



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

**AGENDA: 7**

# 10-Point Climate Action Work Program

Board of Directors  
April 2, 2014

Henry Hilken  
Director, Planning, Rules & Research



# **Climate Protection Resolution**

## **Air District Board Adopts Resolution November 6, 2013**

- **Sets regional GHG reduction goal: 80% below 1990 levels by 2050**
- **Initiates regional climate protection planning process (Clean Air Plan)**
- **Directs staff to develop a work program to guide efforts in the near-term**



# 10-Point Work Program

## **Policy Approaches:**

- **Set GHG reduction goal and interim targets**
- **Develop Regional Climate Action Strategy**
- **Initiate Rule Development**
- **Launch Climate Change & Public Health Initiative**
- **Explore Bay Area's Energy Future**

## **Assist Local Governments:**

- **Support and Enhance Local Action**
- **Report Progress to the Public**

## **Technical Program:**

- **Update Inventorying & Forecasting**
- **Implement GHG Emissions Monitoring**
- **Expand Enforcement**



# Revisions to Work Program

## Based on Feedback from Board

- **Include interim and per capita targets**
- **Encourage economic approaches**
- **Work with ARB to potentially use Cap & Trade proceeds to support implementation**
- **Assess health impacts associated with black carbon**
- **Provide regular, consistent data to local governments**
- **Focus efforts on disadvantaged communities**
- **Work with a wide variety of stakeholders**



# **Outreach: Meetings**

**Climate Protection Committee directs staff to continue robust outreach effort**

**December 9, 2013**

- **Meetings in each of the 9 counties**
- **Region-wide public workshop**
- **Meetings with specific stakeholder groups:**
  - **350 Bay Area**
  - **Bay Area Clean Water Agencies**
  - **CA Council for Env'l and Economic Balance (2 mtgs)**
  - **Regional agency planning staff**
  - **Silicon Valley Leadership Group**



# Outreach: Stakeholders

## Stakeholder groups reached through meetings

**Local governments**

**Regional agencies**

**Water agencies**

**Special districts**

**Public health officers**

**Transportation agencies**

**Business organizations**

**Land use planning orgs**

**Local energy agencies**

**Environmental organizations**

**Community-based orgs**

## Stakeholder Feedback - Major Themes

- Supportive comments on Draft Work Program
- Ideas for collaboration
- Desire for continued assistance to local govts (tools, best practices, convening, info-sharing)
- Importance of standardizing GHG data
- Suggestions for the 2015 Clean Air Plan



# Outreach: Results

## Suggestions for the 2015 Clean Air Plan

- Facilitate GHG reduction in permitting
- Continue supporting EVs and EV infrastructure
- Need more incentives and funding
- Regional rule-making could help implement local climate action plans
  - Green building requirements
  - Heat island mitigation strategies
  - Parking standards
  - Control of various types of polluting equipment





# Revisions to Work Program

## Based on Feedback from Stakeholders

- **Emphasize working with stakeholders on GHG forecasts and interim targets**
- **Conduct a “robust public outreach effort” on the Clean Air Plan**
- **Under CAPCOA GHG Exchange, specify development of offset protocols that support local GHG reduction projects**
- **Include review of Air District’s permitting program to facilitate GHG reductions**



# Estimated Resource Needs

- Much implementation will occur with existing staff
- Additional resources will be needed

Resource	Cost
Existing GHG Program (9 FTE)	\$1.4 million
New GHG Program – Reallocation (1 FTE)	\$160,000
New GHG Program – New Hires (4 FTE)	\$640,000
<b>Total staff</b>	<b>\$2.2 million</b>
<b>Capital</b>	<b>\$360,000</b>
<b>Supplies &amp; services</b>	<b>\$350,000</b>



# Next Steps

- **Implement the 10-Point Work Program**
- **Prepare the 2015 Clean Air Plan and Regional Climate Protection Strategy**
- **Continue dialogue with stakeholders**
- **Update the Board**

7.4  
17.5  
27.6  
41.3



# Recommendation

**The Climate Protection Committee recommends Board of Directors approval of the proposed 10-Point Climate Action Work Program**



BAY AREA  
AIR QUALITY  
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AGENDA: 8

# Strategic Staffing Plan Update

Board of Directors Regular Meeting  
April 2, 2014

Jack P. Broadbent  
Executive Officer/APCO



# Background

- Air District has remained mindful of resources as we weathered the economic recession
- Promoting from within, when possible, and providing enhanced training programs / leadership development program
- Maintained a stable vacancy rate over time
- Board has given direction to maintain sufficient service levels to meet legal mandates



# Current Staffing Levels

<b>Total Authorized</b>	<b>365</b>
<b>Current Level</b>	<b>310</b>
<b>Total Vacancies</b>	<b>55</b>



# Strategic Staffing Principles

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- Ensure mandated programs are supported
- Hire for positions that will enhance operational efficiencies in the future
- Hire to advance policy direction from the Board
- Implement 10-Point Climate Action Work Plan
- Identify shared services efficiencies for upcoming move
- Continually evaluate priorities





# Staffing Considerations

- Reviewed the Agency from the ground up
- Executive Management Input
- Evaluated needs to meet our goals and decided to fill 15 vacancies



