



American Carbon Registry

Forest Carbon

Project Standard v2.0

Environmental Markets Summit
New Orleans, April 25-27 2010





American Carbon Registry

- **First and largest U.S. private voluntary GHG registry**
 - **Founded in 1996 by Environmental Defense Fund and Environmental Resources Trust**
 - **Over 30 million tons issued to date**
 - **2008: most widely used voluntary registry in the world (*State of the Voluntary Carbon Market 2009*)**
- **Established system of transparent on-line reporting and serialization of verified project-based offsets – now the industry standard**
- **Joined Winrock International in 2007, expanding the Winrock team of climate change, forestry, clean energy, agriculture, biofuels and carbon market experts**



Issuance and Transaction Volumes through 2009

Metric tons CO₂-equivalent

Total Tradable ERTs	24,866,694
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Registry Activity			
	ERTs Issued	ERTs Retired	ERTs Traded
2009	2,928,335	395,867	1,579,658
2008	7,938,812	1,684,387	2,609,753
2007	5,847,510	423,432	1,570,477
2006	11,027,146	7,705	350,938
2005	2,580,358	369	3,000
Total	30,222,161	2,405,276	5,868,669



Carbon expertise

- **Internationally recognized team of carbon experts with over two decades of expertise in development of science-based standards and protocols for AFOLU**
 - Nobel prize winners for contribution to IPCC reports
- **In-house expertise in clean energy, methane capture, biofuels, agriculture practices, nitrogen management, land use change, AR, IFM, REDD**
- **Work with electric utilities, EPRI, UtiliTree, PowerTree etc. in Lower Mississippi Valley afforestation**
- **Terrestrial component of USDOE Regional Carbon Sequestration Partnerships – West Coast and Southeast**



Representative Clients

- **US Environmental Protection Agency (EPA)**
- **US Department of Agriculture (USDA)**
- **USDA Forest Service (USFS)**
- **US Agency for International Development (USAID)**
- **World Bank**
- **United Nations**
- **International Tropical Timber Organization**
- **Intergovernmental Panel on Climate Change**
- **Clean Development Mechanism (CDM)**
- **Electric Power Research Institute (EPRI)**
- **Climate, Community and Biodiversity Alliance (CCBA)**
- **Regional Greenhouse Gas Initiative (RGGI)**
- **Voluntary Carbon Standard (VCS)**
- **California Climate Action Registry (CCAR)**
- **The Nature Conservancy**
- **Wildlife Conservation Society**
- **Conservation International**
- **World Wildlife Fund (WWF)**
- **American Land Conservancy**
- **Environmental Defense Fund**
- **American Electric Power**
- **Entergy**
- **Duke Energy**
- **Xcel Energy**
- **Shell Energy**
- **Google**
- **Bloomberg**
- **Nike**
- **Newscorp**
- **Wal-Mart**



Registered Project Types

- Forest carbon (in pipeline): afforestation / reforestation, improved forest management, U.S. avoided conversion, international REDD
- Various agricultural and rangeland activities (in pipeline)
- Livestock manure management
- Landfill gas
- CCS / Enhanced oil recovery
- Fuel switching
- Industrial gas substitution
- Truck stop idling
- Fugitive methane in oil & gas production, processing, transmission





What offset types may/shall be eligible for compliance? (Stabenow)

- Projects that reduce, flare or use methane:
 - **Methane from mines, landfills, natural gas**
 - **Reduce fugitive emissions in oil & gas**
 - **Manure management, anaerobic digestion, waste aeration**
- Projects that reduce CO₂ emissions or increase sequestration in agriculture, livestock, forestry, land use:
 - **Afforestation/reforestation, improved forest management, reduced deforestation, urban forestry**
 - **Agricultural, grassland, and rangeland sequestration and management**
 - **Avoided conversion of grassland/rangeland/forest**
 - **Management/restoration of peatlands and wetlands**
 - Conservation of marine coastal habitats
 - **N₂O emission reduction (fertilizer production and/or use)**
 - Biochar production and use
 - **Reduce GHG intensity of agricultural production**
- Recycling and waste minimization
- **Carbon Capture & Storage** (with or without enhanced oil recovery)
- **Destruction of ozone-depleting substances**
- Small off-grid renewable electricity
- Projects reducing the GHG intensity of agricultural production



