

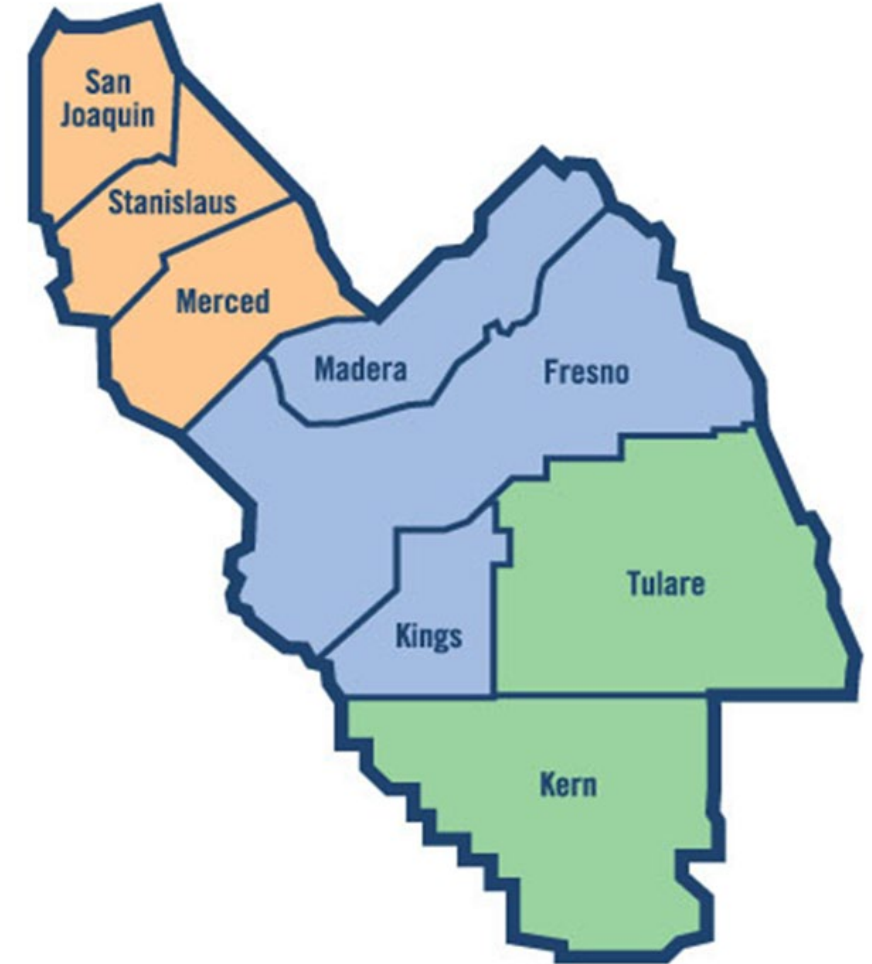
Residential Woodsmoke Reduction Strategy in the San Joaquin Valley

San Joaquin Valley Air Pollution Control District
Samir Sheikh, Executive Director/APCO