# Filling Vacancies in FYE 2015

Division	Title
Planning	Rule Development Manager
Planning	Senior Advanced Projects Advisor
Technical	Administrative Secretary
Technical	Air Quality Instrument Specialist
Compliance & Enforcement	Air Quality Inspector <b>(5)</b>
Compliance & Enforcement	Secretary
Administration	Human Resources Analyst
Engineering	Air Quality Engineering Manager
Engineering	Senior Air Quality Engineer
Information Services	Information Services Manager
Information Services	Air Quality Instrument Specialist



# Climate Program Staffing

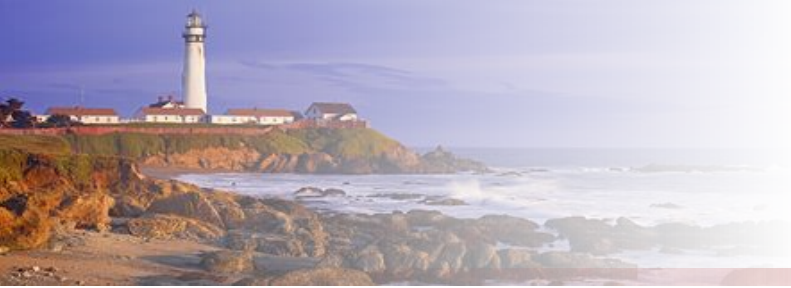
- Implementation of the Air District's 10-Point Climate Action Work Plan
- The Air District's ground breaking GHG Fee will be modified in FYE 2015 Budget
  - An increase of 4.6 cents per ton of GHG
- 4 Positions
  - Planning (2)
  - Inspection (1)
  - Technical (1)



# Staffing Levels in FYE 2015

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<b>Climate Program Positions</b>	<b>4</b>
<b>All Other Positions</b>	<b>325</b>
<b>Total Budgeted Positions</b>	<b>329</b>



# Next Steps

- 10-Point Climate Action Work Plan Implementation
- Continue Cost Recovery Efforts
- Look ahead at Shared-Services savings opportunities at Regional Headquarters
- Continue to evaluate positions as they become vacant

7.4

17.5

27.6



# Overview of the 2013-14 Winter Spare the Air Season

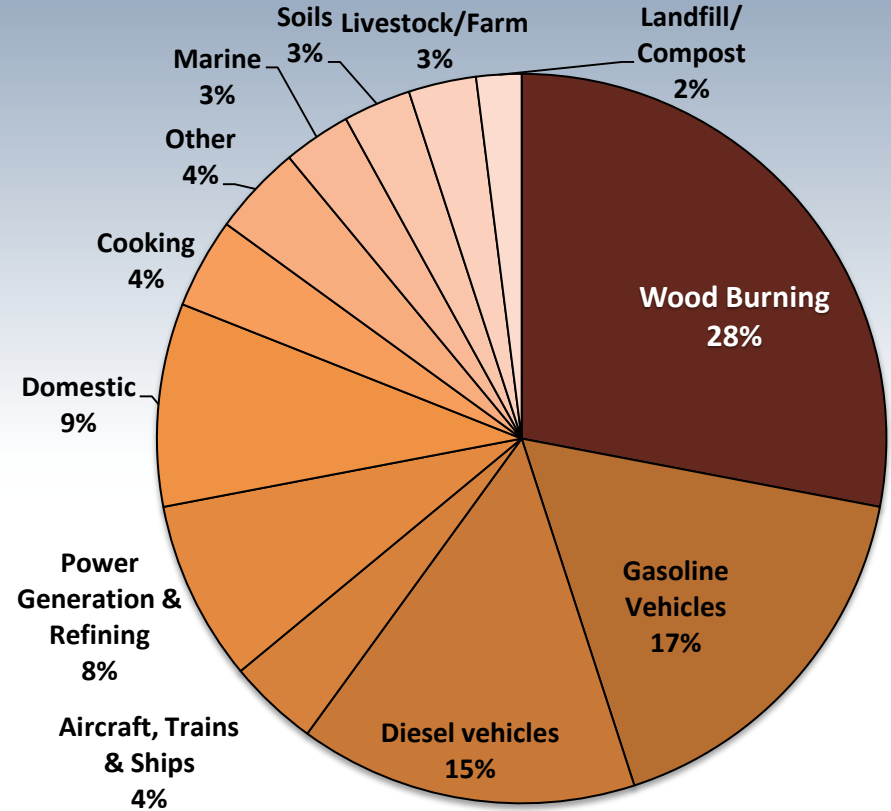
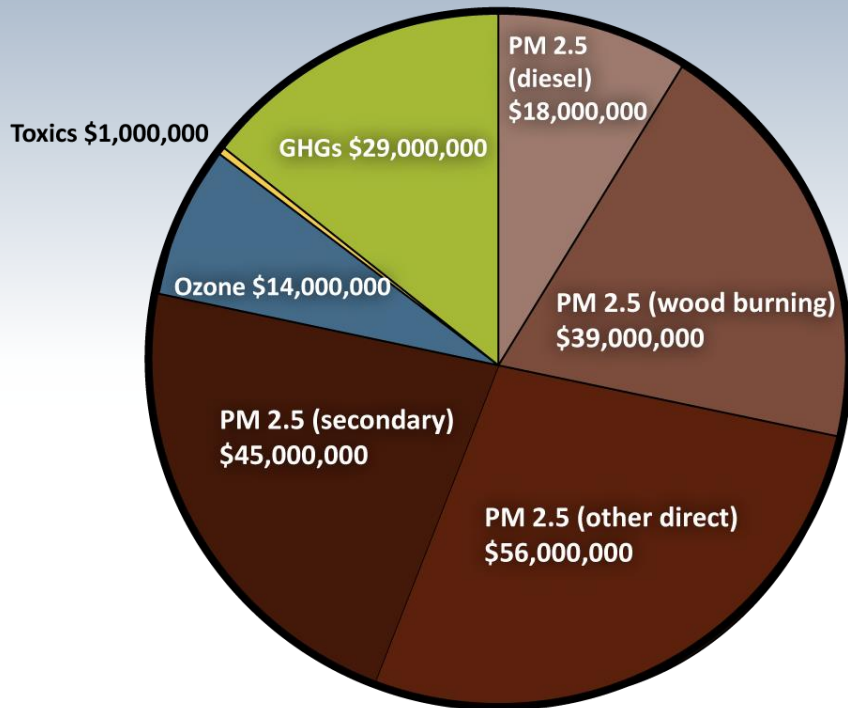


