do not generate profit for ACR. See also *ACR Standard v2.0*.

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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>
- 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 3 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 approved list should consult ACR.

Table 3 – 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	http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch02.p

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factors (projects and inventories)	df
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
VCS – <i>Tool for AFOLU Methodological Issues</i> (particularly Step 5, leakage guidance)	http://v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.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.

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/gpplulucf/gpplulucf_contents.htm.

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>

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>

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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-](http://www.v-c-s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf)

[s.org/docs/Tool%20for%20AFOLU%20Methodological%20Issues.pdf](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 Project Accounting (November 2005).

http://www.ghgprotocol.org/files/ghg_project_protocol.pdf.

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

Annex 1: 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 pass a regulatory surplus 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.

Aggregation

The pooling of activities on more than one landholding into a single project for project design, baseline definition, inventory, monitoring and verification, and registration purposes. Aggregation may provide transaction cost efficiencies and risk diversification.

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. In general, activities to establish forest on lands that have been in another land use for some relatively long period are termed afforestation, while activities to reestablish forest on lands that were in forest cover relatively recently are termed reforestation. While ACR recognizes that specific definitions and thresholds exist distinguishing afforestation from reforestation, ACR does not make a specific distinction based on number of years out of forest, since both afforestation and reforestation are eligible. Any lands that have been out of forest for more than 10 years are automatically eligible (provided AR is demonstrably additional). If project lands have been out of forest for less than 10 years, Project Proponents must provide documented evidence in the GHG Project Plan that the lands were not cleared of native trees within the 10 years prior to the Start Date, in order to ensure that lands are not cleared simply to implement an AR project. This exclusion does not apply to lands that experienced loss of forest cover due to fire or natural disturbance, nor to native non-tree vegetation (e.g. heavy brush) removed in site preparation in order to establish trees. Examples of eligible AR activities include afforestation of existing crop and pasture land, afforestation of riparian zones around rivers and streams, afforestation of shelterbelts around fields and farms, afforestation of abandoned minelands, reforestation of lands with trees killed by fire or insect or disease damage, and reforestation of lands that failed to regenerate after harvesting (in cases where there is no legal requirement to reforest after harvesting).

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 in the approved list at www.americancarbonregistry.org; CDM, VCS and EPA Climate Leaders methodologies reviewed and approved by ACR; modifications of ACR, CDM, 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. See Chapter 9 of this document and Chapters 7 and 8 of the *ACR Standard*.

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.¹⁶

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."¹⁷ 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

¹⁶ See http://ipcc-wg1.ucar.edu/wg1/Report/AR4WG1_Print_Ch02.pdf and definition below of Global Warming Potential.

¹⁷ Adapted from Pew Center on Global Climate Change. *Climate Change 101: Cap and Trade*. <http://www.pewclimate.org/docUploads/Cap&Trade.pdf>.

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 screening by ACR of a GHG Project Plan. Prior to certification, ACR may request corrections or clarifications to the GHG Project Plan. Certification confirms that the GHG Project Plan complies with ACR standards and, if the Project Proponent follows the plan faithfully 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. Because ACR carefully screens and certifies every GHG Project Plan as meeting all relevant ACR requirements, and requires third-party verification, ACR does not require a separate third-party validation of the GHG Project Plan.

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 flexibility in how they meet their emission reduction targets.¹⁸ ACR accepts certain methodologies and tools from the CDM.

Climate, Community & Biodiversity Alliance Standards

The CCB Standards are published by the Climate, Community & Biodiversity Alliance (CCBA), a partnership of international NGOs seeking to foster the development of forest protection and restoration activities around the world that deliver significant climate, community and biodiversity benefits. The CCB Standards include requirements to ensure that local stakeholders are engaged in the design and implementation of emissions reductions activities and that they and their natural environment benefit from these activities.¹⁹ The CCB Standards address only the community and biodiversity impacts of a project, not its GHG reductions or removals; validation and verification against the CCB Standards therefore does not satisfy ACR requirements for registering GHG emission reductions/removals. ACR references the CCB Standards as one way to assess community and environmental impacts of a project, but does not require their use. Project Proponents may choose to pursue approval against the CCB Standards to complement project registration on ACR.

¹⁸ <http://cdm.unfccc.int/about/index.html>.

