California Global Warming Solutions Act of 2006

Proposed California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit

California Air Resources Board
December 6, 2007
Overview

- Statutory Requirement
- Proposed 1990 Emissions Level and 2020 Emissions Limit
- Development of the 1990 Emissions Level
- Preliminary 2020 Projections
- Issues and On-Going Efforts
Statutory Requirements

- ARB to determine 1990 greenhouse gas emissions level
- Requires use of best available scientific, technological, and economic information
- Approve a 2020 emissions limit equivalent to the 1990 level
California Global Warming Solutions Act of 2006 (AB 32)

- Sept 2006: AB 32 signed into legislation
- Publish list of early actions
- Mandatory Reporting Regulation
- 1990 Emissions Level: Approve 2020 Emission Limit
- Scoping Plan
- 2007: Adopt enforceable early action regulations
- 2008: GHG limits and measures adopted
- 2009: GHG limits and measures operative
- 2010: GHG limits and measures operative
- 2011: Reduce GHG emissions to 1990 levels
- 2012: Reduce GHG emissions to 80% below 1990 levels
- 2020: Reduce GHG emissions to 80% below 1990 levels
- 2050: Reduce GHG emissions to 80% below 1990 levels
Development of the 1990 Emissions Level
1990 Emissions Inventory

- Includes emissions of six Kyoto gases (CO2, CH4, N2O, PFCs, HFCs, and SF6)
- Expressed in carbon dioxide equivalents (CO2e)
- Uses IPCC Second Assessment Report Global Warming Potentials
- Includes estimate of statewide sinks (sequestered carbon)
Goals for Improving 1990 Estimate

- Began with CEC 1990 estimates
- Improved data inputs and estimation methods
- Consistency with International Guidelines for GHG inventories
**Improvements**

- Improved emissions estimation methods
- Used facility-specific data in some categories
- Updated data inputs
- Created online documentation
Focused on Key Sectors

Review focused on five key sectors (responsible for ~80% of 1990 emissions)

- Transportation
- Electricity Generation
- Industrial
- Forestry
- Agriculture
Stakeholder Input

- Five public workshops
- Nine technical meetings
- Additional follow-up meetings
- Input on data sources methods for estimating 1990 emissions
- Input on industry-specific changes over time
1990 Greenhouse Gas Emissions

- Residential: 7%
- Transportation: 35%
- Industrial: 24%
- Electricity Generation (In State): 11%
- Electricity Generation (Imports): 14%
- Commercial: 3%
- Agriculture: 5%

Source: ARB GHG Inventory November 16, 2007
1990 Level Includes

- All in-state emissions
- Forestry sinks (sequestration)
- Emissions from imported electricity
- Emissions from shipping in California waters and intrastate aviation
Not Included in 1990 Emissions Level

- Emissions from shipping outside California waters
- Emissions from international and interstate aviation
1990 greenhouse gas emissions limit is 427 million metric tonnes carbon dioxide equivalent (MMTCO2e)
Preliminary 2020 Projection

- Projected statewide emissions
- Difference between 2020 Projection and 2020 Limit determines emission reduction goal
- Projection of approximately 600 MMTCO2e will be refined in Scoping Plan
Power Sector Issues with 1990 Emissions Level

- Regional fuel mix assumptions for determining emissions from unspecified electricity imports
- Staff relied on CEC’s recommendations and findings
Ongoing Efforts

Forestry

- Working collaboratively with CalFIRE, USDA Forest Service and others to improve emissions and sinks estimates
- Part of Scoping Plan process

Landfills

- Regulatory process to address inventory improvement and credit issues
- Part of Early Action measures
Recommendation

Approve a 2020 greenhouse gas emissions limit of 427 million metric tonnes carbon dioxide equivalent (MMTCO2e)