Our Air Quality and Who is Sac Metro Air District

Vision: Clean, carbon free air for all

Community Air Protection Program
South Sacramento-Florin Steering Committee
December 11, 2018
How clean is the air that we breathe?

Air pollution impacts air quality
- Air pollution comes from many different types of sources: mobile sources, power plants, manufacturing and commercial facilities, and residential homes
- Poor air quality is harmful to human health and the environment

One metric: Air Quality Index
- For ozone and particulate matter
- Based on monitored and forecasted data
Different Types of Air Pollution

Air Toxics
(Diesel particles, Benzene, Chromium, Asbestos)

Particulates (PM)
(NOx, NOx, VOC, Ammonia)

Greenhouse Gases
(Carbon Dioxide, Methane)

Ozone (O₃)
(VOC + NOx)
Health Effects of Air Pollution

- Air pollution is harmful
  - Lung disease, toxic effects, heart attacks
- Children and elderly are most susceptible
  - Short-term and long-term affects
  - Asthma
  - Shortens life expectancy
- Air pollution effects our economy and quality of life
Regulatory Authority

- Environmental Protection Agency – Federal
  - Planes, trains, automobiles
  - Health-based air quality standards

- California Air Resources Board – State
  - Vehicles, consumer products, air toxic control measures
  - Health-based (state) air quality standards

- Air Districts – Local
  - Permit and inspect stationary sources, respond to complaints, Check Before You Burn program, Spare The Air
The Sacramento valley is like a bowl

- During the summer, strong inversions clamp a “lid” on the bowl, trapping pollution and building up ground-level ozone
- During the winter, low pressure systems move in creating a similar effect, trapping particulate matter at ground-level

NOX + VOC + Sunlight = Ozone

Emissions + Low Wind = High Particulate levels
What Causes Our Air Pollution Problem?

VOC Emissions
- Area Source – 26%
- On Road Mobile – 31%
- Off-Road/Other Mobile – 23%
- Stationary Source – 20%

NOx Emissions
- Area Source – 3%
- On Road Mobile – 60%
- Off-Road/Other Mobile – 29%
- Stationary Source – 8%
What Causes Our Air Pollution Problem?

PM2.5 Emissions

Area Source – 76%

On Road Mobile – 9%

Off-Road/Other Mobile – 4%

Stationary Source – 11%
Air Monitoring and Planning

Air monitoring

- Maintains the air monitoring stations
- Monitors the air quality data (QA/QC)
- Analyzes the data

Planning

- Evaluates progress towards meeting federal and state health standards
- Calculates and updates Sacramento’s emission inventory
- Develops air quality plans to meet health standards
- Adopts/amend rules to control emissions from sources
Monitor Locations and Status

Regulatory Monitoring Site

Low Cost Sensor Example

Legend
Air Monitor Name
A  Bercut Drive
B  Elk Grove-Brucerville
C  Folsom-Natoma
D  North Highlands-Blackfoot Way
E  Sacramento-T Street
F  Sacramento-Branch Center
G  Sacramento-Del Paso Manor
H  Sloughhouse

Sacramento County Border
Major Highways

0 3.75 7.5 15 22.5 30 Miles
Reviews and evaluates existing and new permits
- Ensure operations meets requirements
- New equipment and/or operation must meet the most restrictive controls – Best Available Control Technology

Inspects all permitted facilities
- Approximately 4,300 permitted stationary sources
- Most inspected once a year, on average
- Violations issued for noncompliance – monetary penalties

Responds to air quality complaints
Communications Office

- Conducts outreach, education, and regional forecasting/reporting
- Regional summer time program “Spare The Air”
- Winter wood smoke program “Check Before You Burn”

Land Use Review – commentator role

- Yearly review of hundreds of land use and transportation projects
- District comments on projects with impacts to air quality
- Participates in meetings and hearings on various projects
Provides many cleaner technology incentive programs

- Goal to create emission reductions through funding cleaner technology
- Incentive funding available for a variety of projects
  - Diesel trucks, locomotives, and agricultural equipment
  - School bus grants
  - Community CarShare for disadvantaged communities
  - Wood stove / fireplace change out