

BAY AREA AIR QUALITY MANAGEMENT DISTRICT



David Burch, Principal Planner, BAAQMD

Joint Policy Committee

March 19, 2010



Presentation Overview

- Purpose & Goals of 2010 CAP
- Progress To Date
- Key Findings
- Overview of Draft CAP
- Schedule





Purpose of 2010 Clean Air Plan

Update state ozone plan (2005 Ozone Strategy)

- Include all feasible control measures
- Reduce transport to neighboring air basins
- 2010 CAP is not a federal SIP document

Develop **multi-pollutant** plan to address:

- Ozone
- Particulate matter (PM)
- Air toxics
- Greenhouse gases



CAP Goals

Three key goals:

- **Improve air quality**
- **Protect public health & reduce exposure both at regional scale & in impacted communities**
- **Protect the climate**

CAP builds on T2035 & Projections 2009



Innovative Elements of CAP

- Comprehensive “big picture” AQ plan
- Focus on outcomes: protecting health & climate
- Highlight link btwn AQ and health effects
- Estimate \$ value of health & climate benefits
- Maximize co-benefits; minimize trade-offs
- Include new types of control measures
- Multi-pollutant plan: more bang for the buck



CAP Progress to Date

- Extensive public outreach, many workshops
- Collaborated with regional agency partners
- Consulted with CARB & neighboring air districts
- Developed multi-pollutant evaluation method
- Issued Draft Control Strategy in August 2009
- Issued for public review on March 11:
 - Draft CAP
 - Draft EIR
- Draft Socio-Economic Analysis to be issued soon

