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Carbon Markets: Offsets in the California Cap and Trade Program

Air & Waste Management Association
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Background and History



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- Nonprofit organization founded by state legislation in 2001 as the California Climate Action Registry
 - Encourage actions to reduce emissions
 - By developing protocols to track GHG emissions and reductions and having those emissions verified and publicly reported
- Renamed and expanded in 2008
 - Mission remains to encourage actions to reduce emissions
 - Focus is on certifying carbon offsets for use in regulatory and voluntary markets





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Objectives of the Reserve

- Ensure that emission reduction credits (offsets) have true environmental integrity
- Show that carbon offsets can be a useful tool in addressing climate change
- Provide a offset registry that is rigorous while streamlined and user-friendly
- Link carbon markets through consistency of accounting standards for emission reductions
- Provide expertise on offset standards and policy





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What We Do

1. Develop High Quality Standards

- Convene stakeholders and lead development of standardized protocols for carbon offset projects

(Real, Permanent, Additional)

2. Manage Independent Third Party Verification

- Training and oversight of independent verification bodies

(Verifiable)

3. Operate a Transparent Registry System

- Ensure ownership to emission reductions
- Maintain a public registry of approved projects
- Issue and track serialized credits generated by projects

(Enforceable)



Cap-and-Trade in California



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- AB32 passed in 2006
 - Reduce greenhouse gas emissions to 1990 levels by 2020
- Scoping Plan
 - Covers renewables, efficiency, motor vehicles, fuels, and other sources
- Final Cap-and-Trade Regulation Adopted by California Air Resources Board in October 2011
- Program Begins Jan. 1, 2012 and Goes to 2020
 - Covers 600 largest sources (350 companies)
 - Compliance obligation starts in 2013 for electric utilities and large industrial facilities; starts in 2015 for distributors of transportation, natural gas and other fuels
 - Auctions scheduled for Aug. and Dec. 2012

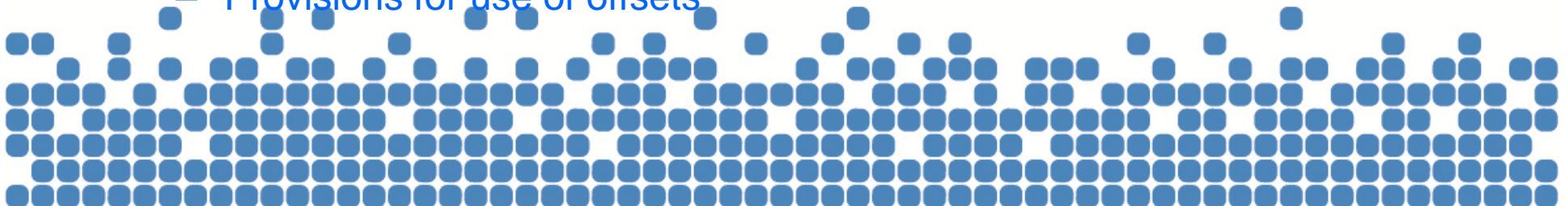


Allowance Distribution and Cost Containment Mechanisms



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- **Allowances Distribution**
 - Rules vary by source category
 - Allowances for each industrial sector to be set at about 90 percent of average emissions
 - Adjustments for trade exposed industries
 - Distribution of allowances updated annually
- **Cost Containment Mechanisms**
 - Three year compliance periods to smooth out obligation over multiple production years
 - Provisions for banking of allowances
 - Strategic reserve of allowances to help contain costs
 - Provisions for use of offsets





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Offset Provisions

- Offsets can only come from projects under an ARB-approved protocol
 - All projects must be located in the U.S.
- Project must be registered with an ARB-approved registry.
 - Climate Action Reserve will be an accredited registry.
- ARB has currently approved four Climate Action Reserve protocols for offset projects
- ARB plans to adopt additional protocols in 2012





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Offsets for Compliance

- Compliance obligation can be fulfilled with a mix of allowances and offsets
 - Up to 8% of compliance obligation can be fulfilled with offsets
 - Example: If your emissions are 1 million mtCO₂e, then you can use up to 80,000 offsets for that period
- Offset authority cannot be banked
- Provisions for offset invalidation
- Expected demand for offsets:
 - 25 million tonnes through 2014
 - 200 million tonnes through 2020

