Update on Air District Climate Protection Program

Board of Directors Special Meeting
July 29, 2015

Henry Hilken
Director, Planning & Climate Protection
Summary

• Aggressive action by the Air District to address climate protection is essential, and is underway
• Emphasize energy efficiency, electrification, low/no-carbon energy sources
• Use all tools in the toolbox
• Support and complement aggressive state, regional and local programs
• Leadership is key – Air District programs most effective if they are replicated in other regions
Climate Protection Vital to Air District’s Mission

- Improve public health, air quality and the global climate
Goals and Focus

**What:**
- Efficiency
- Electrification
- Decarbonize energy
- Reduce non-energy GHGs

**How:**
- Develop rules
- PERMITS
- RESEARCH & SCIENCE
- WORK W/ LOCAL GOVTS
- PLAN & COLLABORATE
- GRANTS
## Initial Proposed Climate Rule-making

<table>
<thead>
<tr>
<th>Regulations</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit GHGs in Permits (New Source Review)</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>Cap &amp; Trade Backstop for Refineries</td>
<td>TBD</td>
</tr>
<tr>
<td>Further Reduce Emissions from Back-up Diesel Generators</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>Further Reduce Methane from Capped Wells</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Further Reduce Fugitive Methane from Oil &amp; Gas Production (w/ ARB)</td>
<td>TBD</td>
</tr>
<tr>
<td>Further Reduce Methane Leaks from Natural Gas Transmission &amp; Distribution (w/CPUC, ARB)</td>
<td>TBD</td>
</tr>
<tr>
<td>Further Reduce Black Carbon from Wood Burning</td>
<td>Q4 2015</td>
</tr>
<tr>
<td>Further Reduce Methane from Landfills</td>
<td>Q3 2016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulations Under Evaluation</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap &amp; Trade Backstop for Other Sources</td>
<td>TBD</td>
</tr>
<tr>
<td>Reduce Emissions from Composting Operations</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Reduce Emissions from Wastewater Treatment Facilities</td>
<td>TBD</td>
</tr>
<tr>
<td>Require New Construction to be EV Ready</td>
<td>TBD</td>
</tr>
<tr>
<td>Limit Fossil Fuel Combustion from Furnaces, Water Heaters</td>
<td>TBD</td>
</tr>
</tbody>
</table>
Major Climate Protection Initiatives

• First Air District to:
   develop regional GHG inventory
   adopt GHG fee on stationary sources
   adopt GHG thresholds of significance for CEQA
   conduct regional multi-pollutant planning

• Over $300 million invested in grant programs to reduce GHGs

• Extensive technical and financial support for local government climate protection work

Support to Local Governments

- Grants for local climate action plan development and implementation
- County-based training workshops on conducting GHG inventories
- Guidance on developing climate action plans
- Provide data and best practices
- Consultation, review and feedback on climate action plan development
- Outreach on Cap & Trade funding for local projects
Outcomes & Results

Bay Area Local Governments Lead the Nation in Climate Action Planning

• 58 local climate action plans (CAPs) adopted
• More CAPs than any other U.S. metropolitan region
• Cities and counties with CAPs = 80% of Bay Area population
• Enhanced capacity of local staff, e.g. San Mateo RICAPS program
• Air District staff assists local governments in securing funding for CAP implementation
Outcomes & Results

Climate Protection Grants

• Climate Protection Grant Program (2008)
  • $3 million invested, 53 grants to local governments and non-profits
  • Over 54,000 annual metric tons CO2e reduced
  • 7 full-time permanent Climate Staff
  • Launched game-changing initiatives:
    - Marin Clean Energy (community choice aggregation)
    - Property Assessed Clean Energy (PACE) programs

• CononcoPhillips GHG Mitigation Program (2009)
  • $4 million in grants for municipal energy efficiency & renewable energy
Outcomes & Results

Mobile Source Grants Reduce Criteria Pollutants, Air Toxics and GHGs - $300 Million in Grants 2007-2014

<table>
<thead>
<tr>
<th>Metric</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO2e</td>
<td>776,000</td>
</tr>
<tr>
<td>PM10</td>
<td>1,000</td>
</tr>
<tr>
<td>PM2.5</td>
<td>950</td>
</tr>
</tbody>
</table>

Mobile Source Grants:
- EV vehicles & infrastructure
- Bike-share
- Shuttles & bike projects
- School buses
- Shore power
- Heavy duty vehicle retrofits
Outcomes & Results

GHG Benefits of Selected Air District Rules

<table>
<thead>
<tr>
<th>Rule #</th>
<th>Name</th>
<th>Metric Tons/Year CO2e Reduced</th>
</tr>
</thead>
<tbody>
<tr>
<td>8-18</td>
<td>Equipment Leaks at Refineries</td>
<td>200 – 500</td>
</tr>
<tr>
<td>8-34</td>
<td>Landfills</td>
<td>4 million</td>
</tr>
<tr>
<td>8-44</td>
<td>Marine Loading</td>
<td>3,700 – 7,400</td>
</tr>
<tr>
<td>8-53</td>
<td>Vacuum Trucks</td>
<td>&lt;10</td>
</tr>
<tr>
<td>14-1</td>
<td>Commuter Benefit</td>
<td>35,800</td>
</tr>
</tbody>
</table>

