Designing and Implementing a High Quality GHG Offset Program

House Energy & Commerce Committee Hearing Room
Washington, DC
June 26, 2009
Agenda

9:30  Ensuring Offset Quality and Integrity
10:00 Role and Function of Offsets in Cap & Trade
10:30 Overview of the Climate Action Reserve
11:00 Adjourn
What is an Offset?

• An offset represents a reduction, avoidance, or removal (sequestration) of one metric ton of carbon dioxide equivalent emissions resulting from a specific project activity that is used to compensate for an equivalent emission occurring elsewhere.

• It is intangible, so its existence is determined by its ability to satisfy definitional tests.

• The Big 5 Tests:
  – *Real, Permanent, Additional, Verifiable, Enforceable*
Describing the Big Five

- **Real**: Quantified emissions reductions must have actually occurred (not be projected to occur) and are not merely artifacts of incomplete or inaccurate accounting.

- **Permanent**: Reductions (or removals, in the case of sequestration) should be permanently removed from the atmosphere, and/or be backed by replacement mechanisms if they are re-emitted to the atmosphere (i.e., are “reversed”).
Describing the Big Five

• **Additional:** Reductions should be the result of a response to the existence of a market for such reductions; that is, they should not be reductions that would have happened anyway (aka “surplus”).
  – Not required by regulation and not part of a capped sector.

• **Verifiable:** Reductions should result from projects that can be accurately monitored and verified.

• **Enforceable:** Reductions should be supported by legal instruments that define their creation, provide for transparency, and ensure exclusive ownership.
Standards for Defining Offsets

- **Accounting Standards: Real, Permanent, Additional**
  - Detailed protocols for quantifying baselines, boundaries, emissions reductions, establishing thresholds for determining additionality, addressing leakage and permanency.

- **Procedural/Technical Standards: Verifiable**
  - Methods for the validation, monitoring, and verification of offset projects, as well as the certification and crediting of GHG reductions.

- **Contractual Standards: Enforceable**
  - Requirements for the establishment and transfer of property rights related to offsets, for information disclosure, and can include terms for addressing contractual violations.
In Summary: What Makes a Good Offset?

- It occurs outside of any regulatory requirement (incl. outside capped sector).
- It would not have occurred save for the incentive provided by a GHG market.
- It can be accurately measured.
- It can be independently verified.
- Its ownership is undisputed.
- It is permanent.
Offsets in Cap and Trade

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CLIMATE ACTION RESERVE BRIEFING

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PEW CENTER ON GLOBAL CLIMATE CHANGE
JUNE 26, 2009
Established in 1998 as an independent, non-partisan climate organization

Three-fold structure – a “do” tank:

1) Research – Over 100 major reports over 10 years

2) Actively advise on policy – state, federal, international
   • Mission is the enactment cap-and-trade climate legislation in the United States that is both environmentally effective and works for business, and an international treaty that is meaningful but fair.

3) Business Environmental Leadership Council (BELC)
OFFSET QUALITY INITIATIVE

A partnership promoting effective greenhouse gas offset policy
"We are committed to a pathway that will slow, stop and reverse the growth of U.S. emissions while expanding the U.S. economy."
WHAT IS AN OFFSET?

- **Definition:** An offset is the reduction, removal or avoidance of emissions from a specific project that is used to compensate for emissions occurring elsewhere.

- **Purpose:** The purpose of offsets is the achievement of a real and verifiable reduction in GHG emissions beyond what would have otherwise occurred (such that it is equally effective as onsite emission reductions by regulated entities).

- **In a cap-and-trade system:** Offsets are generated by projects in sectors outside an emissions cap, and purchased by capped sectors to meet compliance obligations.
<table>
<thead>
<tr>
<th>OFFSET QUALITY CRITERIA IN LEGISLATION</th>
<th>L-W</th>
<th>D-B</th>
<th>W-M</th>
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<tbody>
<tr>
<td>Real</td>
<td>✔</td>
<td>✔</td>
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<tr>
<td>Additional</td>
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<td>Based on a realistic baseline</td>
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<td>Quantified and monitored</td>
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<td>Independently verified</td>
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<td>Unambiguously owned</td>
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<td>Address leakage</td>
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<tr>
<td>Address permanence</td>
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<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Do no harm</td>
<td>✔</td>
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• Offsets drive emission reductions in uncapped sectors
• Deliver emission reductions at the start of program
• Motivate new technology in sectors not capped
• Offsets incentivize technology transfer to developing countries
• Builds capacity and political support for climate change mitigation in developing countries
• Provide significant cost containment: offsets can dramatically lower costs of cap & trade
Latest EPA modeling of Waxman-Markey has demonstrated the importance of offsets:

• Excluding the use of international offsets raised the price of allowances by 89%

• EPA did not run an scenario without any offsets, but when they did with Lieberman-Warner, that price of allowances were twice as high as the scenario ex-international

• The more offsets are allowed, the lower the overall cost

• As the cap becomes more stringent over time, offsets continue to be important as a cost containment mechanism
There are three basic project categories:

1. Direct emission reductions
2. Indirect emission reductions
3. Biological sequestration
DIRECT EMISSION REDUCTIONS

• Emission reductions occur at project site

• Direct projects are the easiest because:
  – Clear boundaries
  – Easily quantifiable
  – Clear ownership
  – Little risk of double counting

• Examples:
  – Methane capture
  – Industrial operational improvement
INDIRECT EMISSION REDUCTIONS

