



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

AGENDA: 4

Upcoming changes to Regulation 9, Rule 13: Cement Kilns

Stationary Source Committee Meeting September 19, 2016

**Robert Cave
Senior Air Quality Specialist**



Overview

- Regulatory Background and Purpose
- Results of Rule Adoption
- Technical Issues with Ammonia Standard
- Proposed Regulatory Solution
- Next Steps - Future Rule Development



The background of the slide features a scenic view of the Golden Gate Bridge in San Francisco, California. The bridge's iconic orange-red towers and suspension cables are visible against a clear blue sky. In the foreground, the water of the bay is calm, and a small building is situated on the left side of the frame.

Regulatory Background and Purpose

- Adopted September 12, 2012, with effective date of September 9, 2013 for emissions standards.
- Achieve NO_x emissions reductions along with efforts to meet proposed Federal toxic emissions standards.
- Strengthen enforceability of dust mitigation measures.
- Ensure health risk reduction measures are met.

Results of Rule Adoption

Emissions Comparison

	2010		2014	
Production Rate	847 thousand tons of clinker		1.29 million tons of clinker	
Pollutant	lbs/ton of clinker	tons/year	lbs/ton of clinker	tons/year
NO_x	4.0	1,694	2.04	1,316
PM	0.014	5.9	0.023	15
Mercury	0.00031	0.13	0.000037	0.024
HCl	0.076	32.3	0.013	8.18
SO₂	1.15	487	1.66	1,071
Ammonia	0.22*	164*	0.26	168

* NOTE: Ammonia values provided for 2012. Continuous monitoring did not begin until midway through that year.



Results of Rule Adoption

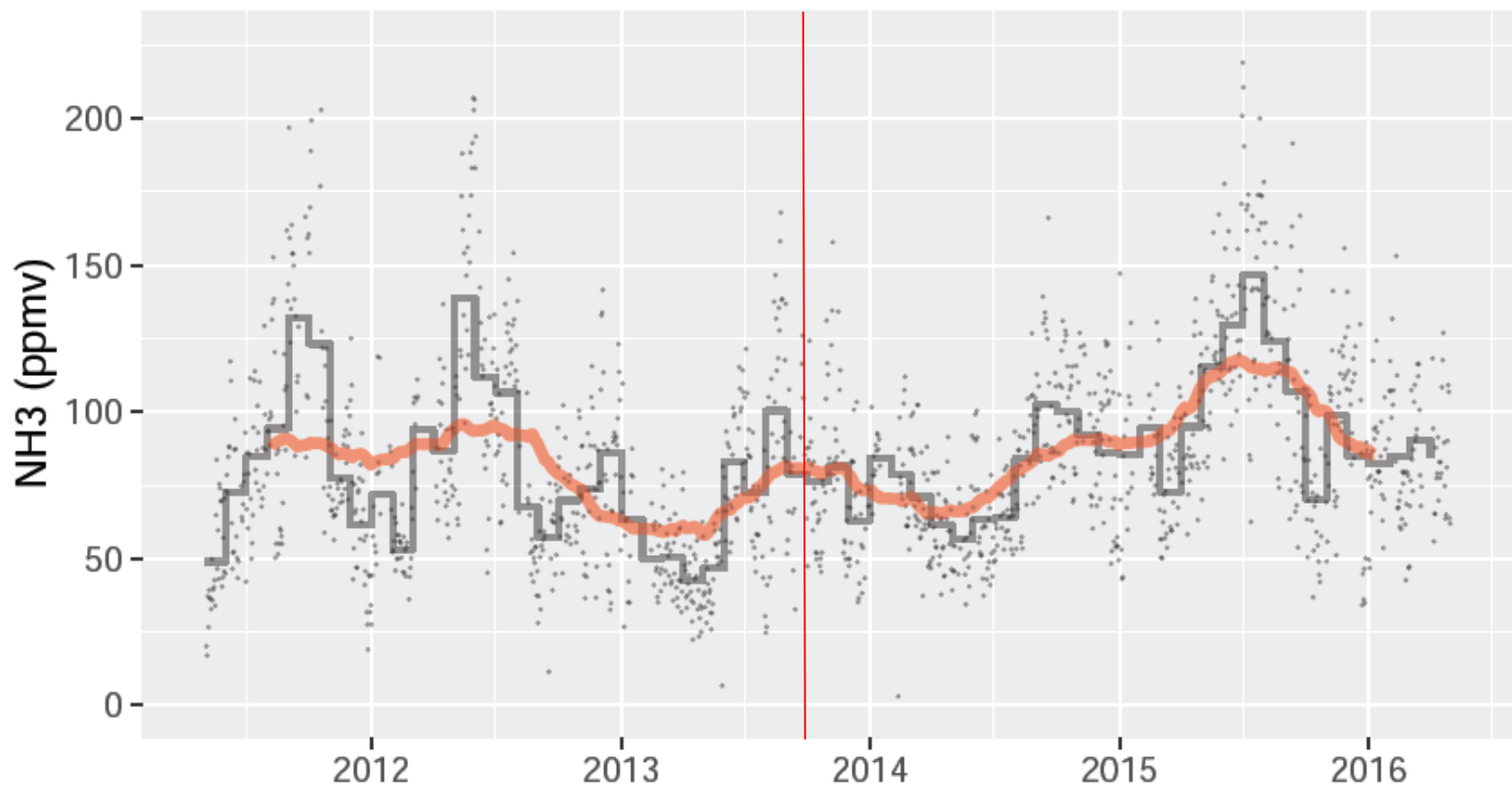
- Significant emissions reductions
 - NO_x
 - Mercury
 - HCl
- Advantages of new emissions stack construction
 - More accurate monitoring
 - Increased dispersion – Reduced health risk
- Improved Dust Mitigation Plan and Procedures
 - Improved enforceability



