

		Oregon Forest Carbon Stakeholder Work Group Desired Outcomes/Functions for Permanence							
		Administratively Simple	Balance between Sequestration and Storage	Measurable and Verifiable	Inclusive of all Carbon Pools/Emissions	Consistency with National & International Designs	Scientific Basis	Enforceability	Obligation Assigned
Approaches to Permanence All Project Categories	<b>PROJECT RISK ASSESSMENTS</b> – Third party assessments of the risk the project's carbon offsets are at risk of being reversed. Risk factors fall in the following categories: project risk (reliability risk due to unclear land tenure, financial/management instability), economic risk (opportunity costs to pressing to keep project going), regulatory and social risk (political/social instability) and risk of natural disturbance losses (fire, insects and disease).	More so. Will slow down the acceptance of the project if mitigation and if subsequently required for each reporting period, slows down the reporting of the	Neutral. Equal applicability to both sequestration type projects versus carbon stock maintenance projects.	Not applicable.	More so. Seems like the risk assessment would force the question that all the relevant carbon pools are included in the project accounting.	More so. To the extent the Voluntary Carbon Standard is being used internationally.	More so. Investigative approach to assessing the risk of reversibility based on specific aspects of the project both biologically and with respect to	Not applicable.	More so. The assessment should identify the sources of the risk of non-permanence which facilitates the clear assignment of obligations.
	<b>CONSERVATION EASEMENTS OR OTHER LEGALLY BINDING LONG-TERM COVENANTS</b> – Either a temporary or permanent conservation easement depending on the time period over which the project needs to ensure the carbon dioxide emission offset (achieved either through emissions avoided or CO2 sequestered or stored) is not reversed. This approach to permanence gets at <u>project reliability</u> regarding legal requirements to maintain the carbon dioxide emission offset over a specified time period such as 100 years.	Less so. Legally negotiated documents involving due diligence and recording.	Neutral. Equal applicability to both sequestration type projects versus carbon stock maintenance projects.	More so to the extent the terms and conditions of the easement of the covenant agreement require the measurement and monitoring of project outcomes that give rise to the carbon offsets.	Not applicable. Nothing in this approach to permanence precludes any particular carbon pool in the accounting.	Don't know.	More so to the extent that the period covered approaches 100 years. This approach gets at reliability of the offset project; but legal lengths of contracts or easements are just set based on feel rather than tied to atmospheric science.	More so. Easements and covenants provide a legal basis for enforcing desired project outcomes that give rise to the carbon offsets.	More so. Requires clear assignment of obligations.
	<b>CONTRACTS AND STATEMENTS OF INTENT</b> – Contractual terms defining a minimum time period that the sequestered and stored CO2 (or avoided emissions) as a result of the project will be maintained and not reversed. This category also includes general (often non-binding) statements of intent that the offsets provided by the project will be maintained for considerable time period so as to fulfill permanence. This approach also addresses at <u>project reliability</u> to maintain the carbon dioxide emission offsets over the desired length of time.	More so. Avoids the legal complexity. Statements of good faith and intent.	Neutral. Especially when combined with sustainable forest management certification.	Less so for letters of intent as these agreements do not require offset measurement and verification. Less so for simple contract that do not require measurement and verification of offsets.	Not applicable. Nothing in this approach to permanence precludes any particular carbon pool in the accounting.	Don't know.	Less so. This approach gets at reliability of the offset project, but legal lengths of contracts or easements are just set based on feel rather than tied to atmospheric science.	More so for contracts that are legally binding. Less so for Statements of Intent because these statements are good faith statements that are not enforceable.	More so. Requires clear assignment of obligations.
	<b>RESERVE POOLS</b> – A percentage of the reportable carbon dioxide emission offsets from the project are not registered with the purchaser but instead held in reserve as a replacement pool for registered offsets that become reversed by natural disturbance or cessation of project activities that achieved the offsets. This approach addresses the biological aspects of reversibility and administrative/legal aspects of reliability by providing a source of unused offsets that can be drawn upon to replace offsets that are pre-maturely reversed back to the atmosphere - either due to natural disturbance or poor project maintenance.	Neutral. Less so if for an individual project or a small entity provider as the reserve pool does add complexity to project carbon accounting. More so if the entity is large enough to self-manage the reserve pool.	Neutral. Equal applicability to both sequestration type projects versus carbon stock maintenance projects.	More so. Reserve pools will need to be measured.	More so. Concept requires inclusiveness of the long-term carbon pools subject to reversibility.	More so. An emerging standard is a 20% reserve pool, that is 20% of the reportable offsets are held in reserve.	More so. Embraces the idea that nothing is permanent and that replacement of offsets due to unforeseen events is a prudent business practice.	More so. Usually there are known and enforceable provisions that trigger the need to provide replacement offsets from the reserve pool.	Unknown. To be successful, requires clear assignment of obligations.