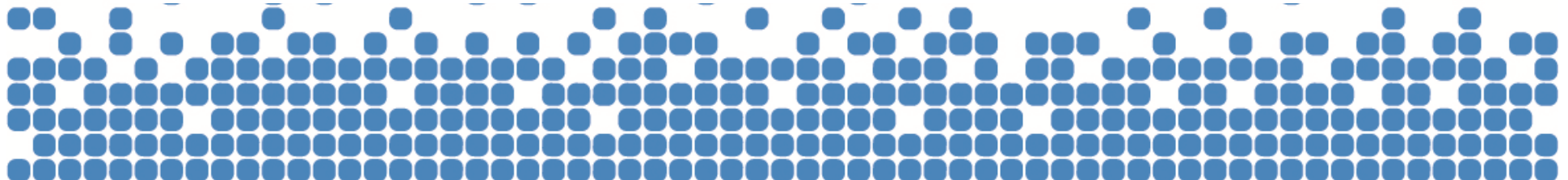
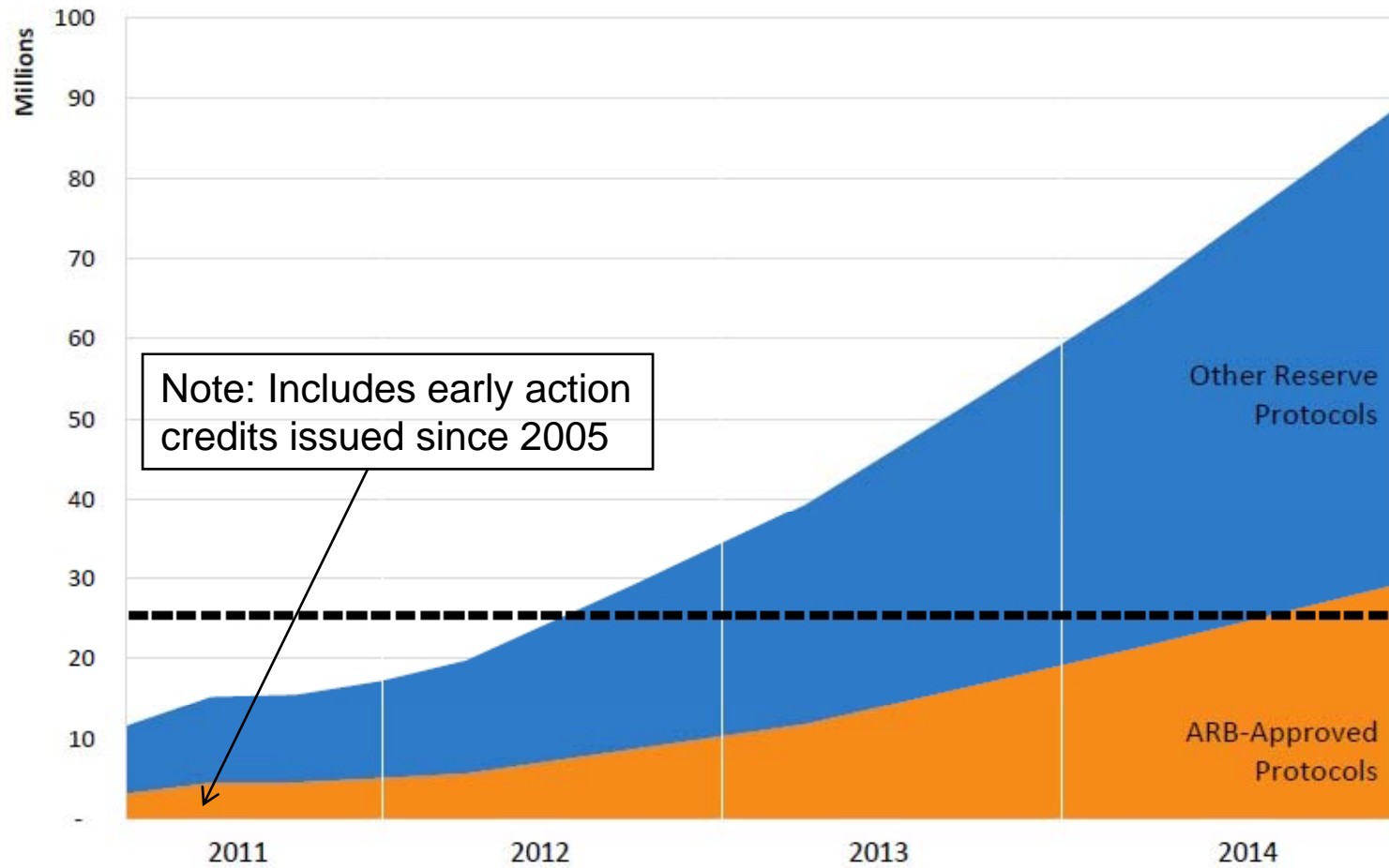


Projected Offset Supply

From Only the 4 ARB-Approved Reserve Protocols



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Existing Reserve Protocols



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- **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
- Livestock Methane Capture (Mexico)
- Landfill Gas Capture (Mexico)
- Ozone Depleting Substances (Article 5 Countries)

ARB Approved



Protocols in Development



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- Forestry Project Protocol (Mexico)
 - following a nested REDD+ approach
- Agriculture
 - Rice Cultivation
 - Nutrient Management
 - Cropland Management
- Others Under Consideration
 - Energy Efficiency and Renewables in Mexico
 - Adaptation to Canada