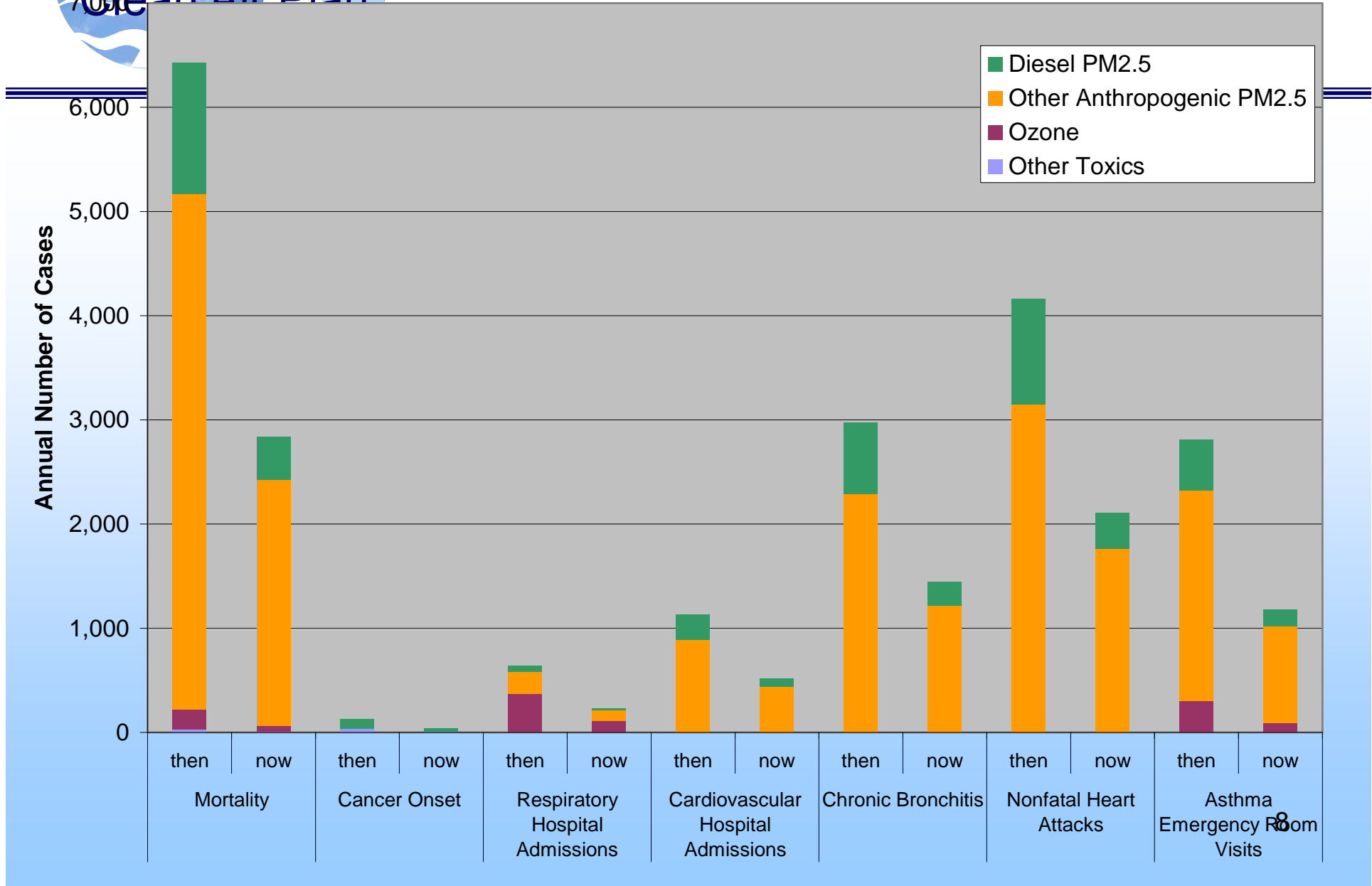


Progress in Improving AQ

- Bay Area air quality has improved significantly in recent decades
- Ambient concentrations & population exposure greatly reduced for:
 - Ozone
 - PM
 - Air toxics



Health Burden: Past v. Present





Benefits of Improved AQ

- All health effects have been greatly reduced
- Premature mortality reduced 55-60%
- Cancer reduced 70%
- Improved AQ contributes to increase in average life expectancy:
 - Bay Area life expectancy increased by 5 yrs since 1990
 - Improved AQ has added ~6 months to avg. lifespan
- Health benefits are worth multiple \$ billions/yr



Current Health Effects

- Air pollution still has negative health impacts
- Air pollution linked to ~ 2800 premature deaths per year (v. ~ 6400 in past)
- Premature death is related to exposure to PM_{2.5}
- PM_{2.5} is also leading cause of other effects
- Diesel PM is leading air toxic, but most harmful as component of PM_{2.5}, not as a carcinogenic toxic



Policy Implications

- Focus on reducing PM_{2.5} emissions & population exposure to protect public health
- Reduce PM_{2.5}, both direct and precursors, from all sources: fossil fuels, wood-burning, commercial cooking, etc.
- Prioritized measures to reduce PM in designing CAP control strategy



Overview of Control Strategy

55 control measures:

- Stationary sources measures (18)
- Mobile sources measures (10)
- Transportation control measures (17)
- Land use & local impacts measures (6)
- Energy & climate measures (4)

CAP also includes:

- Further study measures (17)
- Leadership Platform



Stationary Source Measures

SSM 1: Metal Melting Facilities (*PM, odor, TAC*)

SSM 2: Digital Printing (*ROG*)

SSM 3: Livestock Waste (*PM, ROG, GHG*)

SSM 4: Natural Gas Process & Dist. (*ROG, GHG*)

SSM 5: Vacuum Trucks (*ROG*)

SSM 6: General Particulate Matter (*PM*)

SSM 7: Open Burning (*PM*)

SSM 8: Petroleum Coke Calcining (*SO_x*)

SSM 9: Cement Kilns (*NO_x, SO_x*)



Stationary Source Measures

- SSM 10: Refinery Boilers & Heaters (*NO_x*)
- SSM 11: Residential Fan-type Furnaces (*NO_x*)
- SSM 12: Space Heating (*NO_x*)
- SSM 13: Dryers, Ovens, Kilns (*NO_x*)
- SSM 14: Glass Furnaces (*NO_x*)
- SSM 15: GHG in Permits – Energy Efficiency (*GHG*)
- SSM 16: New Source Review: PM_{2.5} (*PM*)
- SSM 17: New Source Review: Air Toxics (*TAC*)
- SSM 18: Air Toxics Hot Spots/CARE (*TAC*)