Eric Stevenson, Technical Services Director - Wayne Kino Director of Compliance and Enforcement - Lisa Fasano, Communications Officer

April 2, 2014 Meeting of the Board of Directors



# PM<sub>2.5</sub> Reduction Benefits



Source – 2010 Clean Air Plan

Source – Sources of Bay Area Fine Particles: 2010 Update and Trends



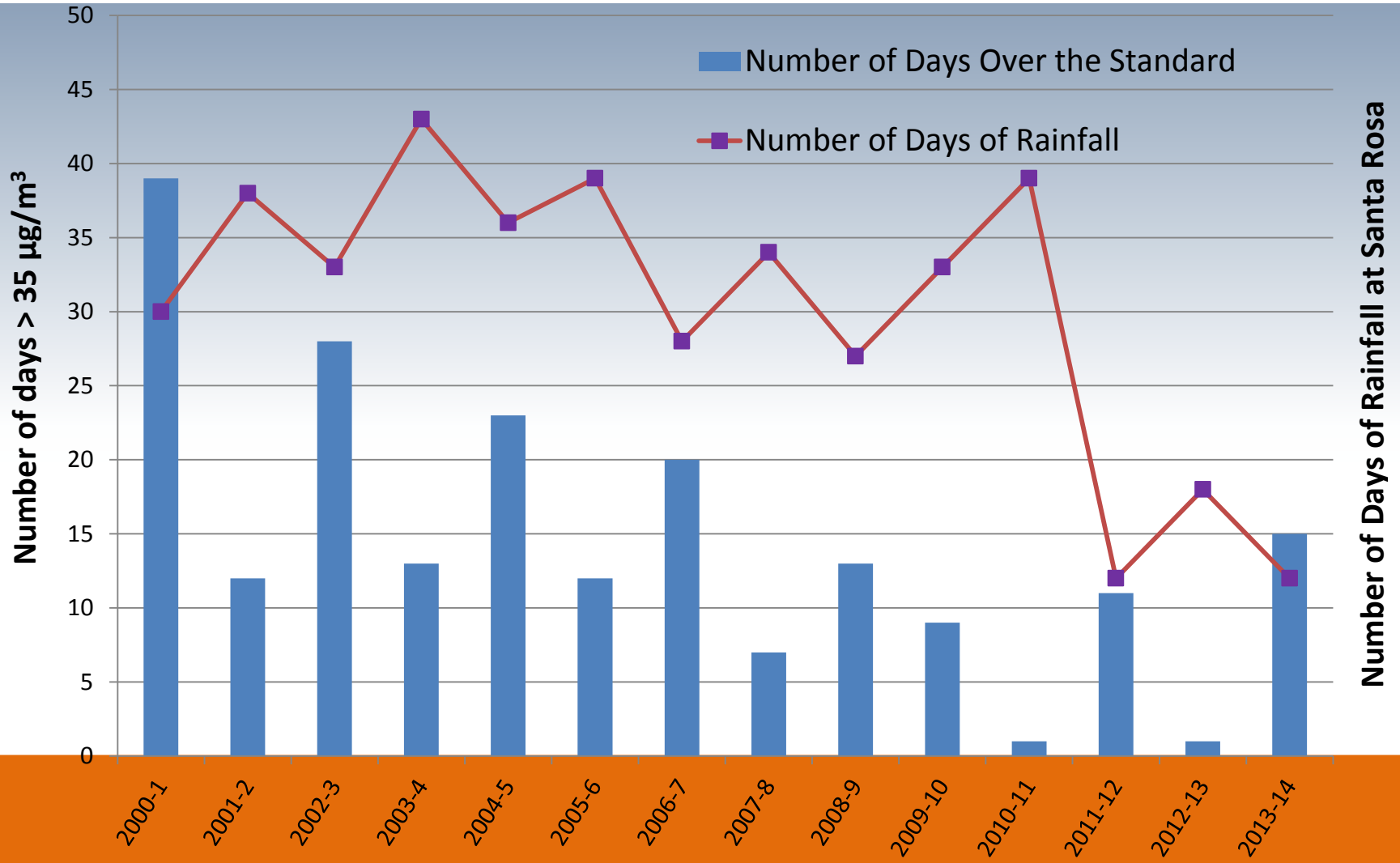
# Winter PM<sub>2.5</sub> Seasons

Year	Days > 35 $\mu\text{g}/\text{m}^3$	Winter Spare the Air Alerts
2011/2012	11	15
2012/2013	1	10
2013/2014	15	30





