Workshop Agenda

1:00 PM   Welcome and Introductions

1:15   Introduction to the Reserve and California Cap-and-Trade

Scott Hernandez, Climate Action Reserve

1:45   Compliance Offsets and the Role the Reserve as an Accredited Offset Project Registry

Joel Levin, Climate Action Reserve

2:30   Coffee and Networking Break

2:45   Overview of Cap-and-Trade Market: Current and Future Pricing of Allowances and Offsets

Jackie Ferlita, Element Markets, LLC

3:30   Question & Answer

4:00   Conclusion of Workshop
Legal Disclaimer

Some of the content of this presentation is based on the Climate Action Reserve’s understanding of the California Cap and Trade Regulation. As the implementation of the Regulation is the responsibility of the California Air Resources Board, you should be aware that anything presented here may be interpreted or applied differently by the Board.

Moreover, this presentation does not constitute legal advice. Information presented here should be regarded as guidance and does not have a legally binding effect.
Background

• Chartered by California law in 2001 at the California Climate Action Registry
  – Previously known as California Climate Action Registry
  – Mission is to encourage voluntary actions to reduce emissions and to have such emissions reductions recognized

• In 2008, renamed and changed focus to creating a North American carbon offsets program

• Balances business, government, and environmental interests
The Reserve: Who We Are and What We Do

• Accredited offset project registry (OPR) under the California Cap-and-Trade Program
  – Mission: to promote the reduction of greenhouse gas emissions by pioneering credible market-based policies and solutions

• Serve compliance and voluntary carbon markets

• Reputation for integrity and experience in providing best-in-class registry services for voluntary and compliance offset markets
Board of Directors

- Linda Adams, California EPA (ret.) - Chairman of the Board
- Peter Miller, NRDC – Board Secretary
- Jeff Kightlinger, Metropolitan Water District – Board Treasurer
- Randy Armstrong, Shell Oil Company
- Steve Corneli, NRG Energy
- Cynthia Cory, California Farm Bureau Federation
- Dr. Francisco Barnes, National Institute of Ecology (Mexico)
- Peter Liu, New Resource Bank
- James Mack, British Columbia Ministry of Environment (Canada)
- Betsy Moler, Federal Energy Regulatory Commission (ret.)
- Tim Profeta, Nicholas Institute at Duke University
- Jan Schori, Sacramento Municipal Utility District (ret.)
- Stephan Schwartzman, Environmental Defense Fund
- Jason Clay, World Wildlife Fund (WWF)
Objectives of the Reserve

- Encourage actions to reduce greenhouse gas emissions
- Show that carbon offsets can be a useful tool in addressing climate change
- Model an offset program that has environmental integrity but is not burdensome to use
- Create value for the North American carbon market
- Provide technical resources on offset standards and policy
Serving Multiple Markets

Compliance Market:
- Compliance buyers under California’s Cap-and-Trade
- CEQA compliance

Voluntary Market:
- Voluntary corporate buyers
- LEED Certification (USGBC)
- Retail and individual buyers
Reserve Protocols

- Forestry (Reforestation, Improved Forest Management, Avoided Conversion)
- Urban Forestry
- Livestock Methane Capture
- Ozone Depleting Substances (US)
- Landfill Gas Capture
- Organic Waste Digestion
- Coal Mine Methane
- Nitric Acid Production
- Organic Waste Composting
- Rice Cultivation
- Nitrogen Management
- International: Mexico Livestock and Landfill; Article 5 ODS
Reserve Stats

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRTs registered</td>
<td>34.5 million</td>
</tr>
<tr>
<td>Compliance-Eligible CRTs</td>
<td>12.9 million</td>
</tr>
<tr>
<td>CRTs retired</td>
<td>5.8 million (~ 17%)</td>
</tr>
<tr>
<td>Account holders</td>
<td>349</td>
</tr>
<tr>
<td>Projects submitted</td>
<td>496</td>
</tr>
<tr>
<td>Registered</td>
<td>177</td>
</tr>
<tr>
<td>Completed</td>
<td>19</td>
</tr>
<tr>
<td>U.S. States with Projects</td>
<td>45</td>
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REGISTERED AND RETIRED CARBON OFFSETS IN THE CLIMATE ACTION RESERVE PROGRAM

From 2008 through February 2013, the Climate Action Reserve registered 32,876,824 Climate Reserve Tonnes (CRTs) and retired 5,728,871 CRTs.
California Cap-and-Trade