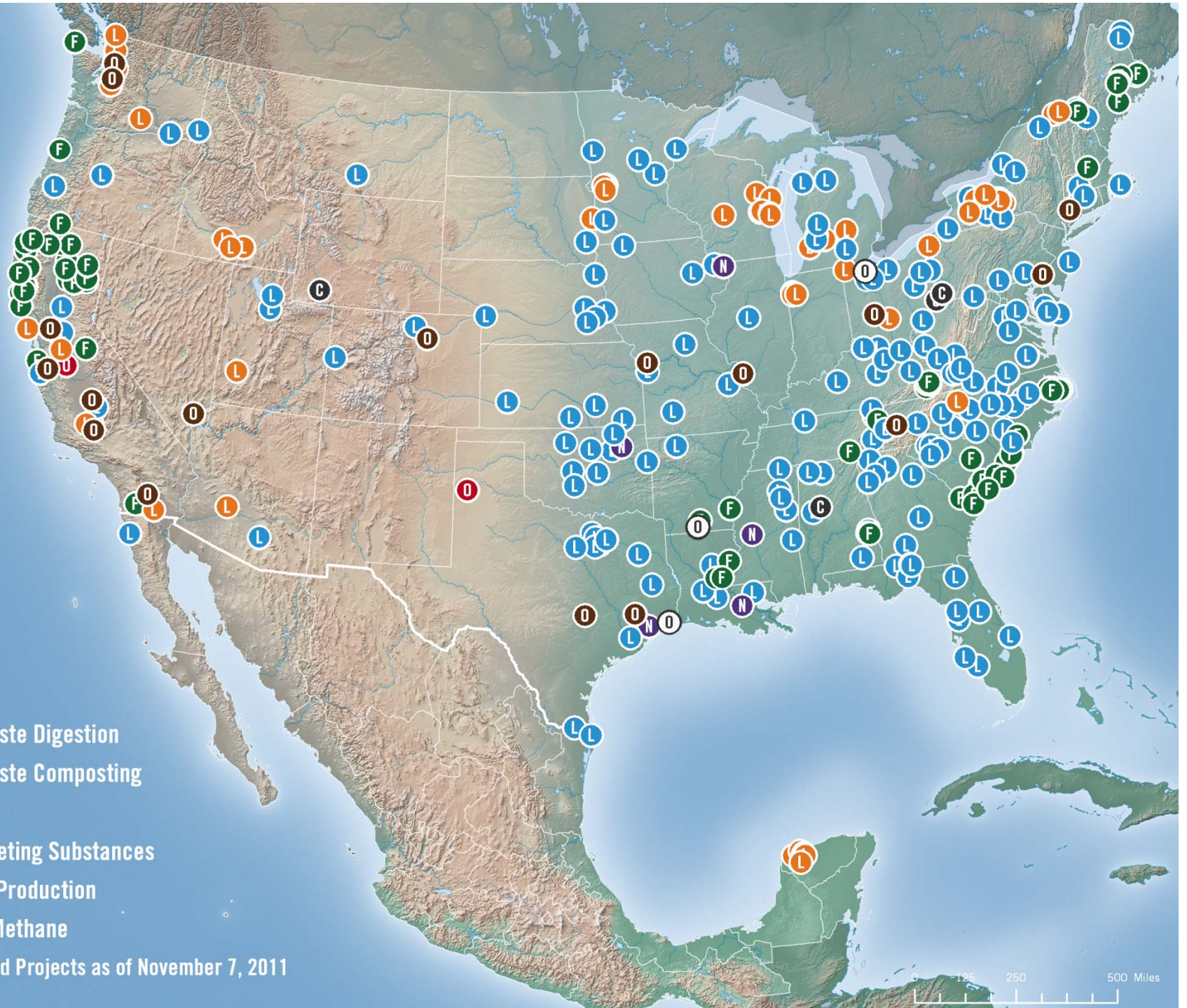




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- F** Forest
- L** Livestock
- O** Organic Waste Digestion
- O** Organic Waste Composting
- L** Landfill
- O** Ozone Depleting Substances
- N** Nitric Acid Production
- C** Coal Mine Methane

Listed & Registered Projects as of November 7, 2011



Western Climate Initiative



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- Linked trading program expected to launch in 2013
 - California, British Columbia, Quebec, and maybe Ontario
 - Allowances and offsets will be fungible among jurisdictions
- Offset Standards
 - Must meet WCI offset guidelines
 - Preference for standardized, performance-based approaches
 - Permanence defined as 100 years
 - Highest level of regulation within participating jurisdiction governs
 - Unclear on how to address buyer liability
 - Protocols to be approved by individual jurisdictions



Contact Information



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