Mobile Source Measures

Promote clean vehicles & fuels

Replace /repair high-emitters; accelerate turnover

Reduce emissions in advance of regulations

Via incentives & partnerships

10 MSMs proposed:

- 4 light & medium-duty MSMs
- 3 heavy-duty MSMs
- 3 off-road MSMs





Transportation Control Measures

Reduce vehicle travel & emissions

TCMs grouped into 5 categories:

- Improve transit services
- Improve system efficiency
- Encourage sustainable travel behavior
- Support focused growth
- Implement pricing strategies





TCMs

Improve Transit Service:

TCM A-1: Improve Local & Areawide Bus Service

TCM A-2 Improve Local & Regional Rail Service

Improve System Efficiency:

TCM B-1: Freeway & Arterial Operations

TCM B-2: Transit Efficiency & Use Strategies

TCM B-3: Bay Area Express Lane Network

TCM B-4: Goods Movement Improvements



TCMs

Encourage Sustainable Travel Behavior:

TCM C-1: Voluntary Employer Trip Reduction

TCM C-2: Safe Routes to School & Transit

TCM C-3: Rideshare Services & Incentives

TCM C-1: Conduct Public Outreach & Education

TCM C-1: Smart Driving / Speed Moderation



TCMs

Support Focused Growth:

TCM D-1: Bicycle Access & Facility Improvements

TCM D-2: Pedestrian Access Improvements

TCM D-3: Local Land Use Strategies

Implement Pricing Strategies:

TCM E-1: Value Pricing Strategies

TCM E-1: Parking Pricing & policies

TCM E-1: Transportation Pricing Reform



Land Use & Local Impacts

- Promote focused growth
- Protect public health
- Multi-faceted effort that draws on wide range of tools & policies

LUM 1: Goods Movement

LUM 2: Indirect Source Review Rule

LUM 3: Enhanced CEQA

LUM 4: Land Use Guidelines

LUM 5: Track cumulative risk in impacted communities

LUM 6: Enhanced AQ monitoring





Energy & Climate Measures

- ECM 1: Energy Efficiency
 - promote green building codes & practices
- ECM 2: Renewable Energy
 - promote solar power & other renewables
- ECM 3: Urban heat islands
 - cool roofing & cool paving
- ECM 4: Tree-Planting
 - promote planting of low VOC emitting trees





CAP Benefits

- CAP measures will avoid an estimated 85 premature deaths per years
- Modest reduction in # of cases of bronchitis, asthma emergency room visits, cardiovascular hospital admissions, etc.
- Reduce ~ 15,000 metric tons of GHGs/day
- Estimated \$ value of CAP benefits: \$770 M/yr
- Reductions in PM_{2.5} & diesel PM account for ~ 80% of estimated \$ benefit of CAP



Schedule

- Public workshops April 6, 7 & 8 re:
 - Draft CAP
 - Draft EIR
 - Draft Socio-Economic Analysis
- 45-day public comment closes April 26
- Public hearing & BAAQMD Board action:
July 2010



Looking Forward

Challenges:

- Low-hanging fruit has been picked
- More stringent AQ standards
- Future population & economic growth
- Need to reduce mobile source emissions
- How to balance competing objectives?