# Meteorology & Progress



# Highest Air Quality Readings – November 2013 – February 2014

November 2013						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					21.5 <sup>1</sup>	15.7 <sup>2</sup>
13.8 <sup>3</sup>	10.0 <sup>4</sup>	10.4 <sup>5</sup>	16.7 <sup>6</sup>	19.0 <sup>7</sup>	16.5 <sup>8</sup>	16.0 <sup>9</sup>
39.0 <sup>10</sup>	33.3 <sup>11</sup>	20.2 <sup>12</sup>	13.6 <sup>13</sup>	19.3 <sup>14</sup>	16.8 <sup>15</sup>	14.5 <sup>16</sup>
18.7 <sup>17</sup>	11.1 <sup>18</sup>	11.3 <sup>19</sup>	8.8 <sup>20</sup>	11.9 <sup>21</sup>	13.6 <sup>22</sup>	21.0 <sup>23</sup>
31.7 <sup>24</sup>	29.9 <sup>25</sup>	27.2 <sup>26</sup>	40.1 <sup>27</sup>	34.6 <sup>28</sup>	24.9 <sup>29</sup>	29.7 <sup>30</sup>

December 2013						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28.4 <sup>1</sup>	17.4 <sup>2</sup>	12.7 <sup>3</sup>	15.8 <sup>4</sup>	28.9 <sup>5</sup>	28.2 <sup>6</sup>	18.0 <sup>7</sup>
22.0 <sup>8</sup>	21.0 <sup>9</sup>	23.5 <sup>10</sup>	27.7 <sup>11</sup>	35.1 <sup>12</sup>	32.7 <sup>13</sup>	38.0 <sup>14</sup>
38.7 <sup>15</sup>	40.2 <sup>16</sup>	57.7 <sup>17</sup>	38.7 <sup>18</sup>	11.1 <sup>19</sup>	16.6 <sup>20</sup>	25.7 <sup>21</sup>
35.8 <sup>22</sup>	39.3 <sup>23</sup>	32.2 <sup>24</sup>	36.5 <sup>25</sup>	28.0 <sup>26</sup>	34.3 <sup>27</sup>	28.7 <sup>28</sup>
18.6 <sup>29</sup>	44.4 <sup>30</sup>	45.9 <sup>31</sup>				

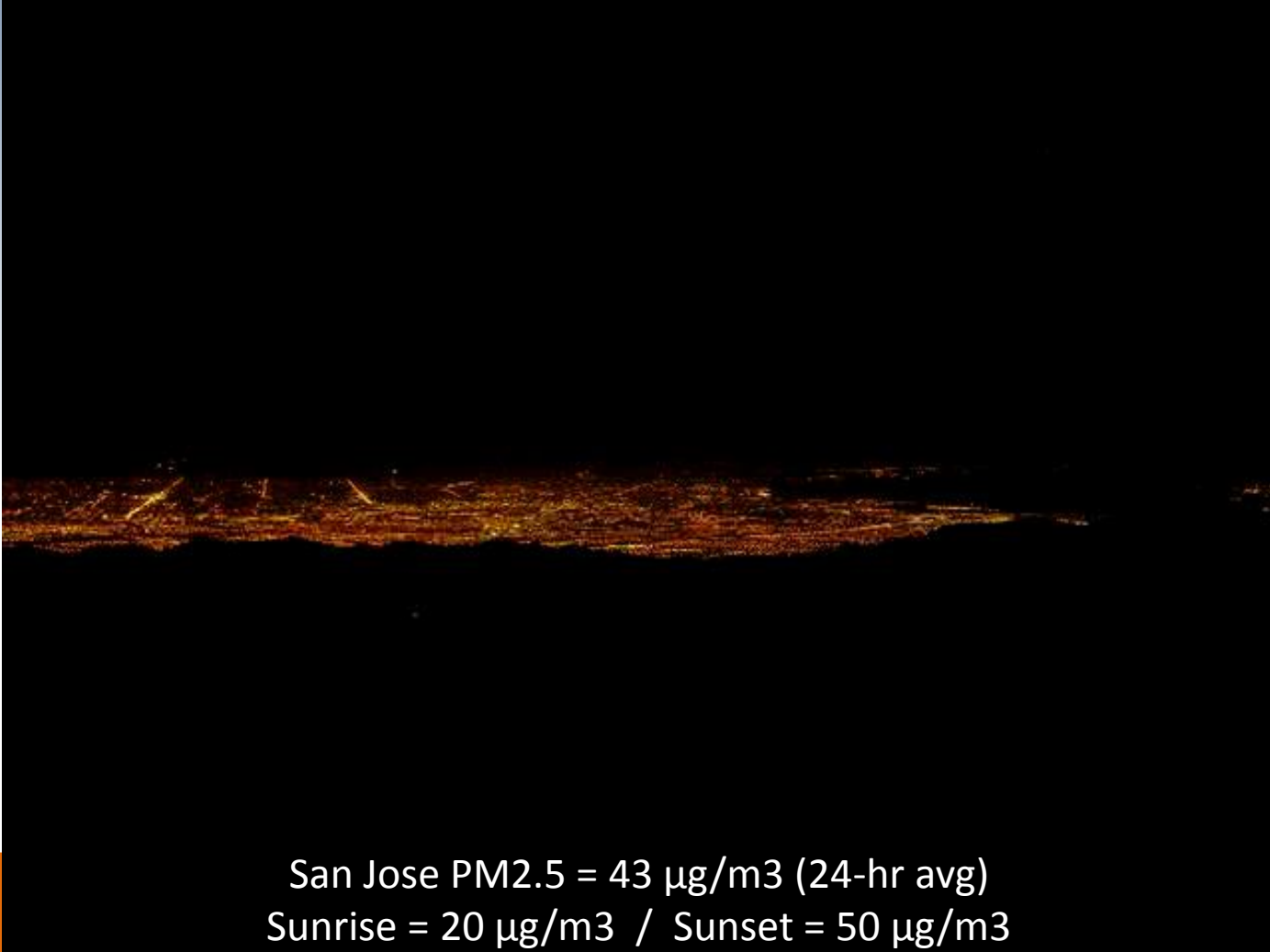
January 2014						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			60.4 <sup>1</sup>	37.4 <sup>2</sup>	32.6 <sup>3</sup>	26.5 <sup>4</sup>
22.0 <sup>5</sup>	31.8 <sup>6</sup>	33.3 <sup>7</sup>	24.1 <sup>8</sup>	16.4 <sup>9</sup>	21.6 <sup>10</sup>	22.3 <sup>11</sup>
12.1 <sup>12</sup>	12.1 <sup>13</sup>	20.4 <sup>14</sup>	23.2 <sup>15</sup>	23.4 <sup>16</sup>	33.8 <sup>17</sup>	29.7 <sup>18</sup>
27.2 <sup>19</sup>	27.3 <sup>20</sup>	23.6 <sup>21</sup>	19.9 <sup>22</sup>	32.8 <sup>23</sup>	42.9 <sup>24</sup>	27.3 <sup>25</sup>
17.8 <sup>26</sup>	16.5 <sup>27</sup>	12.7 <sup>28</sup>	9.3 <sup>29</sup>	11.0 <sup>30</sup>	11.9 <sup>31</sup>	