AAPCA 2022 Fall Business Meeting
September 28, 2022

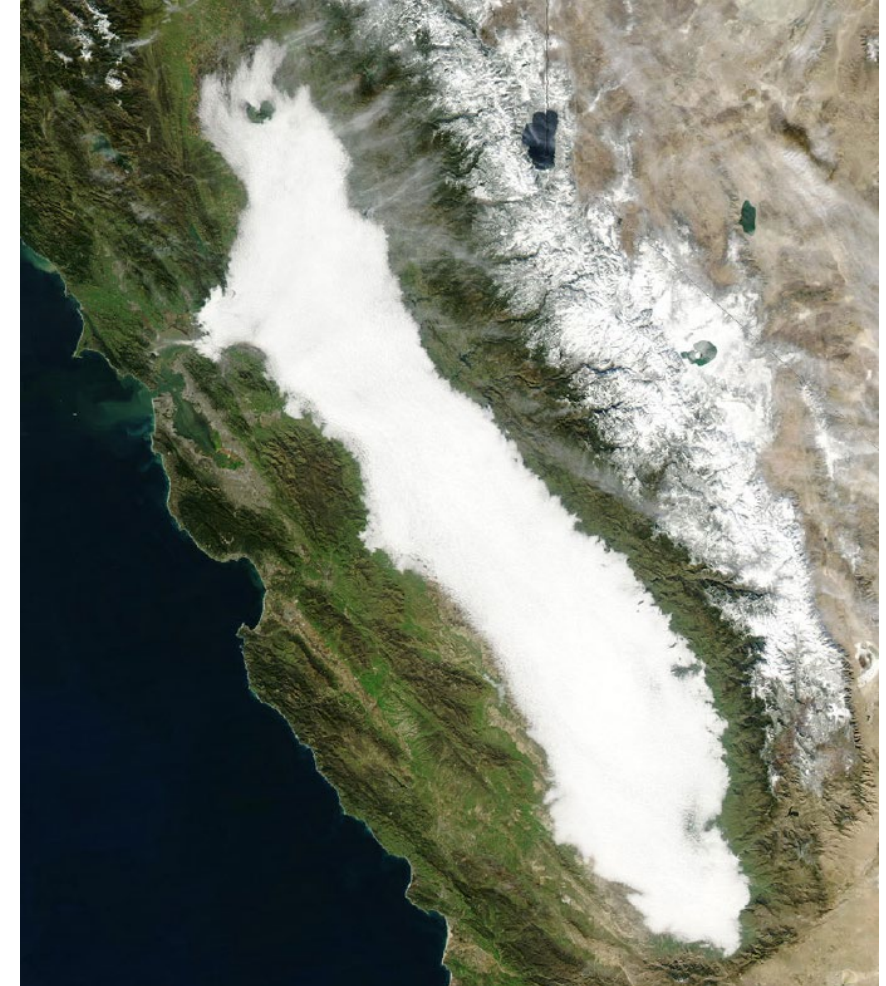
Valley Air District

- Regional agency responsible for air quality in 8 counties
 - *San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare & Valley portion of Kern*
- 4.3 million residents
- 15 member Governing Board
- Primarily regulates stationary sources
- Provides grant funding
- Responsible for meeting EPA & CARB mandates to improve public health