Early action recognition

- ACR meets all Stabenow criteria for Qualified Early Offset Programs

Criteria ¹	ACR	CAR	CCX	EPA CL	Gold Std. ²	RGGI	VCS
1) Est. by "State or tribal law or regulation prior to 2009, or President approved"	½	✓	½	¾	½	✓	½
2) Offset project type standards developed via public consultation or peer-review	✓	✓	✓	✓	✓	✓	✓
3) Publicly published standards adherent to core offset principles	✓	✓	✓	✓	✓	✓	✓
4) Verification by state regulatory agency or accredited third-party	✓	✓	✓	✓	✓	✓	✓
5) Publicly available registry displays serialised issued credits	✓	✓	X	X	✓	✓	✓
Risk eligibility rating score (by Kerry-Boxer only)	90%	100%	70%	75%	90%	100%	90%
6) Political support / Lobby power	¾	✓	✓	✓	X	✓	½
7) President discretionary power	✓	✓	✓	✓	✓	✓	✓
Risk eligibility rating score, incl. political variables (NEF view)	89%	100%	76%	82%	79%	100%	86%

Source: Bloomberg New Energy Finance
 Carbon Markets North America Analyst Reaction 16 April 2010



Key innovations in FCPS v2.0

- Getting to scale: providing flexibility for widespread market participation
 - *Goal:* maximize flexibility for all types and sizes of landowners to participate, without sacrificing quality (real, measurable, in excess of regulatory requirements and common practice, additional to business-as-usual, net of leakage, permanent, third-party verified, used only once)
- Fungibility: new approaches to risk mitigation and permanence
- Additionality: key issues for IFM projects



Flexibility: methodology choice

- Bottom-up and top-down
 - Use existing methodology (CDM, VCS, EPA)
 - Modify existing methodology
 - Propose new methodology
 - ACR-published methodologies
 - Efficient public consultation and peer review process – shortest time to market
- Once methodology accepted, ACR screens GHG Project Plan
- Third-party verification but no separate validation



Flexibility: project types

∅ Afforestation and reforestation

- afforestation of existing agricultural and rangeland
- afforestation of riparian zones
- afforestation of shelterbelts around fields and farms
- afforestation of abandoned mine lands
- reforestation after fire, insect or disease damage

∅ Forest management

- lengthen rotations
- intensify production (increase stocking, control competing vegetation, etc.)
- decrease production (decrease/stop timber production)
- increase sequestration in long-lived wood products

∅ REDD

- avoided conversion of forest to non-forest
- avoided deforestation and degradation
- clustered development

∅ Other

- Avoided conversion of peatlands or wetlands
- Urban forestry





Flexibility: land ownership

- All land ownership types – private, public (municipal, county, state, federal, or other), and Tribal – potentially eligible
- Project Proponent must demonstrate land is eligible, document clear land title and offsets title, show project activity is additional and meets all other requirements of the *ACR Standard* and *Forest Carbon Project Standard*
- Public lands projects (like all projects) must show activity not required by regulations



Flexibility: aggregation

- Key for transaction cost efficiencies (inventory, monitoring, verification, registration) and risk diversification
- Proponent (here aggregator) commits to minimum term and reversal risk mitigation
- For inventory and monitoring, precision targets applied at overall project level
 - $\pm 10\%$ of the mean at 90% confidence
 - Use stratification; does not require plots on every landholding
- Verification (reasonable assurance; $\pm 5\%$ materiality) also at project level
 - Risk-based approach and not all properties necessarily visited