Ammonia Standard – Technical Issues

- Rule sets an ammonia limit to prevent over-injection in the NO_x control system.
- Limit is unachievable due to variable ammonia content in feedstock.
- This prevents incorporation into Title V permit.
- Correcting this problem will ensure federal enforceability.

Ammonia Standard – Technical Issues (Continued)



Ammonia Standard – Solution

- Reference Exposure Level (REL)
 - Acute: 4.5 ppmv (one hour average)
 - Chronic: 0.3 ppmv (annual average)
- Odor Threshold
 - Ranges from 0.04 to 50 ppmv, most organizations point to 5 ppmv
- Set target offsite concentration well below REL and odor threshold: 0.5 ppmv hourly max
- Use air dispersion modeling to set emissions limit consistent with target offsite concentration.





Proposed Rule Amendments

- 182-Operating Day Rolling Average
- Ammonia Emission Limit: 270 ppmv
- Deletion of Baseline Ammonia Emission Level Determination and Calculation Methodology
- Board of Directors Public Hearing in October



Continuing Issues of Concern

- Toxic emissions
 - Regulation 11, Rule 18
 - Workshop in November, Public Hearing in May
- Dust emissions
 - Regulation 6, Rules
 - Workshop in January, Public Hearing in April
- Condensable PM emissions
 - Ongoing Testing and Research