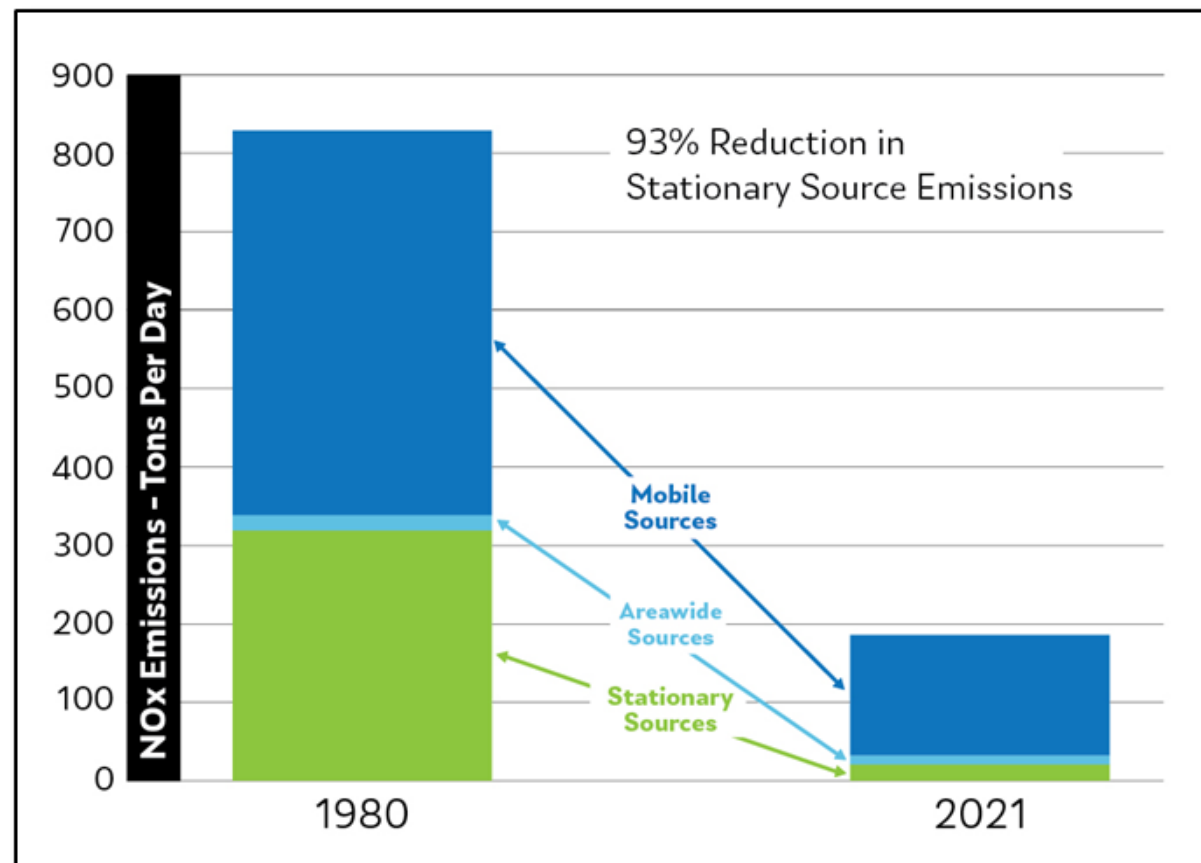
Valley's Air Quality Challenges

- Valley's challenges in meeting federal air quality standards unmatched due to unique combination of topography and meteorology
- Valley faced with variety of challenges including role as major goods movement corridor, high population growth, pollution transport from other areas, wildfires
- 7 of 10 most disadvantaged California communities located within the San Joaquin Valley



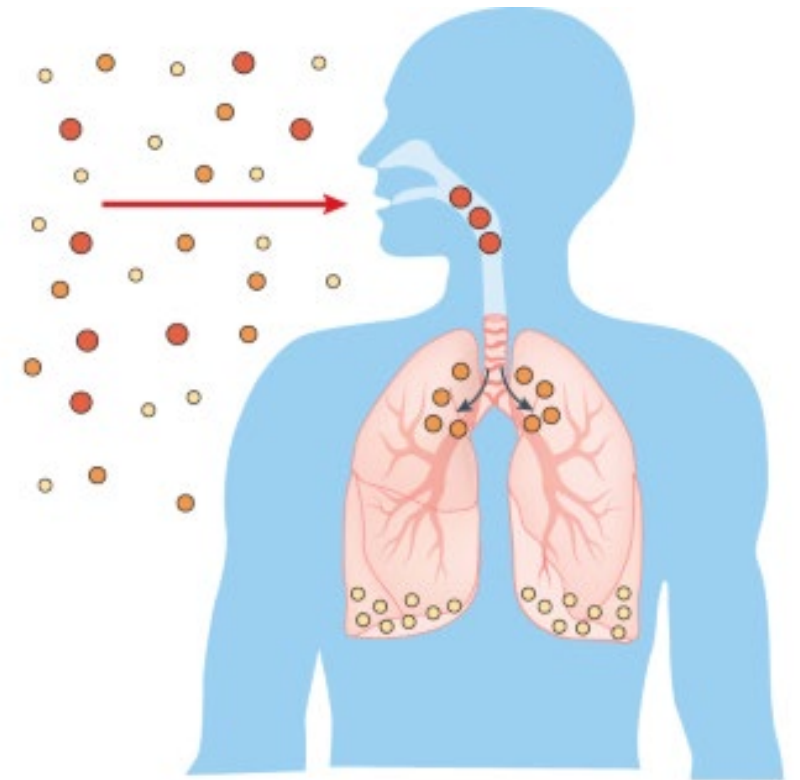
Ongoing Clean Air Efforts in San Joaquin Valley

- District has adopted numerous air quality plans and strategies to address federal standards
 - Hundreds of regulatory amendments
- District/CARB strategies nation's toughest emissions control program
- Strong clean air incentive programs (\$4.5 billion in public/private investment)
- Through significant investments, has seen major air quality improvements
- Significant challenges remain in meeting PM2.5 and ozone standards



Public Health Impacts of Wood Burning

- Scientific research links prolonged inhalation of woodsmoke to a variety of health effects
 - Lung disease and decrease in lung function for children
 - Pulmonary arterial hypertension and pulmonary heart disease, may lead to cancer or heart failure
- Residential wood-burning emissions are among the largest sources of direct PM_{2.5} emissions during the winter months
 - Emissions occur during evening inversions which magnifies concentration and exposure to residents in neighborhoods