Opportunities:

- Attack root causes: land use, energy use, etc.
- Continue/enhance multi-pollutant planning



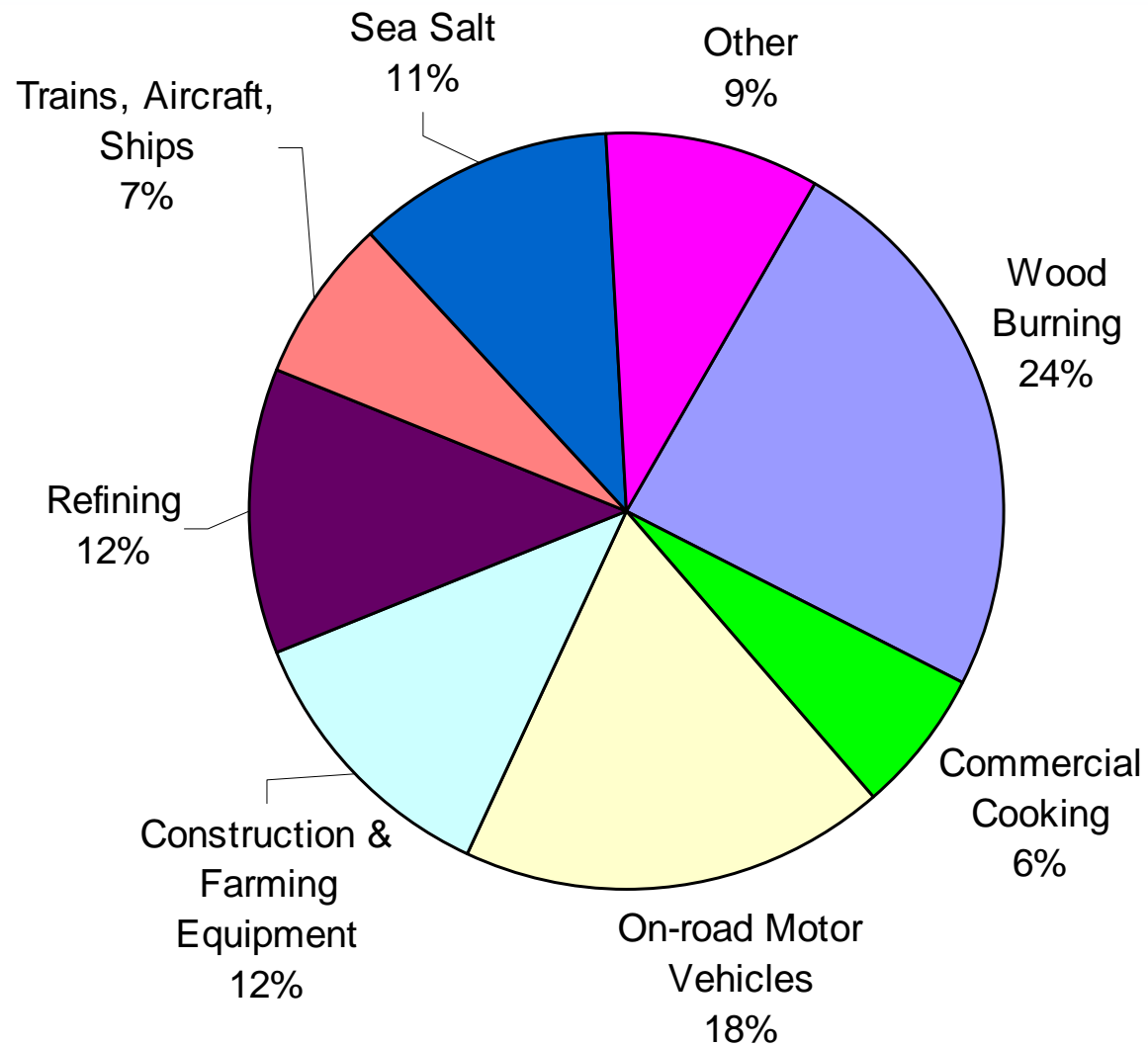
Bay Area 2010 Clean Air Plan website:

<http://www.baaqmd.gov/Divisions/Planning-and-Research/Plans/Clean-Air-Plans.aspx>