AMENDMENTS TO
REGULATION 2, RULE 5
**NEW SOURCE REVIEW OF
TOXIC AIR CONTAMINANTS**

**Stationary Source Committee
Meeting**
September 19, 2016

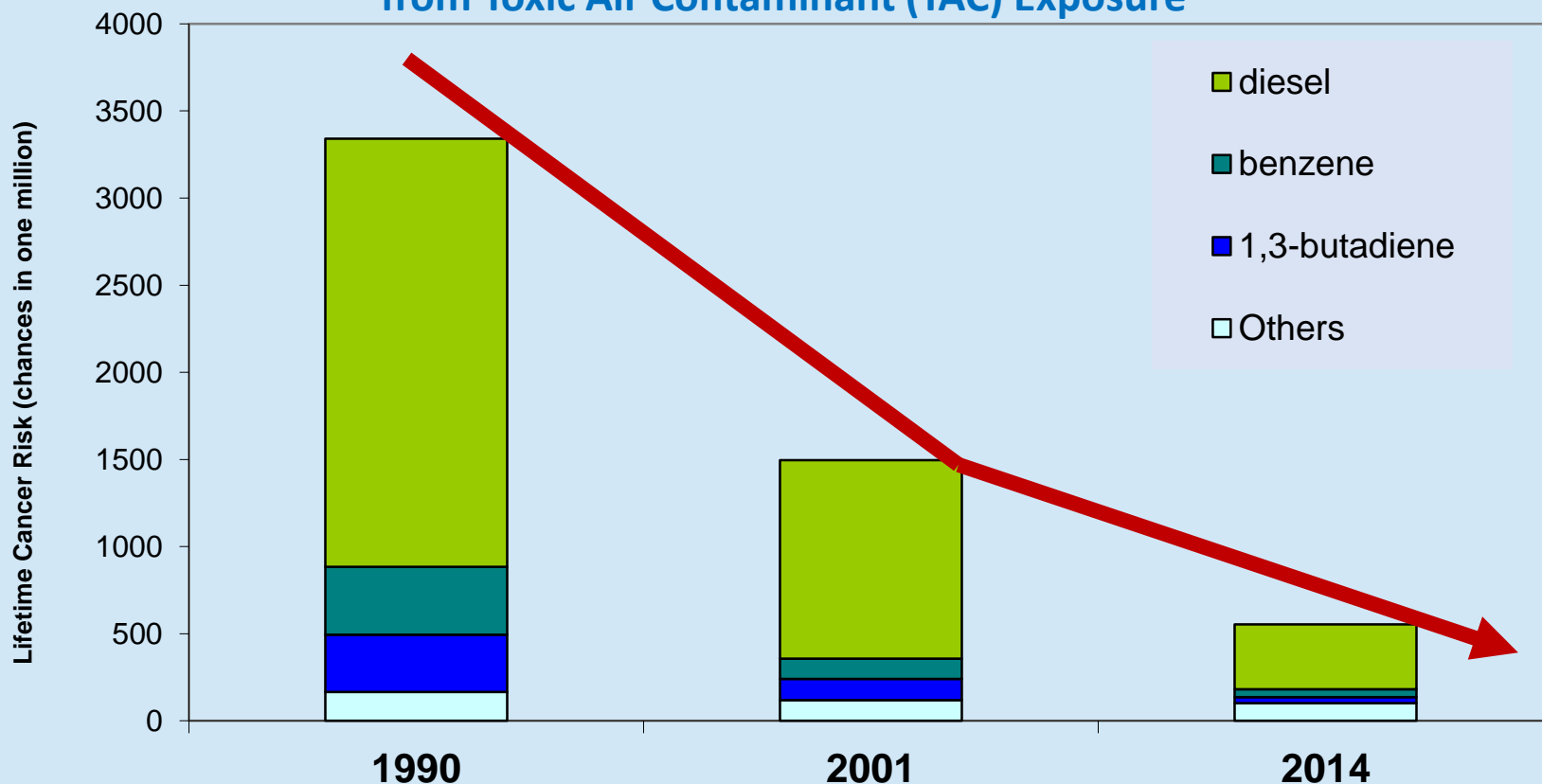
Sanjeev Kamboj
Manager, Engineering Division

OUTLINE

- **Background**
- **Proposed Rule 2-5 Revisions**
- **Impacts of Proposed Rule 2-5 Revisions**
- **CEQA and Socioeconomic Analysis**
- **Public Outreach**
- **Next Steps**