February 2014						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						15.9 <sup>1</sup>
10.9 <sup>2</sup>	11.6 <sup>3</sup>	15.2 <sup>4</sup>	13.3 <sup>5</sup>	16.8 <sup>6</sup>	11.8 <sup>7</sup>	7.3 <sup>8</sup>
9.3 <sup>9</sup>	9.0 <sup>10</sup>	13.6 <sup>11</sup>	14.2 <sup>12</sup>	12.8 <sup>13</sup>	10.2 <sup>14</sup>	11.1 <sup>15</sup>
11.5 <sup>16</sup>	13.3 <sup>17</sup>	13.2 <sup>18</sup>	10.5 <sup>19</sup>	10.5 <sup>20</sup>	12.6 <sup>21</sup>	14.8 <sup>22</sup>
13.8 <sup>23</sup>	14.3 <sup>24</sup>	15.2 <sup>25</sup>	12.8 <sup>26</sup>	11.7 <sup>27</sup>	9.5 <sup>28</sup>	

Note: The data listed above is preliminary and represents the highest air quality index readings in the region for each day.



# Regional PM Movement



San Jose PM<sub>2.5</sub> = 43  $\mu\text{g}/\text{m}^3$  (24-hr avg)  
Sunrise = 20  $\mu\text{g}/\text{m}^3$  / Sunset = 50  $\mu\text{g}/\text{m}^3$



# Regional Contributions

November 2013						
10 39	27 40.1					
December 2013						
14 38	15 38.7	16 40.2	17 57.7	18 38.7	22 35.8	23 39.3
25 36.5	30 44.4	31 45.9				
January 2014						
1 60.4	2 37.4	24 42.9				

Key	Scrap fire	
	Bay Area Sources Only	
	Transport from San Joaquin Valley Only	
	Bay Area Sources and Transport	



# Local Lessons

- Santa Rosa
  - Sampling performed at 6 locations to determine variability
  - One fireplace or wood stove can impact small areas not measured on Regional instruments
- San Geronimo Valley
  - Concentrations above the standard are likely to be almost entirely caused by wood smoke
  - Smoke impacts other locations