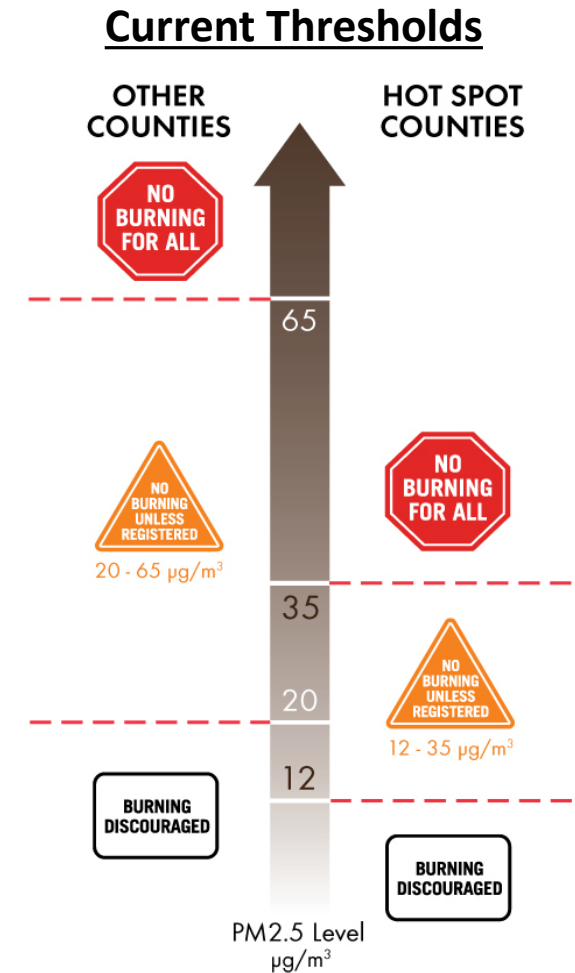
Residential Woodsmoke Reduction Strategy

- Multi-faceted approach to reducing residential wood burning emissions in the Valley
 - Key measure in PM2.5 plans
 - Stringent curtailment requirements through Rule 4901
 - Comprehensive enforcement
 - Strong outreach and education to establish necessary public support
 - Incentives to support transition away from wood burning to cleaner alternatives
 - Target reduction of 0.33 tpd PM2.5 included in *2018 PM2.5 Plan*