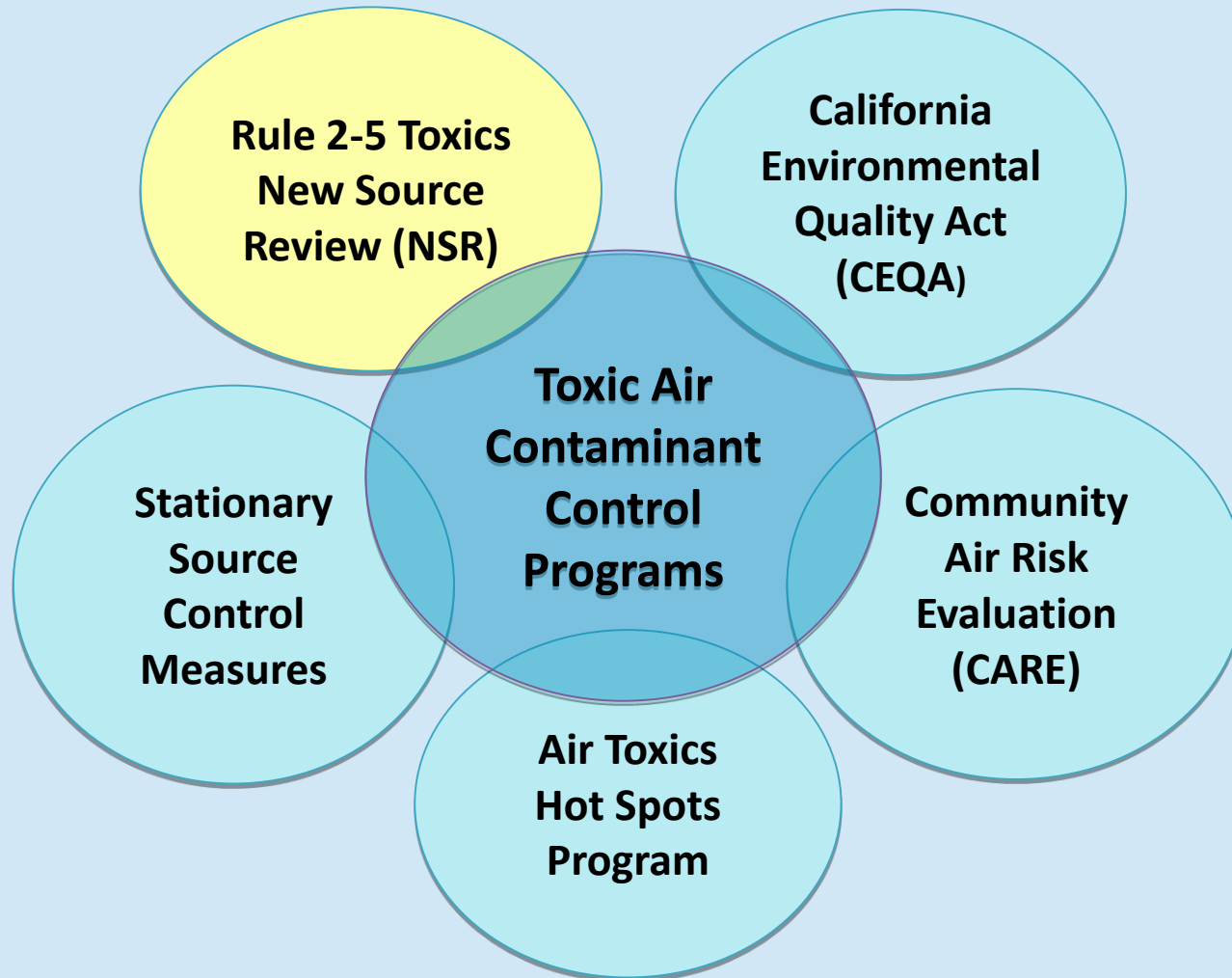
EFFECTIVENESS OF CONTROL PROGRAMS

Bay Area Lifetime Residential Cancer Risk* from Toxic Air Contaminant (TAC) Exposure



* Cancer risk is based on average ambient air monitoring data and the risk assessment methodology presented in the OEHHA's 2015 HRA Guidelines.

STATIONARY SOURCE PROGRAMS



REGULATION 2, RULE 5 NEW SOURCE REVIEW FOR TACS

- **Implements Air District's Health Risk Assessment (HRA) Procedures and Risk Management (RM) Policies through the Permitting Program**
 - 1987: Initiated Toxic New Source Review (NSR) Program
 - 2005: Codified as Regulation 2, Rule 5
 - 2010: Included Age Sensitivity Factors
- **Follows Statewide HRA and RM Guidance**
 - 1999: SB25 – Children's Environmental Health Protection Act
 - 2015: Office of Environmental Health Assessment (OEHHA), California Air Resources Board (CARB) & CAPCOA Updated HRA and RM Guidelines

SUMMARY OF REGULATION 2, RULE 5

- **Health Risk Assessment (HRA) Requirements**

- Requires HRA if TAC Emissions for a project to install new or modify existing equipment exceed a TAC Trigger Level

- **Risk Management (RM) Requirements**

- Requires Best Available Control Technology for Toxics (TBACT) if a source of air pollution exceeds risk thresholds:
 - Cancer Risk > 1.0 in a million; Chronic Hazard Index > 0.2
- Limits Total Project Health Risks
 - Cancer Risk ≤ 10.0 in a million; Hazard Index ≤ 1.0
- Limits Net Project Health Risks for Projects Including Modification of Pre-1987 Sources
 - Cancer Risk ≤ 10.0 in a million; Hazard Index ≤ 1.0