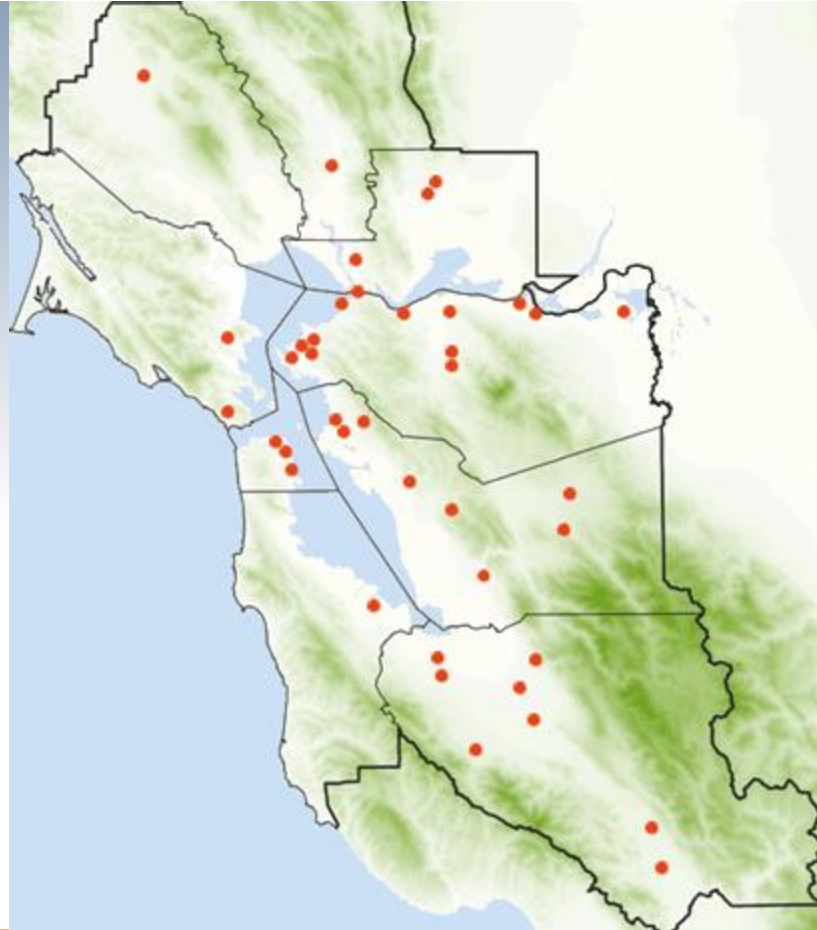
# Air Monitoring Network

- Locations must meet EPA regulations





# Air Monitoring Network





# Wood Smoke Enforcement

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
<b>WSTA Alerts</b>	11	7	4	15	10	30
<b>PM<sub>2.5</sub> Excesses</b>	13	9	1	11	1	15
<b>Complaints</b>	1,500	2,355	1,373	3,777	2,316	5,091
<b>Info Packets</b>	1,550	10,270	592	11,476	3,720	1,768
<b>Violations</b>	255	319	61	359	178	267
<b>Exemptions</b>	0	44	49	76	91	150 + 27 Seasonal





# Enforcement Highlights

- **Violations: 267**

- 253 - 1<sup>st</sup> NOV Wood Smoke Awareness Course or \$100 penalty
- 14 - 2<sup>nd</sup> or 3<sup>rd</sup> NOV \$500 (increased with additional NOVs)
- 177 Total Exemptions – 150 permanent, 27 non-functional heater



- **Complaints: 5091**

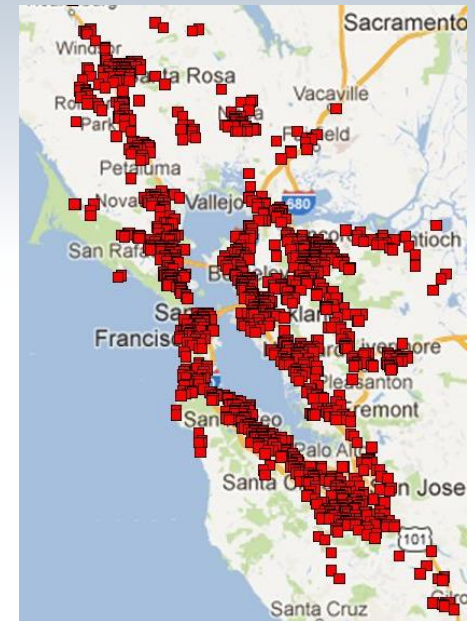
- 60% on Spare the Air Days
- 209 addresses with 5 or more complaints
- 15 addresses with 20 or more complaints
- 1 address with 43 complaints
- 83 complaints by 1 person





# Enforcement Practices

- Complaint information is used to determine patrols and to concentrate enforcement on houses with multiple complaints
- Patrols deployment varied throughout the season
- Violations are documented and issued when discovered



Al igual que el humo de cigarrillo, el humo de leña puede ser dañino para sus pulmones.




Antes de quemar leña, asegúrese que no esté prohibido. Llame al 877-466-2876 SpareTheAirNow.org





Like cigarette smoke, wood smoke can be harmful to his lungs.




就像香煙釋放的煙霧一樣，木材燃燒的煙霧也會損害你的肺部。



在您燃燒木材之前，請洽詢這樣做是否合法。  
請致電 877-466-2876 SpareTheAirNow.org



Like cigarette smoke, wood smoke can be harmful to his lungs.

Wood fires are the number one cause of winter air pollution in the Bay Area.

Check before



Like cigarette smoke, wood smoke can be harmful to your lungs.



Like cigarette smoke, wood smoke can be harmful to your lungs.