*Over 4,040,000 metric tons CO2e reduced annually:
Equivalent to removing 860,000 cars from the road each year*
Bay Area GHG Emissions

2015 Bay Area GHG Emissions by Sector (CO_{2}e)

Total: 81 MMTCO_{2}e
Bay Area GHG Forecasts

GHG Emissions & Projections (Relative to 1990) with Committed & Expected Policies
Air District Board Resolution 2013-11:

• Reduce Bay Area GHG emissions 80% below 1990 levels by 2050
• Develop a Regional Climate Protection Strategy to be included in the Clean Air Plan Update
• Develop a work program to guide and document the Air District climate protection work in the near-term
  • 10-point climate work program adopted April 2014
## 10-Point Climate Action Work Program

<table>
<thead>
<tr>
<th>Work Program Area</th>
<th>Recent Achievements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Climate Protection Strategy</td>
<td>Conducted “gap analyses,” developing control measures, planning for public workshops in Fall</td>
</tr>
<tr>
<td>GHG Rule Development</td>
<td>GHG rule-development proposed for methane sources, refineries, permitting, generators, wood smoke</td>
</tr>
<tr>
<td>Inventory &amp; Forecasting</td>
<td>Refining methane inventory; black carbon and consumption-based inventories coming soon; forecast scenarios being developed</td>
</tr>
<tr>
<td>GHG Emissions Monitoring</td>
<td>GHG monitoring equipment purchased and being calibrated; to be launched in Fall</td>
</tr>
<tr>
<td>Support for Local Governments</td>
<td>Regular updates on Cap &amp; Trade funding for local CAP implementation; launched VMT data project with MTC; launched solar schools initiative with KyotoUSA</td>
</tr>
<tr>
<td>Bay Area’s Energy Future</td>
<td>Advisory Council Report delivered to Board April 2015</td>
</tr>
</tbody>
</table>
Climate Staffing & Resources

- New Climate Protection Section established March 2015
- Climate Protection Manager and 7 staff
  - Planners, Engineers, Specialist, Policy Advisor
- Climate Protection Program resources in FYE 2016 budget = $1.6 million
- Additional Climate Protection staff and resources in other divisions
Regional Climate Protection Strategy

- Bay Area GHG inventory & forecast
- Consumption-based GHG inventory
- Climate change impacts to the Bay Area
- Economic sector-based analysis of GHGs
- GHG emission reduction measures
- Support for Plan Bay Area and regional resiliency work
Economic Sector Analysis

Consistent with 2014 Scoping Plan sectors

- Transportation
- Energy
- Agriculture
- Water
- Waste

- Buildings
- Stationary Sources
- Short-lived Climate Pollutants
- Natural & Working Lands
# Initial Proposed Climate Rule-making

<table>
<thead>
<tr>
<th>Regulations</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limit GHGs in Permits (New Source Review)</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>Cap &amp; Trade Backstop for Refineries</td>
<td>TBD</td>
</tr>
<tr>
<td>Further Reduce Emissions from Back-up Diesel Generators</td>
<td>Q2 2016</td>
</tr>
<tr>
<td>Further Reduce Methane from Capped Wells</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Further Reduce Fugitive Methane from Oil &amp; Gas Production (w/ ARB)</td>
<td>TBD</td>
</tr>
<tr>
<td>Further Reduce Methane Leaks from Natural Gas Transmission &amp; Distribution (w/CPUC, ARB)</td>
<td>TBD</td>
</tr>
<tr>
<td>Further Reduce Black Carbon from Wood Burning</td>
<td>Q4 2015</td>
</tr>
<tr>
<td>Further Reduce Methane from Landfills</td>
<td>Q3 2016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regulations Under Evaluation</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cap &amp; Trade Backstop for Other Sources</td>
<td>TBD</td>
</tr>
<tr>
<td>Reduce Emissions from Composting Operations</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Reduce Emissions from Wastewater Treatment Facilities</td>
<td>TBD</td>
</tr>
<tr>
<td>Require New Construction to be EV Ready</td>
<td>TBD</td>
</tr>
<tr>
<td>Limit Fossil Fuel Combustion from Furnaces, Water Heaters</td>
<td>TBD</td>
</tr>
</tbody>
</table>
The Pathway to 2050

**Grants**
- Reduce black carbon

**Develop Rules**
- Cap & trade backstop
- Limit methane
- Limit black carbon

**Permits**
- Limit GHG via New Source Review

**Research & Science**
- Improve methane, BC inventory
- Methane monitoring
- Consumption-based inventory

**Work w/ local gov’ts**
- Improve building efficiency
- PACE, other financing
- Implement, track local CAPs
- Urban heat island mitigation

**Plan & Collaborate**
- Support strong Plan Bay Area
- Expand VMT reduction programs