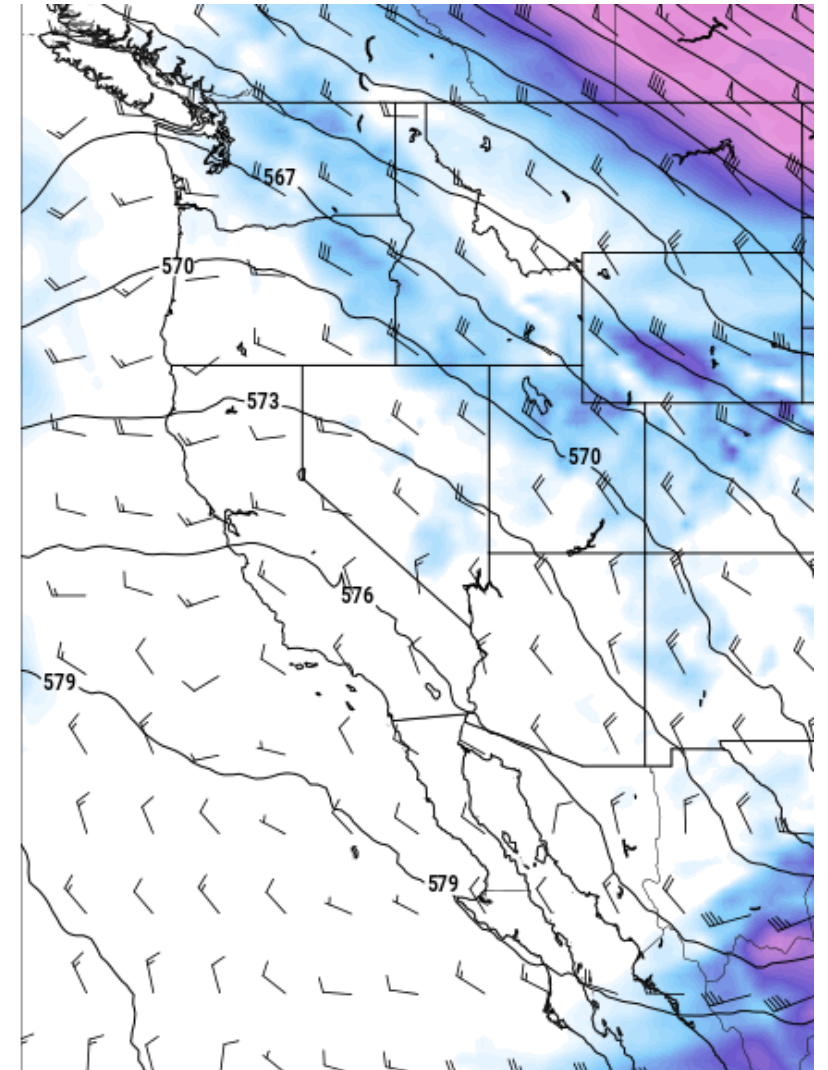
Ongoing Evolution of Strategy

- Valley has long history of reducing residential wood burning emissions
- Regulated through District Rule 4901
- Regulation has been strengthened over time to meet more stringent PM2.5 NAAQS
 - 1993 – voluntary program “Please Don’t Light Tonight”
 - 2003 – mandatory curtailment at 150 AQI
 - 2008 – mandatory curtailment at $30 \mu\text{g}/\text{m}^3$
 - 2014 – mandatory curtailments at $20 \mu\text{g}/\text{m}^3$ for most devices (non-registered), $65 \mu\text{g}/\text{m}^3$ for limited registered devices
