2013 Update to AB 32 Scoping Plan
California Air Resources Board
June/July 2013
Scoping Plan Overview

2013 Update to AB 32 Scoping Plan

Mike Tollstrup
California Air Resources Board
Overview

• Assembly Bill 32 Objectives and Provisions
• Elements of the 2013 Scoping Plan Update
• 2013 Scoping Plan Update Schedule
• Progress toward 2020 Goal
• Inventory Update
• Post 2020 Activities
• Critical Focus Area Discussions
AB 32 Objectives

• Develop a balanced approach to address climate change
• Improve air quality and public health
• Provide a consistent policy approach to drive investment in clean technology
• Provide a model for future national and international climate change efforts
AB 32 Provisions

- Achieve 1990 emissions level by 2020
- Adopt greenhouse gas (GHG) emission reporting regulation
- Adopt discrete early action measures
- AB 32 Cost of Implementation Fee Regulation
- Collaborate with local, state and federal agencies, Western Climate Initiative, various advisory committees, and stakeholders
- Develop Scoping Plan and update it every five years
- Maintain and continue reductions in emissions of GHG beyond 2020
2008 Climate Change Scoping Plan

- Established new paradigm for climate mitigation
- First economy wide climate change plan
- Pioneered the concept of a market-based program supplemented with complementary measures
- Sector by sector approach
- Public outreach and education
Elements of 2013 Scoping Plan Update

- Climate science update
- Progress toward 2020 goal
  - 2008 Scoping Plan achievements
  - Inventory update
  - Economic update
  - Co-benefits
- Potential targeted near term measures
Scoping Plan Overview

Elements of 2013 Scoping Plan Update (cont.)

- Post-2020 goals
  - 2050 Goal
  - Interim Progress Milestone
  - Coordination with Other Plans and Policies
  - Critical Focus Areas
  - Regional Overlay
2013 Scoping Plan Update Schedule

Kickoff Workshop
• June 13

Regional Workshops
• Diamond Bar (Los Angeles area) – June 26th
• Fresno – July 18th
• Bay Area – July 30th

Preliminary draft Scoping Plan Update
• Late Summer

Board Considers
• November 21-22
Environmental Justice Committee

• ARB required to consult with EJAC on Scoping Plan
• Formed by Board in 2007 for 2008 Scoping Plan
• Re-convened by Board for 2013 Scoping Plan
• First meeting June 18th in Sacramento
Progress Toward 2020 Goal
2008 Scoping Plan Achievements
GHG Emissions and Reductions

- **Emissions to be Reduced:** 80 MMT
- **Remaining Emissions:** 427 MMT

<table>
<thead>
<tr>
<th>Source of GHG Reductions</th>
<th>MMT</th>
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<tbody>
<tr>
<td>Cap &amp; Trade</td>
<td>18</td>
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<tr>
<td>Low Carbon Fuel Standard</td>
<td>15</td>
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<tr>
<td>Advanced Clean Cars</td>
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<td>SB 375 Sustainable Communities</td>
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<td>Renewables Portfolio Standard</td>
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<td>Energy Efficiency</td>
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<tr>
<td>High Global Warming Potential Gases</td>
<td>6</td>
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<tr>
<td>All Other Measures</td>
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2008 Scoping Plan Achievements
Key ARB Measures

• Low Carbon Fuel Standard
  • Requires a 10 percent reduction in carbon intensity of transportation fuels by 2020

• Advanced Clean Cars
  • Light-duty vehicles sold in 2025 will emit 75 percent less smog-forming pollution and 34 percent less GHG emissions

• Cap-and-Trade Regulation
  • Market-based regulatory program that reduces GHG emissions through a declining limit

• SB 375 (Sustainable Communities Strategy)
  • Integrated approach to regional transportation and land-use planning
2008 Scoping Plan Achievements

Other ARB Measures

- Shore Power*
- High Global Warming Potential Consumer Products*
- Heavy-Duty Trucks*
- Mobile Air Conditioners (“do-it-yourself” cans)*
- Semiconductor Manufacturing*
- SF6 Reductions from Non-Electrical sources*

- Tire Pressure Regulation*
- Landfill Methane Capture*
- Energy Efficiency Audits for Industrial Sources
- SF6 Leak Reduction in Electrical Appliances
- Refrigerant Management Program

* = Discrete Early Action Measure
2008 Scoping Plan Achievements
Other State Agency Measures

• 33% Renewable Portfolio Standard
• Building and appliance energy efficiency standards
• California Solar Initiative
  • Solar hot water heaters
  • Million Solar Roofs
• Water Efficiency
• Mandatory Commercial Recycling
• High Speed Rail
Inventory Update
CA GHG Emissions 2000-2011

GHG Emissions Trend

2020 Target 427 MMT
California Greenhouse Gas Emissions By Sector

<table>
<thead>
<tr>
<th>Year 2011</th>
<th>Year 2020</th>
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<tbody>
<tr>
<td><strong>Sector</strong></td>
<td><strong>Sector</strong></td>
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<tr>
<td>Agriculture &amp; Forestry</td>
<td>Agriculture &amp; Forestry</td>
</tr>
<tr>
<td>High-GWP</td>
<td>High-GWP</td>
</tr>
<tr>
<td>Recycling &amp; Waste</td>
<td>Recycling &amp; Waste</td>
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<tr>
<td>Commercial &amp; Residential</td>
<td>Commercial &amp; Residential</td>
</tr>
<tr>
<td>Industrial</td>
<td>Industrial</td>
</tr>
<tr>
<td>Electric Power</td>
<td>Electric Power</td>
</tr>
<tr>
<td>Transportation</td>
<td>Transportation</td>
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</table>