Risk mitigation

- Permanence \neq minimum term
- Instead, effective mitigation of reversal risk (unintentional and intentional) provides fungibility for impermanent offsets with other offsets, allowances and emission reductions
- ACR does have a minimum term requirement – 40 years – for different reasons
 - Required of Project Proponent, not necessarily of landowner
- Unintentional and intentional reversals mitigated via buffer



Risk assessment

- Assess general and project-specific risk factors; translates into overall risk category and buffer percentage
 - Re-assessed every five years; risk and associated buffer may go up or down
 - Buffer refunded 5% every five years if no reversals



Risk mitigation

- Buffer contribution
 - From project itself
 - ERTs of any other type and vintage
- Unintentional reversal:
 - Proponent pays “deductible”; ACR retires buffer tons for remainder
 - Premium goes up
- Intentional reversal (“buy-out option”):
 - Proponent replace all issued ERTs for that portion of project
- Alternate risk mitigation options accepted (insurance)



Additionality

- Three-prong (project level) test
 - Regulatory surplus
 - Exceeds common practice for region and forest type
 - Faces at least one implementation barrier (financial, technological, institutional)
 - All last for duration of the applicable crediting period
- Regulatory surplus plus exceeds applicable performance standard



Three-prong 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><i>Financial</i></p> <p>Does the project face capital constraints that carbon revenues can potentially address; <u>or</u> is carbon funding reasonably expected to incentivize the project's implementation; <u>or</u> 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><i>Technological</i></p> <p>Does the project face significant technological barriers such as R&D deployment risk, uncorrected market failures, lack of trained personnel and supporting infrastructure for technology implementation, or lack of knowledge on practice/activity, and are carbon market incentives a key element in overcoming these barriers?</p> <p>Yes = Pass; No = Fail</p>
	<p><i>Institutional</i></p> <p>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>	