 - 2019 – mandatory curtailments at $12 \mu\text{g}/\text{m}^3$ for most devices (non-registered), $35 \mu\text{g}/\text{m}^3$ for limited registered devices (Hot-Spot counties)



Air Quality Forecasting Program

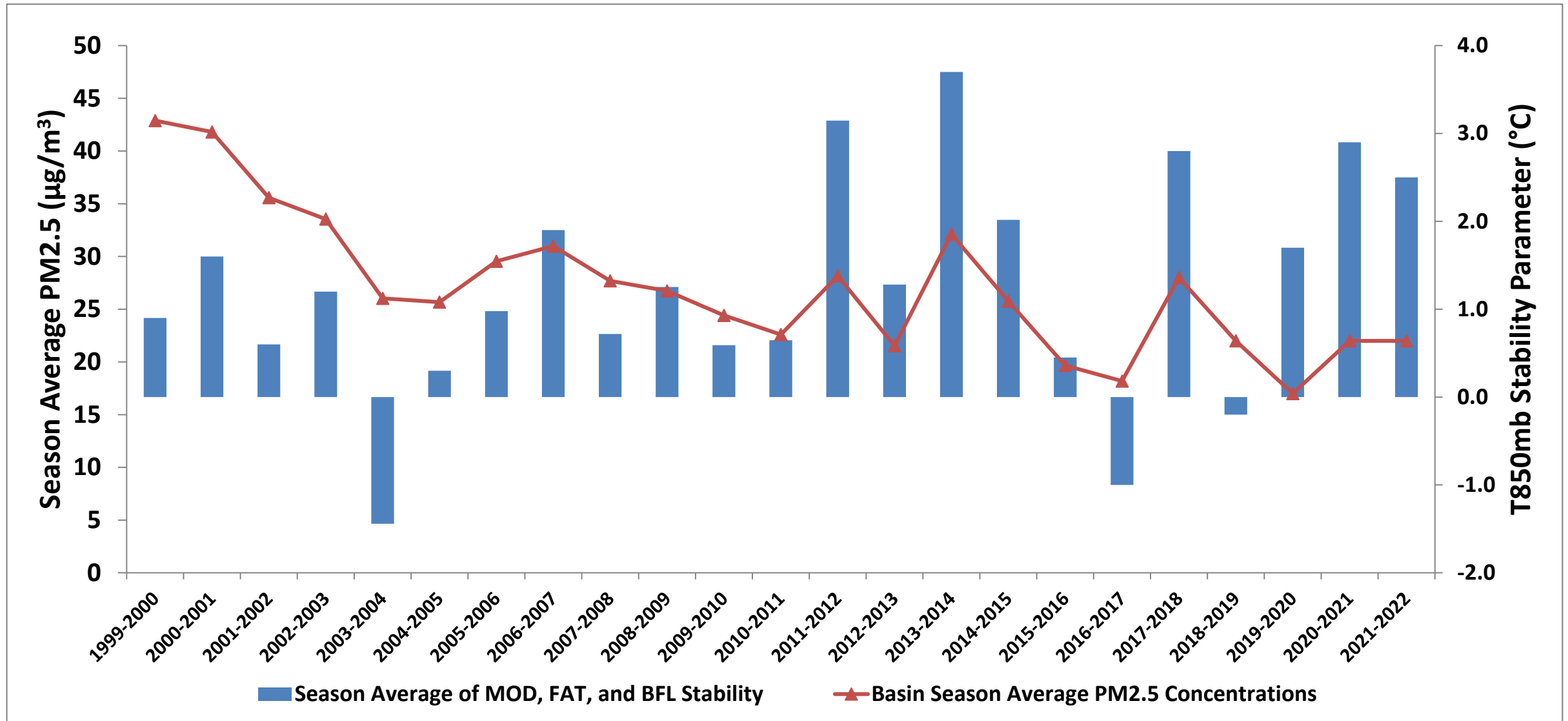
- District air quality analysis staff conduct daily meteorological analysis and air quality forecasting
- Daily forecasts of PM_{2.5} during winter season used to determine residential woodburning declarations
- Residential wood burning prohibited for majority of winter season in “Hot-Spot” counties due to stringent thresholds
- Conservative and protective approach used for woodburning declarations to ensure air quality standards are not exceeded