Check before you burn.  
1-877-4NO-BURN SpareTheAir.org



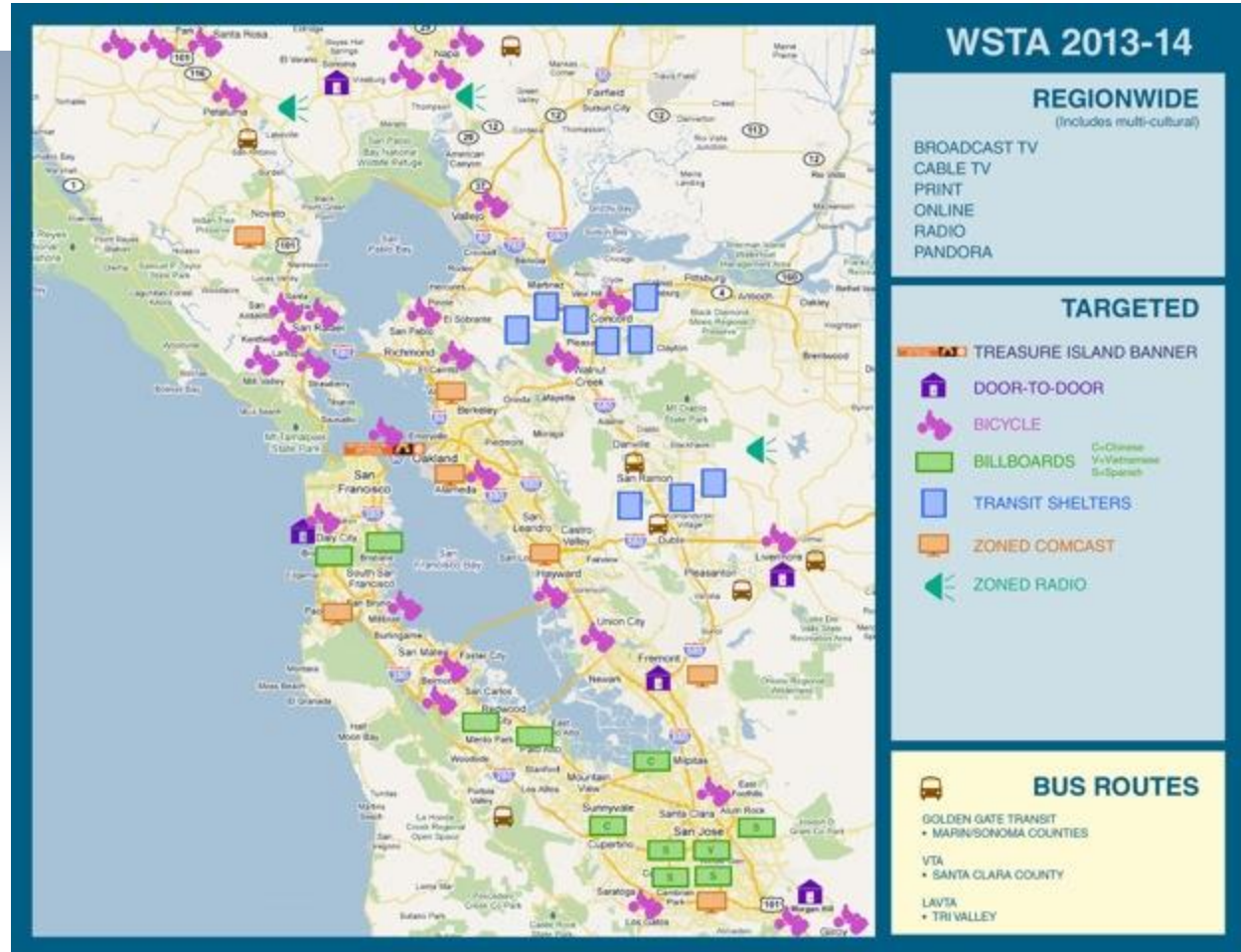

Check before you burn.  
1-877-4NO-BURN SpareTheAir.org





# Regional Outreach

- **205,227** calls to 1-877-4NO-BURN
- **100,000** subscribers to email Air Alerts
- **19,000** subscribers to phone Air Alerts
- **24,000** iPhone & Android app downloads
- **5,172** news stories
- **1,787** homes reached door-to-door





# Media Coverage

## San Francisco Chronicle

### Spare the Air Christmas means leaving logs unlit

Weather from page A1

rainy season, experts said. "We have had this big blocking ridge of high pressure over the eastern Pacific for the first part of this rainy season," said Jan Null, a meteorologist with Golden Gate Weather Services. As a result, "the jet stream takes all the storms and drops them down into the center of the country, which is why they keep getting storm after storm, while we're dry," he said. The pattern isn't unusual, but the durability of the Bay Area's high-pressure ridge is striking.

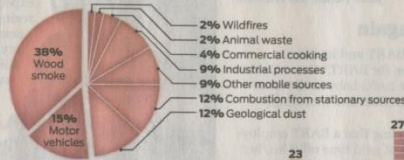
#### No 'parade of storms'

"The pattern is stagnant, and we're not seeing this parade of storms migrating through, and that is typically what scours the air," Null said. The high-pressure ridge is expected to stick around at least until New Year's Day, meaning there's little chance of rain before then and a good chance the region will see more

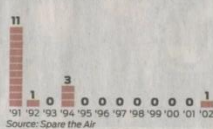
#### Winter Spare the Air alerts

The winter Spare the Air program started in 1991. When a Spare the Air warning is issued for the next 24 hours, it's based on the prediction that the amount of fine particulate matter, like soot, in the atmosphere will exceed national and state health standards.

#### Winter sources of Bay Area particulate matter



#### Winter Spare the Air days since 1991 by year



not have seen any of these Spare the Air days."

This is the second-driest start to a rainy season in Northern California ever recorded, said Elizabeth Scott, a spokeswoman for the California Department of Water Resources.

#### Rivalling driest year

"Precipitation is tracking just slightly above the driest year on record, 1976," Scott said. "Statewide reservoir storage is about 75 percent of average this time of year."

But it is too early to say what the rest of winter will bring, she said. Rainfall often starts below average in Northern California but catches up by the end of the year.

"Fifty percent of the time in the northern part of the Sierra we've pulled out (of the dry pattern), but that means that 50 percent of the time we haven't," Scott said. "Just a few large storms in January and February can be enough to mop up

up in a catastrophic position in terms of water. I really wouldn't even want to think about it," said Mike Pechner, a forecaster with Golden West Meteorology.