	<b>RENTING/RETIREMENT</b> – Allows <u>project reversibility</u> of the project's carbon offsets at the end of the commitment period as long as: 1) commitment periods are continually renewed, 2) the amount reversed is further offset by a replacement project implemented over the next period, and 3) there is oversight (i.e., landlord) to ensure replacement projects are not counted toward further CO2 reduction goals for the next period. .	Less so. Lots of moving parts.	Favors sequestration projects since what is being rented is the removal capacity of the project.	More so. Amount of reversed carbon will need to be known so it can be replaced.	Not applicable. Nothing in this approach to permanence precludes any particular carbon pool in the accounting.	Don't know.	Unknown. The problem is what happens after the rental period. Even if the reversed offsets are replaced, the periodic releases may be worse than had the carbon just stayed sequestered.	Should be. For permanence to be achieved, there needs to be a landlord ensuring reporting (i.e., rental) periods are renewed and that reversed offsets at the end of the rental agreement are replaced.	Unknown. To be successful, requires clear assignment of obligations.
	<b>END PERIOD FORECASTING</b> – Carbon dioxide emission offsets (achieved through sequestration and storage or through emissions avoided) are credited based on a forecast of the expected offsets through the end of the contractual period that achieves permanence. Gets at <u>reversibility</u> aspects of the project.	More so. Gets directly at the issue by accounting for the reversibility itself and incorporating that into what gets credited.	Neutral. Keeps track of both sequestration (additions to carbon pools) and the reversibility of the carbon pool stocks themselves.	More so. Again, need to track the carbon stock to the end of the period.	More so. Concept requires inclusiveness of the long-term carbon pools subject to reversibility.	More so. Adopted in 1605(b) and Chicago Climate Exchange for wood products accounting.	More so. Conservative approach and reversibility is directly estimated and accounted for.	Less so. This is an accounting approach that recognizes and forecasts the long-term flow of offsets and then credits an conservative amount as an offset achieved up front.	Obligation likely with offset provider.
	<b>TRACKING CHANGES IN FOREST STOCKS OVER TIME</b> – Periodic inventory and reporting of changes in carbon stocks over the period chosen to achieve permanence. Monitoring and reporting changes in carbon stocks tells the story of how the progression of events and disturbances to the project affect the carbon stocks over time. Tracking changes in stocks should include effects on all carbon pools, both positive (unanticipated further project gains) and negative (project gains reversed). Gets at <u>biological reversibility</u> of project offsets.	Neutral. Consistent with base year/period approaches to baseline and additionality.	Favors sequestration in that projects that maintain carbon stocks will be reported more losses (reverses) than gains.	More so, by definition.	Not applicable. Nothing in this approach to permanence precludes any particular carbon pool in the accounting.	Don't know.	More so. Reversibility is directly estimated.	More so. This approach actually tracks the carbon stock changes over time and only credits the actual amount obtained at the end of the reporting period.	Obligation likely with offset provider.
	<b>SUSTAINABLE FOREST MANAGEMENT CERTIFICATION</b> – Projects must be hosted on forest lands that are third party certified (and subject to audit) as meeting specific requirements for sustainable forest management. Examples of third party certification schemes that are recognized are: Sustainable Forest Initiative, Forest Stewardship Council Certification, American Tree Farm Program and Green Tag Forestry (National Woodlands Owners Association). Gets at <u>reliability</u> of the project.	More so. Leverages existing certification programs. (The presumption is that the forestland that is the source of the carbon offsets is already certified.	Neutral. Equal applicability to both sequestration type projects versus carbon stock maintenance projects.	Not applicable.	Not applicable. Nothing in this approach to permanence precludes any particular carbon pool in the accounting.	More so. Tying projects to forest lands that are certified as sustainable is a popular idea.	Not applicable.	Less so. Certification programs audit members based on specific criteria. However, landowners can voluntarily opt out of certification programs at any time.	Obligation is with the offset provider.
	<b>INSURANCE INDEMNIFICATION</b> – Agreements with third party providers of replacement offsets from other sources in the event the project does not meet performance expectations or when offsets are pre-maturely reversed. Can be used to address either <u>biological reversibility</u> or reliability of offsets.	More so. Leverages offset providers that specialize in the banking of carbon offsets for the purposes of providing replacement offsets as a way to insure project performance expectations.	Neutral. Equal applicability to both sequestration type projects versus carbon stock maintenance projects.	Not applicable.	Not applicable. Nothing in this approach to permanence precludes any particular carbon pool in the accounting.	Don't know.	Not applicable.	More so. Usually there are known and enforceable provisions that trigger the need to provide replacement offsets through the insurance provider.	More so. Clear obligation of the third party to provide the replacement offsets in the event of poor project performance or reversibility occurs.