¹⁹ <http://www.climate-standards.org/index.html> and personal communication, Climate, Community & Biodiversity Alliance.

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.²⁰

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 GHG Project Plan is valid, and during which a project can generate offsets for registration on ACR against this baseline. The baseline must be re-evaluated in order to renew the crediting period. The crediting period for AR activities, and all IFM activities except stop-logging, is 20 years. The crediting period for REDD and stop-logging activities is 10 years.

De Minimis

Practical and cost concerns dictate that some GHG emission sources/sinks falling below an appropriate *de minimis* threshold may be excluded from ongoing measurement and monitoring. ACR's general *de minimis* threshold is 1% for any individual GHG source/sink, and 3% for sources/sinks in aggregate. If the *ex ante* estimation of a single source/sink falls below the 1% threshold, the source/sink may be always excluded. Any source or sink for which the *ex ante* estimation is between 1% and 3% may be excluded provided the aggregate emissions thus excluded as *de minimis* do not exceed 3% of the final calculation of emission reductions.

²⁰ CCB Standards - Project Design Standards. Second Edition (2008). Climate, Community & Biodiversity Alliance.

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. The outcome of a successful eligibility screening is Certification.

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).

Early Registration

A project whose GHG Project Plan has been certified by ACR, but which has not yet been verified, has the option of early registration. The project is listed on ACR as “pending verification and issuance” and ACR posts such project information at the Proponent chooses. No ERTs are issued until the GHG reductions/removals have actually occurred and been verified.

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 (Forest Inventory & Analysis Program definition)²¹

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 qualify as forest land. Unimproved roads and trails,

²¹ 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.

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.²²

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 2.14.²³

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.

²² 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.

²³ 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. A GHG Project Plan template is available at www.americancarbonregistry.org.

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 2.14.²⁴

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,²⁵ increasing the stocking of trees on understocked areas, and increasing carbon stocks in harvested wood products. IFM is an eligible forest project activity.

²⁴ 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.

²⁵ Projects that avoid forest degradation, but in which the baseline is not a conversion to non-forest per the applicable forest definition, are included within IFM. Projects that avoid conversion to non-forest are considered REDD.

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 state of climate change and its potential environmental and socio-economic consequences.”²⁶

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 project continuance, monitoring and verification. The Minimum Project Term is a commitment required of the Project Proponent, not necessarily of the landowner. Minimum term is

²⁶ <http://www.ipcc.ch/organization/organization.htm>.

not related to permanence; permanence is addressed through a project-specific assessment of reversal risk and one of several potential options to mitigate reversal risk.

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.

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, as summarized in the *ACR Standard*.

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).

Programmatic Project Development Approach

A programmatic approach to project development is related to but distinct from aggregation. While an aggregated project may include a variety of lands but all with the same overall baseline and Start Date, a programmatic approach adds the further nuance of incrementally adding lands into the project over time. These lands would be treated as a single project, with aggregated landholdings, different Start Dates, and an overall baseline and monitoring/verification plan defined for the project. The methodology for such projects must establish applicability conditions and procedures for the addition of new lands to the program.

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 deforestation, and avoiding conversion from forest to non-forest use. REDD is an eligible forest project activity.²⁷

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.

Risk Assessment

To account for and mitigate against the risk of reversal in some projects, ACR requires Project Proponents to conduct a risk assessment 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 assessment evaluates both general and project-specific risk factors and must be conducted using an ACR-approved risk assessment/buffer determination tool.

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 relative to the baseline. For REDD, the start date is when the Project Proponent implemented the project action physically and/or legally.

²⁷ 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 (if the degraded forest still meets the applicable country definition of forest rather than a conversion to non-forest). Included within REDD is the avoided conversion of forest to non-forest in the U.S.

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.²⁸ ACR accepts certain methodologies and tools from the Climate Leaders program.

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. ACR requires a reasonable (as opposed to limited) level of assurance and sets a materiality threshold of +/- 5%.

Verification Statement

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

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).²⁹ ACR accepts certain methodologies and tools from the VCS.

Wood products

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

²⁸ <http://www.epa.gov/stateply/index.html>.

²⁹ <http://v-c-s.org/about.html>.

Annex 2: Sample ACR – Project Proponent Agreement

Peer Review Draft



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