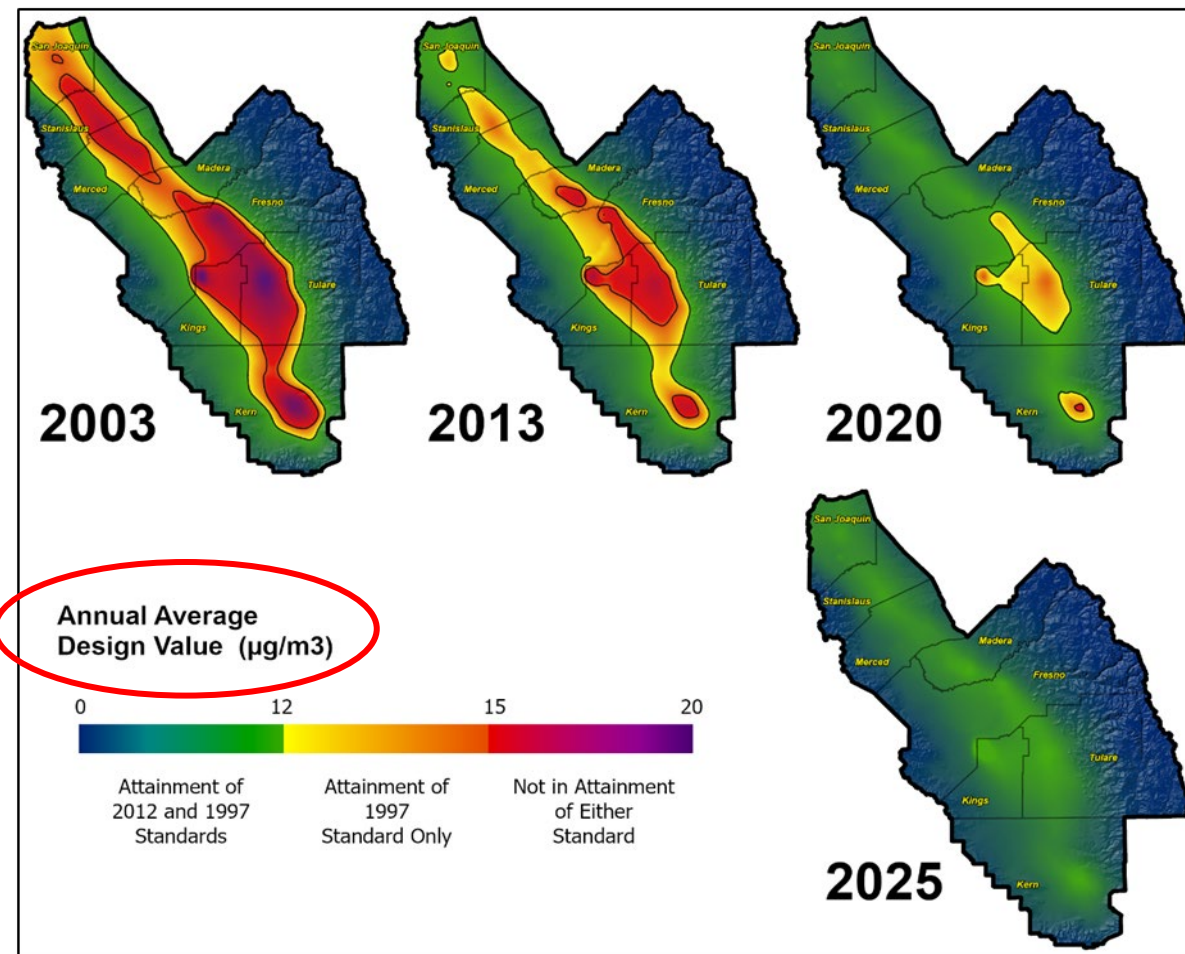
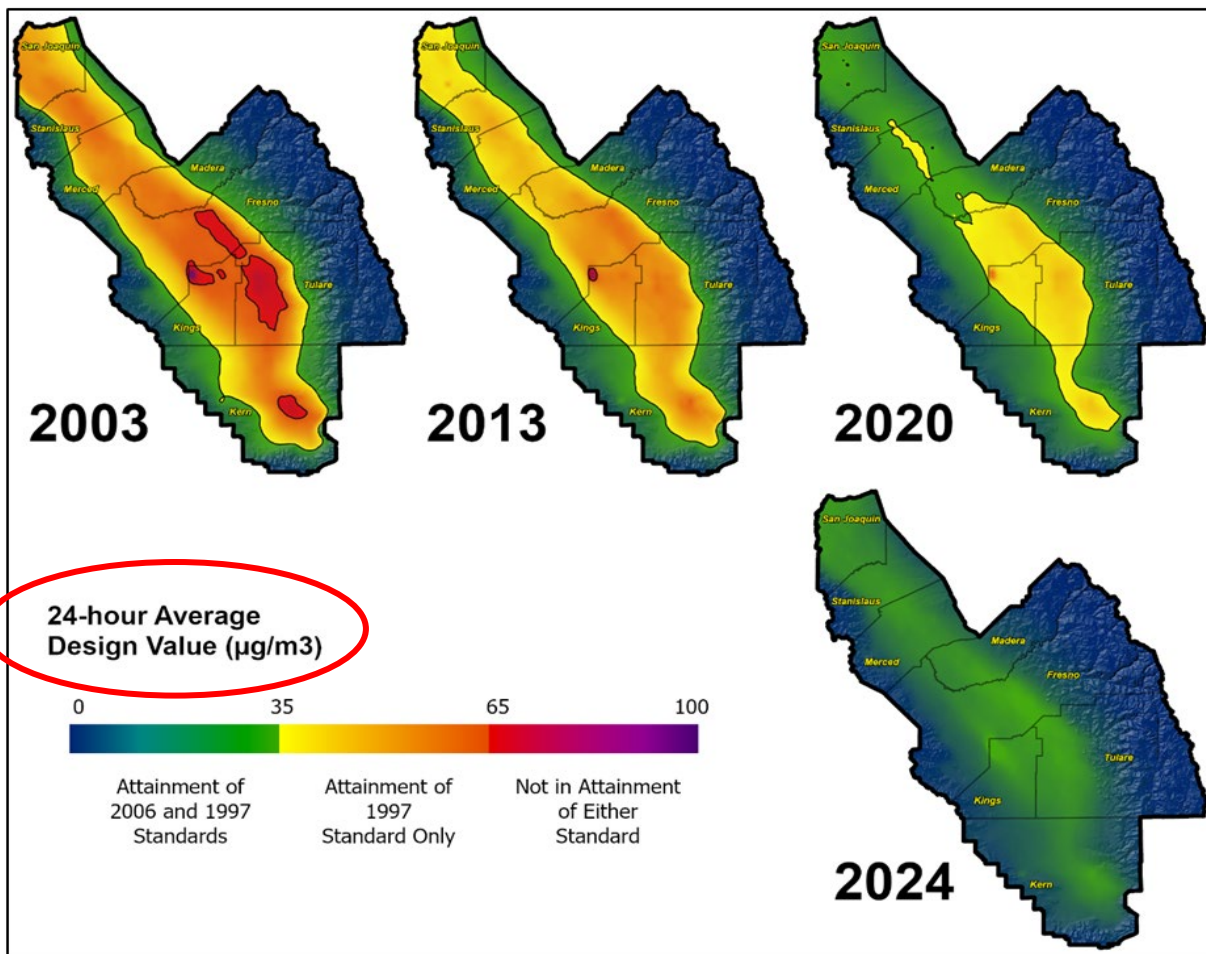
Significant Air Quality Improvements due to District's Residential Woodsmoke Reduction Strategy