<table>
<thead>
<tr>
<th>Percentage</th>
<th>2011</th>
<th>2020</th>
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</thead>
<tbody>
<tr>
<td>Agriculture &amp; Forestry</td>
<td>7%</td>
<td>6%</td>
</tr>
<tr>
<td>High-GWP</td>
<td>3%</td>
<td>7%</td>
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<td>Recycling &amp; Waste</td>
<td>2%</td>
<td>2%</td>
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<tr>
<td>Commercial &amp; Residential</td>
<td>10%</td>
<td>9%</td>
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<tr>
<td>Industrial</td>
<td>21%</td>
<td>21%</td>
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<tr>
<td>Electric Power</td>
<td>19%</td>
<td>20%</td>
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<tr>
<td>Transportation</td>
<td>38%</td>
<td>35%</td>
</tr>
</tbody>
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**Emissions in MMTCO2e**

- **2011**: 449 MMTCO2e
- **2020**: 427 MMTCO2e
Post-2020 Activities
Coordination with Other Plans and Policies

- Governor’s Environmental Goals and Policies
- Climate Adaptation Strategies
- 2013 Zero Emission Vehicle Plan
- State Implementation Plan
- Vision 2050
- Sustainable Communities Strategies
- Sustainable Freight Strategy
- Integrated Energy Policy
- Department of Water Resources Climate Action Plan
- Caltrans Blueprint
Elements of Post 2020 Strategy

• Focus Areas
  • Energy (generation, transmission, and efficiency)
  • Transportation (fuels, infrastructure, and land use)
  • Agriculture
  • Water
  • Waste
  • Natural and Working Lands
• Sectors are unique and overlap one another
• Sectors may have competing objectives
• Role of Cap-and-Trade post-2020
Cap-and-Trade Post 2020

- ARB envisions Cap-and-Trade continuing beyond 2020
- Cap-and-Trade is an important part of Post-2020 climate change strategy
- Program specifics including the cap level must be defined considering many factors
  - Complementary policies
  - Uncapped sector measures
  - Long term climate change goals
Regional Public Workshop

2013 Update to AB 32 Scoping Plan
Air Quality Attainment Dates/ Climate Goals

- **2020** Greenhouse Gas Emission Target
- **2025** Greenhouse Gas Emission Target
- **2030**
- **2035**
- **2040**
- **2045**
- **2050**

**Climate**

**Ozone / PM2.5**

- **2023/2025** Attainment Years for 8-Hr Ozone and PM2.5 Standards
- **2032** Attainment Year for 0.075 ppm 8-Hr Ozone Standard
- Future Ozone Standard

**2050** Greenhouse Gas Emission Target

South Coast Air Quality Management District

California Environmental Protection Agency

Southern California Association of Governments
A Vision for Clean Air: Statewide CO2 Emissions from All Sectors

Remaining Emissions Relative to 2010

- Hydrogen
- Electricity
- Jet Fuel
- Gasoline
- Diesel & NG

Year:
- 2010
- 2020
- 2030
- 2040
- 2050

Emissions:
- 2010: 100%
- 2020: 80%
- 2030: 60%
- 2040: 40%
- 2050: 20%
Examples Illustrating Process

Heavy-Duty Truck Scenario – South Coast NOx Emissions

- 2023 Ozone Target
- 2032 Ozone Target
2015 Air Quality Management Plan

- Primary Focus - 2008 8-Hr Ozone Attainment (by 2032)
- Consistency with Attainment of 1997 8-Hr Ozone Attainment and Recent 1-Hr Ozone Attainment Demonstration
- Maximize Co-Benefits with GHG Reductions
- Focus on Mobile Source NOx Reductions
- VOC Reductions Still Needed to Ensure All Subregions in Attainment (Air Toxics Co-Benefits)
- Linkages to Energy and Climate Goals
Coordinated Air Quality and Climate Planning: Key Concepts

- Need for Technology Transformation
- Early Actions
- Cleaner Combustion
- Multiple Strategies
- Federal Action
- Efficiency Gains
- Energy Transformation
Regional Public Workshop

2013 Update to AB 32 Scoping Plan

June 26, 2013
• 2012-2035 RTP/SCS
  o Meets transportation conformity & exceeds GHG targets
  o Bottoms up process integrating land use & transportation
  o Sustainably accommodates future growth / high quality transit areas
  o Innovative transportation financing
  o Clean technology freight corridor
Air Quality and Co-Benefit Outcomes

- Exceeds SB375 per capita GHG reduction targets
- Component of SIP commitments for health-based criteria pollutant standards
- Positive outcomes: mobility, location efficiency, land consumption, energy, public health
- Return on investment, job creation, household savings
RTP/SCS Implementation Initiatives

- Sustainability Call for Proposals
- CEO Regional Sustainability Working Group
- MOU with Los Angeles County Metro
- Regional PEV Infrastructure Planning
- Best Practices for Sustainable Development
- Facilitate Local Implementation Tools
• **Looking Ahead: 2016-2040 RTP/SCS**
  - Bottoms up planning process
  - Enhanced technical tools for facilitating more effective scenario planning
  - Continued enhancement of performance measures
  - Collaboration with state and regional agencies