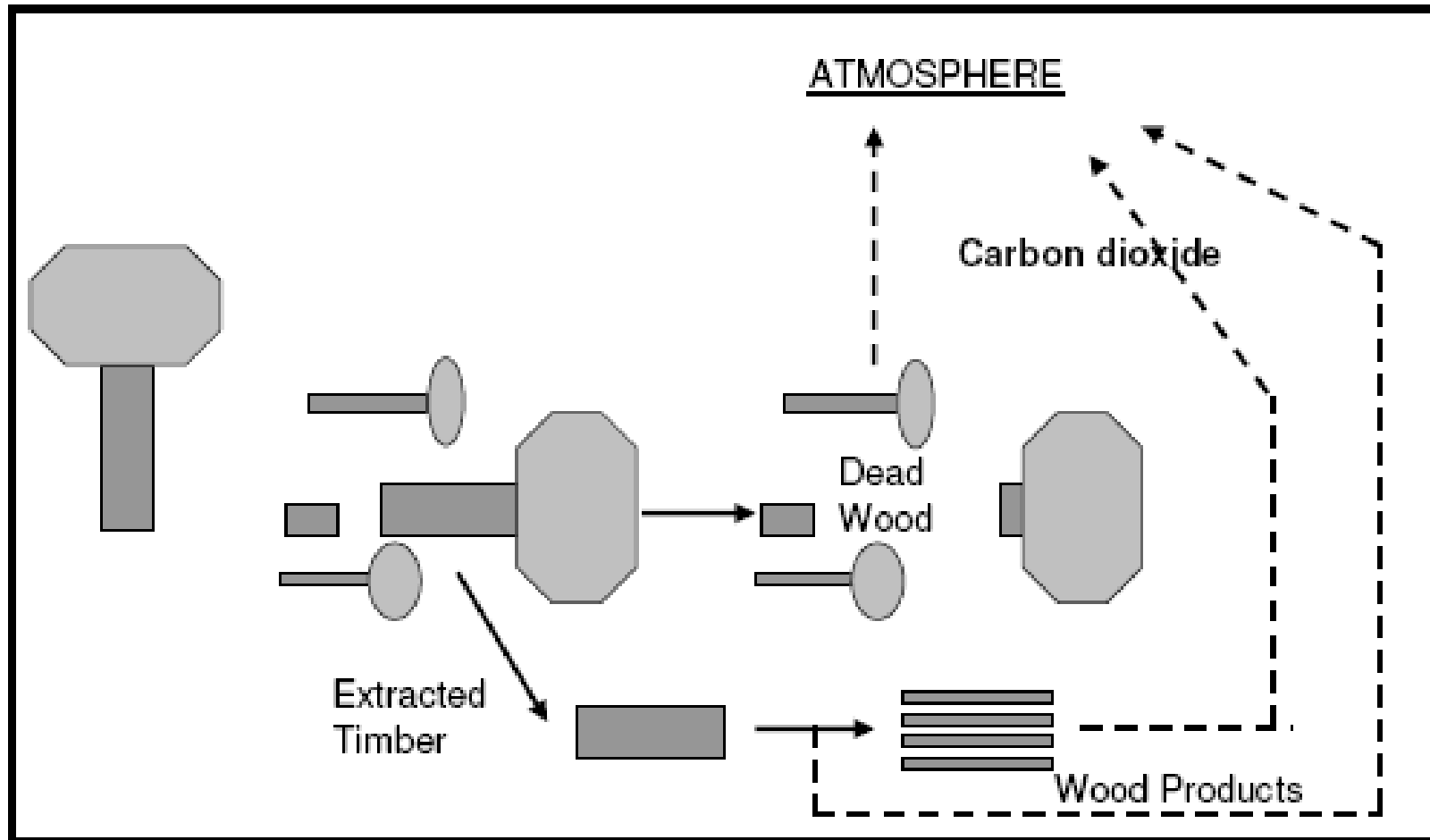


Three-prong test (Star Wars format)

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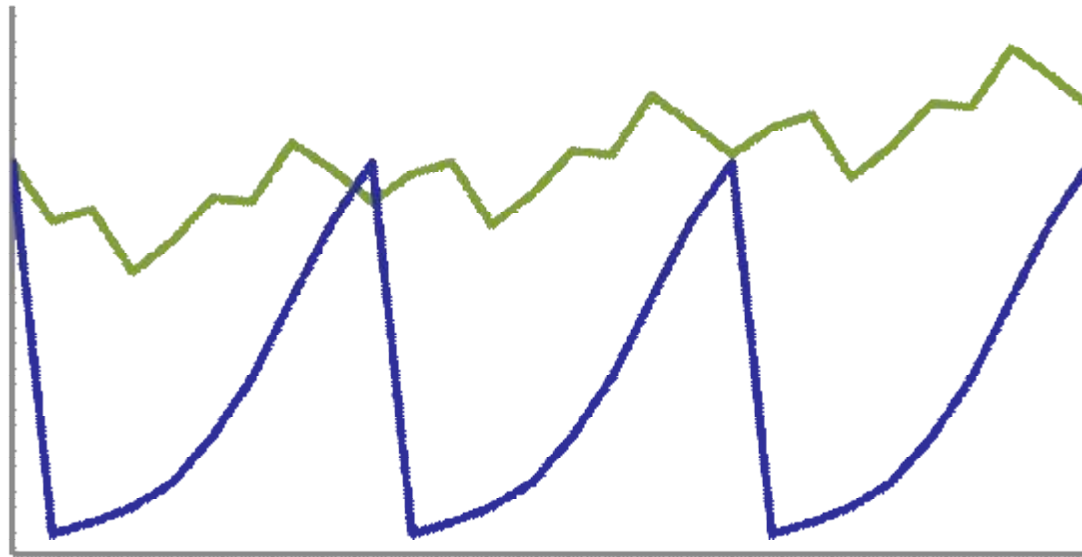
Improved Forest Management