PROPOSED RULE 2-5 CHANGES

- **Conformance with State Guidance Updates**
 - Update the Air District's HRA Guidelines to Incorporate the State's Guideline Changes
 - Update Health Effects Values and TAC Trigger Levels
 - Update Regulation Language to Conform with State Guidelines

PROPOSED RULE 2-5 CHANGES

- **Rule Improvements**

- Revise Emission Calculation Procedures for Modified Sources
- Add Net Project Risk Limits for Pre-1987 Modified Sources
- Add Exemption from HRA for Engines Smaller Than 50 BHP
- Revise Project Definition – Extend Related Projects to 3 years
- Clarify Procedures for Source Alterations

IMPACTS OF RULE 2-5 REVISIONS

- **Increase the Stringency of this Rule**

- For most projects, cancer risk will increase by about 40% compared to current procedures
- For projects involving multi-pathway TACs, cancer risk may increase by 2-5 times
- Less toxic emission increases will be allowed for new projects than allowed by current rule
- All emissions from pre-1987 modified sources will now be included in HRAs

IMPACTS OF RULE 2-5 REVISIONS

- **Increase the Number of Projects Triggering HRAs**
 - About 100 more NSR HRAs per year
- **Increase the Number of Projects Required to Implement Risk Reduction Measures**
 - About 60 more projects per year

CEQA ANALYSIS

- **Report by Environmental Audit, Inc.**
- **Finding of No Adverse Environmental Impact**
- **Recommend Negative Declaration**

SOCIOECONOMIC ANALYSIS

- **Report by BAE Urban Economics**
- **On Average – No Significant Impacts**
 - In most cases where a project exceeds the thresholds, limits to operating hours or emission point heights can be implemented
- **Potentially Significant Impacts (10-17% of profits) for Individual Projects based on Worst-case Assumptions at:**
 - Small Hotels/Motels (110 facilities)
 - Small Electric Power Generation Plants (20 facilities)
 - Metal Coating and Engraving Shops (5 facilities)

PUBLIC OUTREACH

- **Open Houses:**

- January 28, 2016 Redwood City
- February 2, 2016 San Jose
- February 4, 2016 Richmond

- **Public Comments Accepted:**

- January 13, 2016 through March 9, 2016

- **Written Comments Received From:**

- Western States Petroleum Association (WSPA)
- Phillips 66 Company

COMMENTS AND RESPONSES

KEY ISSUES	RESOLUTIONS
Location of TAC trigger level table	Retain in rule
Elimination of 1987 baseline for modified sources	Add alternative net project risk limits for pre-1987 modified source projects
Impacts on gas stations	Delay implementation of HRA Guidelines for gas stations
Impacts on diesel engines smaller than 50 bhp	Add an HRA exemption for engines smaller than 50 bhp

NEXT STEPS

- **Publish Final Hearing Package (October 2016)**
 - Public Hearing Notice
 - Proposed Rule Amendments
 - Staff Report
 - Socioeconomic Analysis
 - CEQA Analysis: Negative Declaration
- **Board Hearing for Adoption (December 2016)**

AGENDA: 6

Bay Area Air Quality Management District

Stationary Source Committee Meeting

September 19, 2016

Update on Wood Smoke Reduction Incentive Program

Damian Breen

Deputy Air Pollution Control Officer

Background

- In winter, more than 30% of PM_{2.5} is from wood burning
- 1.4 million fireplaces and wood-burning devices in Bay Area
- Air District has regulated residential wood-burning since 2008
- *October 2015*: Board adopts amendments to Regulation 6-3 Wood-burning Devices:
 - ✓ Bans wood burning during Spare the Air Alerts
 - ✓ Limits excess visible smoke
 - ✓ Prohibits burning garbage
 - ✓ Restricts sale & installation of non-EPA certified wood-burning devices
 - ✓ Requires labeling on firewood and solid fuels sold
 - ✓ Adopts EPA standards for wood heaters
- *November 2015*: Board Amends to Regulation 6, Rule 3 and provides direction to inform development of incentive program