- State-wide cap on GHG emissions
- Program began Jan 1, 2013 and runs through 2020
  - Divided into three compliance periods
  - **Narrow Scope** for CP1: Large industrial emitters (power plants, refineries, cement plants, large manufacturers, etc.)
  - **Broad Scope**, beginning in 2015: 85% of economy-wide emissions
- Covered Entities must have compliance instruments equal to their emissions for each year
  - **Allowances**: most allocated at the beginning, but auctioned in future years; issuance reduced annually
  - **Offsets**: can be used in place of allowances for up to 8% of emissions
# California Carbon Market: 2013-2020

<table>
<thead>
<tr>
<th>Compliance Period</th>
<th>Year</th>
<th>Allowance Budget (mt CO₂e)*</th>
<th>Max Offset Demand (8%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>First</strong> (narrow scope)</td>
<td>2013</td>
<td>162,800,000</td>
<td>26,800,000</td>
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<tr>
<td></td>
<td>2014</td>
<td>159,700,000</td>
<td></td>
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<tr>
<td><strong>Second</strong> (broad scope)</td>
<td>2015</td>
<td>394,500,000</td>
<td>91,784,000</td>
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<tr>
<td></td>
<td>2016</td>
<td>382,400,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2017</td>
<td>370,400,000</td>
<td></td>
</tr>
<tr>
<td><strong>Third</strong> (broad Scope)</td>
<td>2018</td>
<td>358,300,000</td>
<td>83,104,000</td>
</tr>
<tr>
<td></td>
<td>2019</td>
<td>346,300,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2020</td>
<td>334,200,000</td>
<td></td>
</tr>
</tbody>
</table>

*Source: California Air Resources Board (CARB)*
Buyer Liability & Invalidation Risk

• CARB may find that an offset is invalid if
  – Amount of credits is overstated by more than 5%
  – Project is not in accordance with all local, state, and national environmental, health and safety regulations during reporting period
  – Credits have been issued by another program for the same period

• If found invalid, CARB will remove the offsets from the account where they are currently located, whether retired or active
  – Except forest projects, for which forest owner is required to replace any retired credits
Buyer Liability - Time Frame

CARB can find credits invalid within eight years, except for the following:

- For Livestock, Forest and Urban Forest, liability is only for three years if the project is verified by a different verifier within three years.

- For ODS*, liability is only three years if it is re-verified by a second verifier within that time.

*ODS projects have only a one-year crediting period
THE RESERVE’S ROLE IN CALIFORNIA CAP-AND-TRADE: OFFSET PROJECT REGISTRY
The Role of Offset Project Registries (OPRs)

- Climate Action Reserve is accredited by ARB as an Offset Project Registry (OPR)
- Registry for Early Action and Registry Offset projects and credits – CARB eligible offsets
- These credits cannot be used for compliance, but they can be converted to ARB Offset Credits, which can be used for compliance
- Only ARB has authority to issue ARB offset credits for compliance
Reserve’s Role as OPR

OPRs support ARB in the implementation of the cap and trade program by reviewing projects and issuing Early Action Offset Credits and Registry Offset Credits.

Provide Guidance on Protocols & Regulation
Listing projects
Conflict of Interest Assessment
Review of Verification Documents
Issuance of ROCs
Project Audits

“Registry Services”
Early Action Offset Credit Process

- Issued CRTs under early action offset protocol
- List project with ARB and undergo regulatory verification
- ARB makes determination if EAOCs meet the requirements of the Regulation
- ARBOCs issued for reports that pass regulatory verification
Overview of Process for the Issuance of ARBOCs

1. OPO/APD submits project for listing with OPR
2. OPO/APD conducts project reporting and monitoring
3. OPR reviews conflict of interest assessment and project undergoes verification
4. OPR reviews verification documents and approves project, ROCs issued
5. ARB reviews project documentation
6. ARB issues ARBOCs
A GUIDE TO COMPLIANCE OFFSET PROJECT TYPES: FOREST, ODS, LIVESTOCK
Forest Offset Projects – Key Elements

• Applies Throughout the United States
  • Both Private and Public Lands (excludes federal)

• Three Project Types:
  • Reforestation
  • Improved Forest Management
  • Avoided Conversion

• Standardized Accounting Methods
• Requirement for Permanence
• Sustainability Requirements
Forest Offset Project Types

• **Reforestation**
  – Less than 10% canopy cover for at least 10 years, or following a significant natural disturbance that has removed at least 20% of the trees

• **Avoided Conversion**
  – Remove threat of conversion to non-forest use and ensure continued forest cover by conservation easement or dedication to a government agency