Project-specific IFM baseline

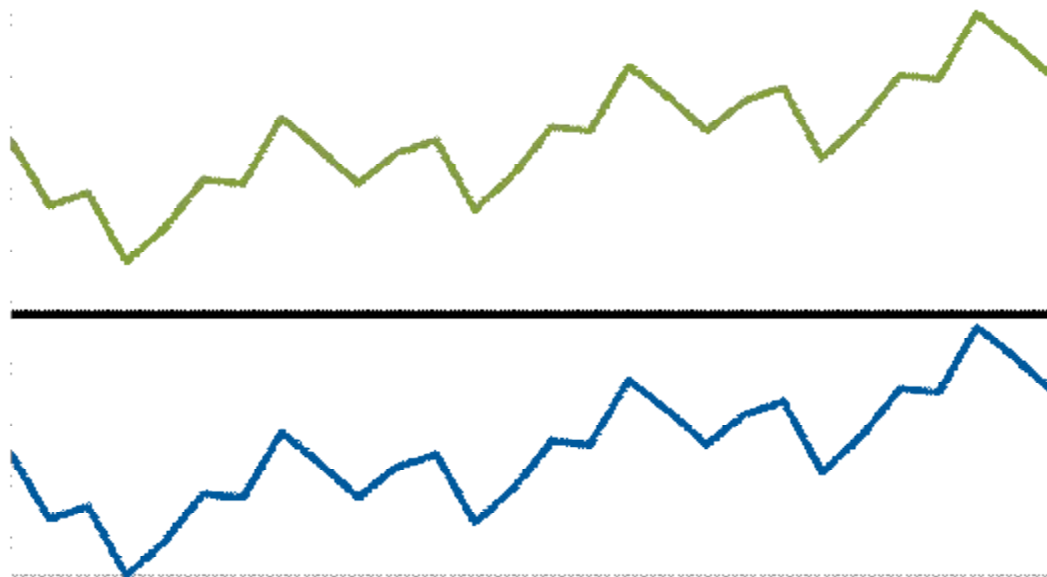
Project-specific approach open to interpretation and gaming





IFM Performance Standard

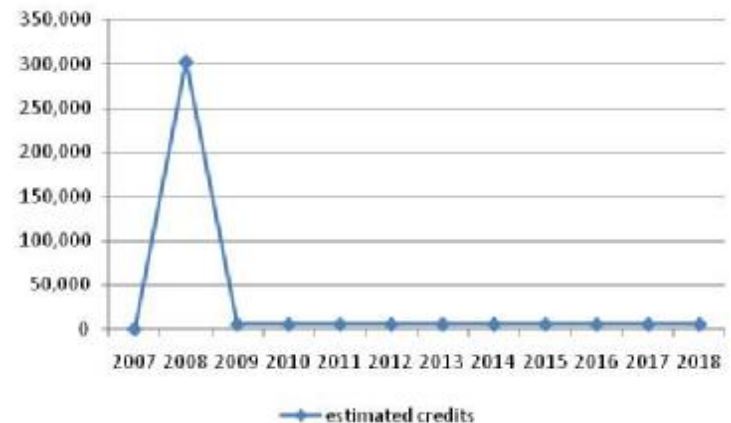
Simple performance standard based on stocks will lead to over-crediting





Additionality: IFM performance standards

- Approaches to date have been flawed
 - Credit all growth relative to base-year
 - Credit carbon stocks exceeding a regionally defined (e.g. FIA) average stocking level
- Large “bump” of up-front credits with no benefit to atmosphere
- Over-crediting without under-crediting to balance
- May or may not require change in practice from business-as-usual





New IFM performance standard approaches

- Based on rates of net sequestration and emissions
- Baseline is emissions intensity per unit output (e.g. per unit harvested wood products), similar to a conventional performance standard
 - Defined regionally and updated periodically
- Project performance is measured and compared to performance standard baseline each year
- Credit only the reduction in emissions intensity vs. baseline



Production-based Performance Standard

- Tons of emission/sequestration per cubic foot or MBF of timber removal
- Based on analyses of USFS FIA data and USFS default data on wood products
- For all privately owned timberlands divided by region and forest type
- Emissions from logging slash, mill inefficiencies, wood product retirement
- Sequestration across all timberlands with and without harvest



Further Information

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