Air District's Wood Smoke Reduction Incentive Program

- Board approved \$3 million for Wood Stove and Fireplace Replacement Incentive Program (Program)
- First come, first served program, with 40% of funding reserved for applicants who meet one or more Highly Impacted Resident (HIR) criteria:
 - *Residents in areas highly affected by wood smoke*
 - *Households with wood devices as their sole source of heat*
 - *Low-income residents*
- Program is open to applicants who own a property that
 - (1) is a residential unit located within the Bay Area Air Quality Management District's jurisdiction, and
 - (2) contains an operational wood-burning stove or fireplace, used for heating purposes.
- One project per residence



Program Funding

Base Funding: Applicant selects one project option

Base Award	Project Option (limited to one option per residence)
\$3,500	Replace a wood-burning stove or fireplace with an electric heat pump
\$1,000	Replace a wood-burning stove or fireplace with a natural gas- or propane-fueled device
\$750	Decommission (render inoperable) a wood-burning stove or fireplace

Program Funding

Bonus Funding for Highly Impacted Residents

- Some applicants are eligible to receive additional funding if they or their property meet one or more of the following HIR conditions shown below.

+ \$1,500 for Sole Source of Heat Exemption

Homeowner must qualify as exempt, according to the Air District's Compliance & Enforcement Division, because their sole source of heat is a wood-burning device.

+ \$1,500 for Areas Highly Impacted by Wood Smoke

- Campbell
- Half Moon Bay
- SW San Mateo
- Berkeley
- Glen Ellen
- Sebastopol
- Sausalito
- San Geronimo Valley
- West Marin
- Angwin
- Calistoga

+ \$8,000 for enrollment in one of the following low-income assistance program

- PG&E CARE program
- Women, Infants and Children(WIC)
- CalFresh/SNAP(Food Stamps)
- Head Start Income Eligible (Tribal Only)
- Supplemental Security Income(SSI)
- Free or Reduced National School Lunch Program
- Low Income Home Energy Assistance Program(LIHEAP)
- Bureau of Indian Affairs General Assistance
- CalWORKs(TANF)/Tribal TANF



Spare the Air
inside and
outside
your home!

**WOOD SMOKE REDUCTION
INCENTIVE PROGRAM**

It's Your Air, Protect It.

Program Outreach

- ✓ Mailed postcards
- ✓ Ads on local cable stations + Social media blasts with ads
- ✓ Promotional video
- ✓ Press release + pitched story to local media stations
- ✓ Outreach at local county fairs and other events
- ✓ Asked community groups, homeowners' associations and other stakeholders to help promote the program with fact sheet information
- ✓ Program details in Air Alerts and Air Currents
- ✓ Emailed to various District contact lists
- ✓ *Extra effort for High Wood Smoke Areas:* Hung door hangers and placed ads weekly print publications

Program Launch

- ◆ Program began accepting applications on August 26, 2016
- ◆ Online application system

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
A HEALTHY BREATHING ENVIRONMENT FOR EVERY BAY AREA RESIDENT

Register Sign In

HOME RETURN TO BAAQMD

Welcome to the BAAQMD Wood Smoke Grant Application Home Page

Home / My Projects

My Projects

Click "Create" to start a new project application

Create

Project Number ↑	Project Address: Street	Project Address: City	Application Submitted On	Project Status	Application Received Via	Created On
16WS3075				Application in Progress	Online	8/31/2016 10:12 AM

Program Timeline

Program Follows a 3-Step Process

1. *Apply for Approval*

- ◆ Submit a project application (online or by mail) with all supporting documentation

2. *Implement Project*

- ◆ Within 90 days, select a licensed contractor; obtain permits; purchase equipment; complete all project work (equipment replacement or decommissioning)

3. *Get Reimbursed*

- ◆ After all project work has been completed, submit a reimbursement request with all supporting documentation

Program Statistics

- As of 9/14, more than 2,345 applications received:
 - ✓ 1,003 received on 8/26
 - ✓ 1,342 waitlist-listed
- Highly Impacted Residents
 - ✓ 150 - Low-Income Assistance
 - ✓ 39 - High Wood Smoke Area Funding
 - ✓ 45 - Sole Source of Heat Exemption Funding