Yet Pechner said his early forecasts suggest that there could be substantial rain coming in the middle of January. How much, he wasn't sure.

But, for now, the high-pressure bubble over the Bay means one good thing: Christmas morning should be cloudless, warm and

At San Francisco's Hearst Park golf course, John I Berkeley shot 2 over or in shorts and a T-shirt.

On Christmas Eve, "I was actually sweating. That's the embarrassment," Im said. "It really felt like summer — no, warmer."

"I almost wore a sweater to remind myself of the storms in January and February," he said.

### Spirits bright, weather balmy

Dry and hazy skies don't look a lot like Christmas

Don't even think about lighting that Christmas morning yule log. Forecasters with the Bay Area Air Quality Management District called for the season's record-setting 18th Spare the Air alert on Christmas Day, which means Bay Area residents aren't permitted to light wood fires for 24 hours. Stagnant, dry high-pressure air has firmly settled over the Bay Area, trapping fine particles of dust, smoke and exhaust and pushing away rain clouds that would otherwise scour the dirty air. The system has been in place for most of December, an unprecedented duration that explains the repeated air alerts and remarkably dry Christmas Eve.



### AIR QUALITY REPORT

COMPLAINTS	WOOD SMOKE
Marin	1058
Contra Costa	772
Santa Clara	717
Sonoma	699

### SPARE THE AIR VIOLATIONS

SONOMA CO.	0
MARIN CO.	0
SANTA CLARA CO.	164
SAN FRANCISCO CO.	1



Most Burn Ban Violations Cited in Santa Rosa, Napa and Windsor

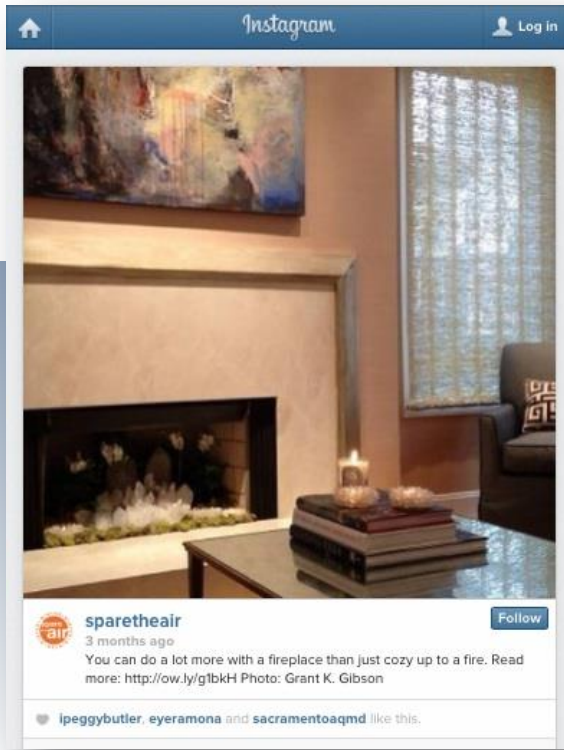


### Spare the Air Season Report

### AIR QUALITY

NORTH BAY	POOR
COAST & CENTRAL BAY	MED
INLAND EAST BAY	MED
SOUTH CENTRAL BAY	MED
SANTA CLARA VALLEY	MED
NO WOOD BURNING	

TV coverage on ABC 7 during Weather segment



# Social Media



Screenshot of the Spare The Air Pinterest board. The board title is "Spare The Air" and the description is "The Spare the Air program encourages Bay Area residents to reduce air pollution by driving less, carpooling, taking transit, and walking and biking." The board has 10 boards, 441 pins, 18 likes, 160 followers, and 154 following.

Board Name	Pins
Spare the Air in Action	82
Air Quality Facts	39
Just for Fun	89
Commute Alternatives	131
Pollution stinks!	20
Air Quality History	29
Spare the Air	11
North Bay	8



Facebook post from Spare the Air, Bay Area. The post includes a link and the text: "ANOTHER WINTER SPARE THE AIR ALERT: The Air District is issuing the season's second Winter Spare the Air Alert for Tuesday, November 26, which bans the burning of wood, manufactured fire logs or any other solid fuel both indoors and outdoors for 24 hours. Homes without permanently installed heating, where woodstoves or fireplaces are the only source of heat, are exempt. For more information, please visit <http://bit.ly/6pNwLU>".

Region	Air Quality
NORTH BAY	POOR
COAST & CENTRAL BAY	MED
INLAND EAST BAY	POOR
SOUTH CENTRAL BAY	MED
SANTA CLARA VALLEY	POOR

15th SPARE THE AIR ALERT  
NO WOOD BURNING



# Results

- **30% of Bay Area households** reduced wood burning
- **65% had heard, read or seen** media stories about Winter Spare the Air
- Following alert, **44% of respondents were aware** that Winter Spare the Air alert called
- **66% of respondents** aware Air District prohibits wood burning on certain days
- Support for Wood Burning program increasing & remains strong at **75%**



# Lessons Learned this Season

- Need to work with stakeholders and develop resources to change out wood burning devices
  - Local governments
  - Partner with PG&E
- Explore amendments to Rule:
  - Exemptions
  - Opacity
- Continue to enhance outreach to change behaviors





# Statewide Issues

- Transport between air basins
  - Wood Burning
  - Ag burning
  - Feedlots
- Drought concerns
  - Increased potential for wildfires
    - Dead trees can increase wood scavenging