• **Improved Forest Management**
  – Activities that increase forest-based sequestration and/or decrease emissions
Acreage of Listed & Registered Forest Projects

* Early Action Projects listed under CAR Forestry Protocol v3.2
Early Action Forest Project Statistics

Projects submitted: 95
Listed projects: 29
Registered projects: 18
Completed projects: 0
Total CRTs Registered: 5,465,299
COMPLIANCE OFFSET PROJECTS - LIVESTOCK
Project Definition

“installation of a biogas control system that captures and destroys methane gas from anaerobic manure treatment and/or storage facilities on livestock operations. The BCS must destroy methane gas that would otherwise have been emitted to the atmosphere in the absence of the project from uncontrolled anaerobic treatment and/or storage of manure.”
Livestock Projects - Emission Reductions Quantification

- Emission reductions are calculated twice: methane emissions are modeled and the amount of metered methane is quantified.
- BCS optimizes methane production, so baseline conditions must be modeled to avoid potential over-crediting.
Early Action Livestock Projects Statistics

Projects in progress: 108

Listed projects: 41

Registered projects: 35

Completed projects: 2

Total CRTs Registered: 994,459
Compliance Offsets – ODS Projects
ODS Project Definition

“...Any set of activities undertaken by a single Offset Project Developer or Authorized Project Designee resulting in the destruction of eligible ODS at a single qualifying destruction facility over a 12-month period”
ODS Projects – Key Elements

• All ODS must be destroyed at either:
  – A RCRA approved hazardous waste combustor, or
  – A facility that meets the guidelines in the TEAP (2002) Report of the Task Force on Destruction Technologies

• ODS material sourced from and destroyed in the U.S.
Eligible ODS - U.S.

- Refrigerant from industrial, commercial or residential equipment, systems and appliances or stockpiles

- **Refrigerant**
  - CFC-11
  - CFC-114
  - CFC-12
  - CFC-113
  - CFC-13
  - CFC-115

- ODS sourced from federal government installations/stockpiles is not eligible
THE CLIMATE ACTION RESERVE APPROACH: WHAT SETS US APART?
Does it matter where your offset credits come from?

- **YES!** In a system with buyer liability, compliance buyers need to understand what they are buying.
  - Buyers need to conduct due diligence on the verifier and the offset project registry.

- The Reserve is your advocate. The careful work of our staff in scrutinizing projects helps to protect buyers from invalidation risk later on.
Benefits of the Climate Action Reserve:

1. Meticulous oversight of projects

• The Climate Action Reserve is known for its careful scrutiny of every project in our system.
  – The care we take with every project reduces the oversight burden on buyers and the risk of invalidation.
Benefits of the Climate Action Reserve

2. Experience

• The Climate Action Reserve has been working on carbon accounting in California for over ten years.
  – We were created for this role by a state law in 2001.
  – Carbon accounting is all that we do.
  – We have reviewed 245 projects and issued more than 33million CRTs overall.
  – We have a team of 28 staff dedicated to this program.
  – We are insured against mis-issuance by our staff.
  – We have a well-established process for project review that minimizes delays.
3. Responsiveness

- We place a high priority on customer service
- Help desk for all questions available everyday 9-5pm
  - Response to all calls within one business day.
- Ten business day response time on all document submissions.
- Your project will be reviewed **promptly**, but **carefully**
Benefits of the Climate Action Reserve

4. We know the protocols and have the credits

- We wrote the documents that were the basis for all four of the CARB protocols.
- We have years of experience using them with real projects
  - We have reviewed 245 projects with these protocols
- We have issued more than 12 million compliance-eligible CRTs
  - ALL early action-eligible credits to date have been issued through the Reserve
5. Our goal is 100%

- We are striving for:
  - 100% of CRTs submitted to CARB are successfully converted to ARBOCs.
  - 100% of ROCs issued by the Reserve are successfully converted to ARBOCs.
  - 0% of ARBOCs from our projects are invalidated.

- That is what we are focused on!
QUESTIONS?
Future Workshops & Webinars

• **Webinars**:
  – *Guide to “Golden” Offsets* – May 2013
  – *Quebec Linkage* – June 2013
  – *Preparing for Your Desk Review: Forest Projects* – June 2013

• **Workshops**
  – California Compliance Offset Workshops:
    • April 16th, 9:00 A.M. to 11:30 A.M. San Francisco, CA
  – Forest Offsets Workshop
    • April 16th, 1:00 P.M. to 3:00 P.M. San Francisco, CA

Register at: [www.events.climateactionreserve.org](http://www.events.climateactionreserve.org)
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