• Reductions occur at a location other than project site
• Includes renewable energy and energy efficiency projects
• Not generally recommended for cap-and-trade policy
  – Additionality concerns
  – Boundaries unclear
  – Ownership uncertain
  – Risk of double counting
• These projects should be supported through other funding policy and mechanisms

Renewable Energy

Energy Efficiency
• An activity that removes and stores CO₂ or other GHGs from atmosphere or avoids the release of stored carbon into the atmosphere:

  – Cultivation of new forests or grasslands
  – Changes in farming practices
  – Reduction of soil disturbance in agriculture (no till)
  – Avoided deforestation
SEQUESTRATION CONSIDERATIONS

• Baseline establishment
  – Much more complex for biological than technology-based projects

• Permanence
  – Biological and geological sequestration can be reversed

• Leakage
  – Increase in emissions outside a project’s boundary due to project

• Range of policy options emerging to address these considerations
  – Insurance and bonding mechanisms, buffer accounts
  – Land use covenants, easements and long-term leases
  – National baselines for avoided deforestation
Advantages of a positive list
- Clear signal to developers
- Encourages early action

Potential project types:
- Biodigesters
- Coal mine methane
- Landfill gas
- Afforestation
- Reforestation
- Fuel switching (depends on the cap)
• Types of Offset Projects?
• Type of assessment methodology?
• Quantitative limits?
• Geographic limits (e.g., U.S.-only, North America-only)?
• Which agency (or agencies) should manage?
• Start-date/Time line?
A FEW RECOMMENDATIONS

- One agency, or if multiple agencies, a strong coordination role for consistency
- Positive List—should include & should consider
- Start date for project eligibility
- Leave very detailed specifics to agencies (will need to adjust over time)
- Pre-legislation action could include:
  - Methodologies & Protocols (EPA and USDA)
  - System for Validation/Monitoring/Verification
  - Certification/Accreditation system for verifiers
  - Registry for Tracking
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Implementing a High Quality Offset Program:
The Experience of the Climate Action Reserve

Gary Gero
Climate Action Reserve

- Project offsets registry that sets high quality standards, oversees verification, and registers and tracks carbon offset projects in the U.S.
- Ensures environmental benefits of offsets while upholding integrity and financial value
- National successor organization to the California Climate Action Registry
- Until now, U.S.-based projects only
  - Expanding to Mexico and Canada
Elements of the Reserve: *Performance Standards*

- Why a performance standard is different
  - The hard work is upfront
  - Assess industry practice as a whole, rather than individual project activities
- Less subjective determination to qualify
- More certainty in amount of credits
- Lower risk for developers
- Administrative efficiency/scalability
Protocol Development Process

1. Literature review
2. Scoping/kick-off meeting
3. Multi-stakeholder workgroup formation
4. Draft protocol to workgroup
5. Revised draft released for public comment
6. Public workshop
7. Solicit public comments and respond
8. Adoption by Climate Action Reserve Board in public session
9. Possible adoption by California Air Resources Board or other government bodies
Elements of the Reserve: 

Transparency

• Unparalleled transparency makes the Reserve unique

• Public reports include:
  – All protocols
  – List of all account holders
  – List of all projects and all project documents
  – List of all issued CRTs for every project
  – All retired CRTs
Elements of the Reserve: *Separation of Roles*

- Reserve develops protocols but does not fund or develop projects
- Does not take ownership of offsets
- Is not an exchange
- Independent third-party verification
  - Consistent with international standards
  - Accreditation done by ANSI
  - Conflict of interest analysis on every project
  - Assiduous oversight of verifiers
Distinguishing the Reserve: Recognition

Recognized and supported by:

- California Air Resources Board
- State of Pennsylvania
- Voluntary Carbon Standard (VCS)
- Leading environmental organizations
  - Natural Resources Defense Council (NRDC)
  - Sierra Club
  - Environmental Defense Fund (EDF)
Existing Protocols

• Forest
  – Conservation-Based Forest Management
  – Reforestation
  – Avoided Conversion (Deforestation)
• Landfill Gas Capture & Destruction
• Livestock Waste Management (agricultural methane capture and destruction)
• Urban Forest
Protocols Under Development

• Forest Update (July 2009)
• Landfill and Livestock for Mexico (July 2009)
• Coal Mine Methane (October 2009)
• Organic Waste Diversion (October 2009)
• Industrial Gases and Ozone Depleting Substances (December 2009)
• Agricultural Practices (2010)
Verification

- The Reserve trains, accredits and oversees verifiers
  - Working with ANSI to ensure compliance with ISO
- Developer selects an accredited verifier
- The Reserve reviews conflict of interest
- Developer hires verifier
  - Verifier makes determination how many tonnes of reduction have taken place
  - Project documents, verification report and verification opinion submitted to and approved by the Reserve
Registry System

- Unique serial number for every CRT
  - Embeds information on location, vintage, project type
  - Allows transaction tracking, transfer, and retirement

- Open, publicly accessible web-based system
  - 24/7 operations, help-line

- System architecture is highly functional and scalable
  - Successfully launched in May 2008
  - Can accommodate growing numbers of users, protocols, transactions, and projects without any interruptions

- System Security
  - Fully documented audit trail of all activity within system
Reserve Statistics

• Reserve launched: May 2008
• Account holders: 105
• Projects: 72
  – 8 Registered
  – 43 Listed
  – 21 Submitted
  – 26 states
• CRTs issued: 1,321,571
• Recent average price: $6.10/ton
  – According to *New Carbon Finance, Voluntary Carbon Index*, May 2009