Program Statistics

Figure 1: Applications by Project Type

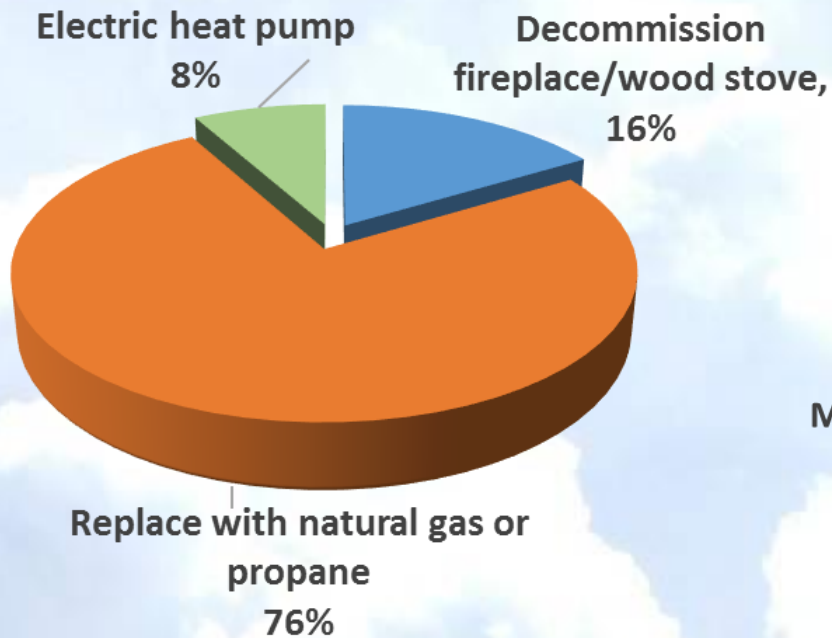
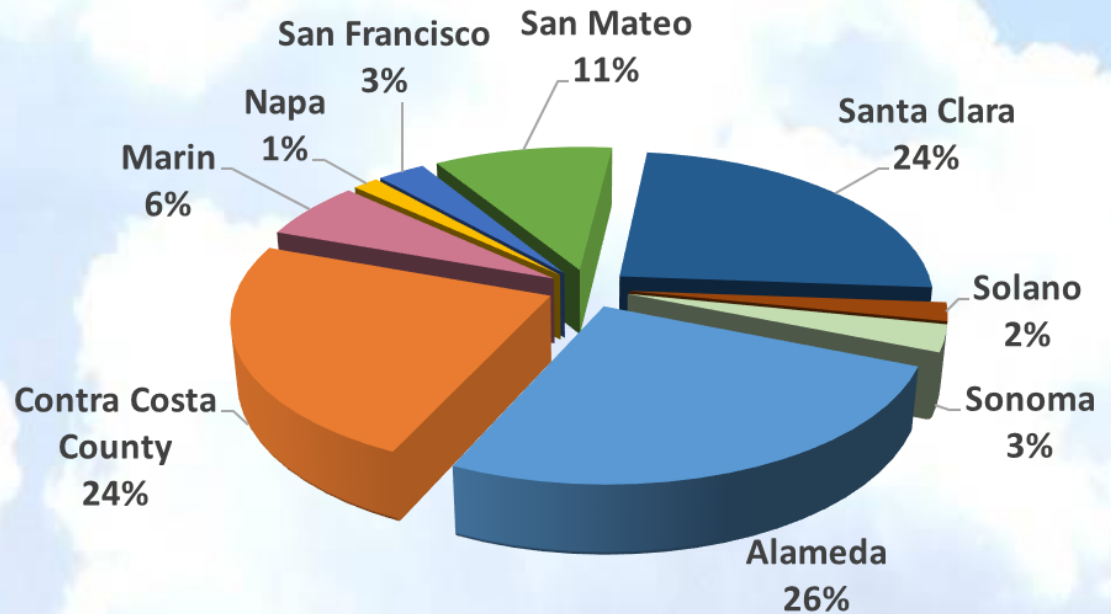


Figure 2: Applications Received by County



Next Steps

- Application review priority order:
 - ✓ First 1003 applications received
 - ✓ All paper applications received and waitlisted applications that meet one or more HIR criteria
 - ✓ All other waitlisted applications
- Tentative timeline to complete award of funds:
 - ✓ First 1,003 applications ~ by mid-October
 - ✓ All paper applications and HIR waitlisted applicants ~ by October 31
 - ✓ All other waitlisted applications ~ 4-5 months
- Timeline to complete project: 9 – 12 months
- Bring Program status update back to Board ~ Spring 2017