California State Senate
Select Committee on Environment, Economy, and Climate Change

Informational Hearing on AB 32 Market Mechanisms
Offsets: Opportunities and Risks

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What is a GHG Offset?

• **In General:**
  
  A verified reduction in greenhouse gas (GHG) emissions (or an increase in sequestration) that is used to mitigate for an emission elsewhere.

• **In a Regulatory Program:**
  
  An emissions permit that is equal to the verified GHG emission reduction.
  
  • Is valid to be used for compliance in accordance with the regulatory program rules.
  
  • May only be generated from sources that are not included within the capped sectors.
Offset Integrity

- **Real**
  - Can be measured to a high degree of accuracy
  - Is based on an activity that has occurred, not one that is projected to occur in the future

- **Additional**
  - Occurs outside of any regulatory requirement
  - Would not have occurred but for the incentive provided by a GHG market

- **Verifiable**
  - Can be (and has been) independently verified

- **Enforceable**
  - Ownership is undisputed and enforcement mechanisms exist to ensure all program rules are followed

- **Permanent**
  - Is removed from the atmosphere for a minimum of 100 years
Protocols Ensure Integrity

- **Example:** Forestry Project Protocol
  - *Real:* Detailed quantification methodologies that comprehensively account for sequestration and changes in GHG emissions
  - *Additional:* Benchmarks and eligibility requirements for ensuring additionality of project activities
  - *Verifiable:* Prescriptive monitoring and verification requirements
  - *Enforceable and Permanent:* Detailed requirements and enforceable legal contracts to ensure ownership and address reversals (impermanence)
  - *Co-Benefits:* Requirements for natural forest management
Opportunities and Risks

• Role and Benefits of Offsets
  – Provide economic efficiency, price pressure relief (if sufficient supply)
  – Obtain reductions at unregulated sectors and bring non-traditional sectors into the effort
  – Create positive co-benefits at offset project sites
  – Spur/demonstrate new technologies
  – Provide a common link among multiple programs

• Offset Concerns
  – Need to exclude ‘business as usual’ emission reductions
  – Market systems require effective regulation, oversight, and enforcement
Offset Program Administration

• **GHG Accounting for Offsets**
  - Screen protocol types based on availability of high-quality data for quantification and ‘business as usual’ determinations
  - Rely on objective performance-based standards to ensure consistency and reduce subjectivity
  - Employ conservative accounting to prevent over-crediting

• **Training, Accreditation, and Oversight of Verifiers**
  - Establish and maintain verifier competency
  - Conduct Quality Assurance tests on emission reduction reports

• **System Oversight**
  - Establish and enforce ownership
  - Provide and continually upgrade system security
ARB Approved Offset Protocols

• **Forestry**
  - Carbon sequestration in forests for a minimum of 100 years in three project types: reforestation, avoided conversion, and improved forest management

• **Urban Forestry**
  - Carbon sequestration through urban tree planting projects

• **Livestock**
  - Capture and destruction of methane from livestock manure using anaerobic digestion (biodigester) technology

• **Ozone Depleting Substances**
  - Collection and destruction of potent GHGs from appliances and foams from U.S. sources
Bottom Line

• Offsets are an important part of cap and trade programs and provide multiple benefits.

• Robust standards, rigorous program administration, and assiduous oversight ensure offset integrity.