David Burch: DBurch@BAAQMD.gov

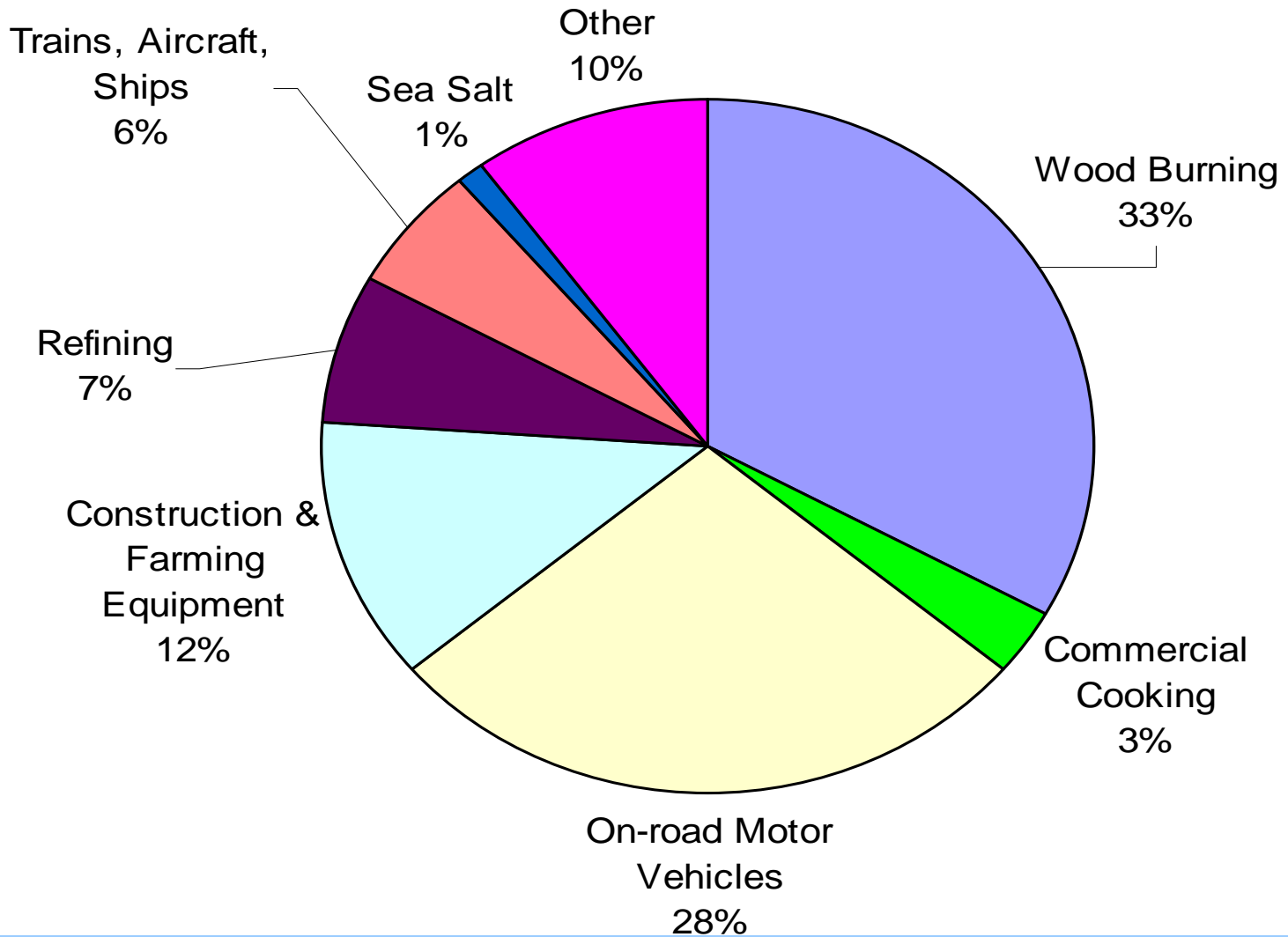


Annual Average PM2.5





Peak Period PM2.5





Biogenic VOCs

Biogenic volatile organic compounds (VOCs):

- isoprene, monoterpenes

Low-VOC tree species:

- Acacia, cedar, magnolia, maple, birch, fruit trees

High-VOC tree species:

- Eucalyptus, liquid amber, oak, aspen, spruce