

Climate Change: Challenge and Opportunity

C-AGG Meeting
Sacramento, CA
March 29, 2011



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Climate Change Impacts

- Drought
- Crop loss
- Reduced snow pack
- Increased temperatures
- Higher ozone levels



AB32: Global Warming Solutions Act

- Requires:
 - GHG emissions reductions: 1990 levels by 2020
 - Industry emissions reporting
 - Cost-effective measures
- Scoping Plan
 - Adopted December 2008
 - 16 of 21 measures adopted



Cap-and-Trade Program

- Starts 2012, state-wide limit on GHG emissions declines through 2020
- Capped sectors must reduce emissions over time
- Flexible compliance system relies on market mechanisms
 - Buy and trade allowances and offsets
 - Use the most cost-effective means to comply
- Drive innovation to achieve reductions

RESULT: lower overall cost of compliance⁴

Cap-and-Trade: Capped Sectors

- Included sectors:
 - Electricity generation, including imports
 - Large industrial facilities
 - Natural gas
 - Transportation fuels
 - Other fuels (e.g., propane)
- Agriculture is not a capped sector
 - Exception: food processing facilities

What Role Do Offsets Play in Cap-and-Trade?

- Spur emission reductions in sectors such as agriculture that are not covered by the program
- Reduce compliance costs for covered entities
- Encourage the spread of clean, low carbon technologies outside California
- Provide environmental, social and economic benefits

Requirements for Offsets

- A covered entity may cover no more than 8% of its emissions using offsets
- Reductions must meet AB 32 criteria
 - Real, additional, quantifiable, permanent, verifiable and enforceable
- Offsets must result from ARB Board approved compliance offset protocols

What Are Protocols?

- ARB compliance protocols must generate offsets that meet all AB 32 criteria (i.e. real, additional, quantifiable, permanent, verifiable and enforceable)
- Provide project eligibility requirements
- Methods to quantify, monitor, and report emission reductions or removals accurately and consistently

Requirements for Compliance Offset Protocols

- Offset protocols approved by the Board establish the following for the applicable project type:
 - Activity baselines and additionality
 - Project boundaries
 - GHGs reduced or sequestered within the offset project boundary

Compliance Offset Protocols

- Four ARB compliance offset protocols have been approved by the Board for use in the United States:
 - Livestock Manure (Digester) Project Protocol
 - Urban Forest Project Protocol
 - U.S. Ozone Depleting Substances Project Protocol
 - U.S. Forest Project Protocol
- Staff is looking at additional project types for developing compliance offset protocols

Agriculture Sector Offsets: Opportunities and Challenges

- Potential for sequestration and emission reductions
- Complex biological systems
- Diverse source types
- Life-cycle analysis complex
- Numerous variables to consider
- Risk of reversal for some potential project types

Cap-and-Trade Compliance Offsets

- Potential future opportunity for additional ag-sector offset protocol development
- Ongoing and future research on soil sequestration and fertilizer management



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