- Residential wood burning curtailment program highly cost-effective public health protective measure
 - Large PM_{2.5} reductions with low regulatory cost
 - Protects public health by reducing emissions when and where most needed
- Significant reductions in direct PM and its precursors have contributed to reaching key air quality milestones
 - Attainment of PM₁₀ standard
 - Attainment of 65 µg/m³ 24-hr standard
 - Significant progress towards 15 µg/m³ annual standard (all Valley sites meet standard but for single CARB-operated site in Bakersfield)
 - Significant progress towards 35 µg/m³ 24-hr and 12 µg/m³ annual standards

Decreasing PM2.5 with Increasing Atmospheric Stability



Valley PM2.5 Improvements



Rule 4901 Most Stringent Measure Designation

- Through review and final approval process of 2019 rule amendment, EPA designated District Rule 4901 as the Most Stringent Measure (MSM) in the nation for residential wood burning
 - “We also propose to find that it implements MSM for PM2.5 for this source category because, as a whole, it is as or more stringent than analogous local, state and federal rules and guidance.”¹*

Federal Register / Vol. 85, No. 6 / Thursday, January 9, 2020 / Proposed Rules 1131

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 52

[EPA-R09-OAR-2019-0693; FRL-10003-95-Region 9]

Air Plan Approval; California; San Joaquin Valley Unified Air Pollution Control District

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve a revision to the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD or “the District”) portion of the California State Implementation Plan (SIP). This revision concerns emissions of volatile organic compounds (VOCs), oxides of nitrogen (NO_x), and particulate matter (PM) from wood burning devices. We are proposing to approve a local rule to regulate these emission sources under the Clean Air Act (CAA or “the Act”). We are taking comments on this proposal and plan to follow with a final action.

DATES: Any comments must arrive by February 10, 2020.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2019-0693 at <https://www.regulations.gov>. For comments submitted at [Regulations.gov](https://www.regulations.gov), follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from [Regulations.gov](https://www.regulations.gov). The EPA may publish any comment received to its public docket. Do not submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit <https://www.epa.gov/dockets/commenting-epa-dockets>.

FOR FURTHER INFORMATION CONTACT: Rynda Kay, EPA Region IX, 75 Hawthorne St., San Francisco, CA 94105. By phone: (415) 947-4118 or by email at kay.rynda@epa.gov.

SUPPLEMENTARY INFORMATION: Throughout this document, “we,” “us” and “our” refer to the EPA.

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I. The State’s Submittal

A. What rule did the State submit?

Table 1 lists the rule addressed by this proposal with the dates that it was adopted by the local air agency and submitted by the California Air Resources Board.

Local agency	Rule No.	Rule title	Amended	Submitted
SJVUAPCD	4901	Wood Burning Fireplaces and Wood Burning Heaters	06/20/2019	07/22/2019

On November 21, 2019, the EPA determined that the submittal for SJVUAPCD Rule 4901 met the

premature mortality, aggravation of respiratory and cardiovascular disease, decreased lung function, visibility

burning fireplaces and unregistered wood burning heaters is prohibited, but properly operated wood burning heaters

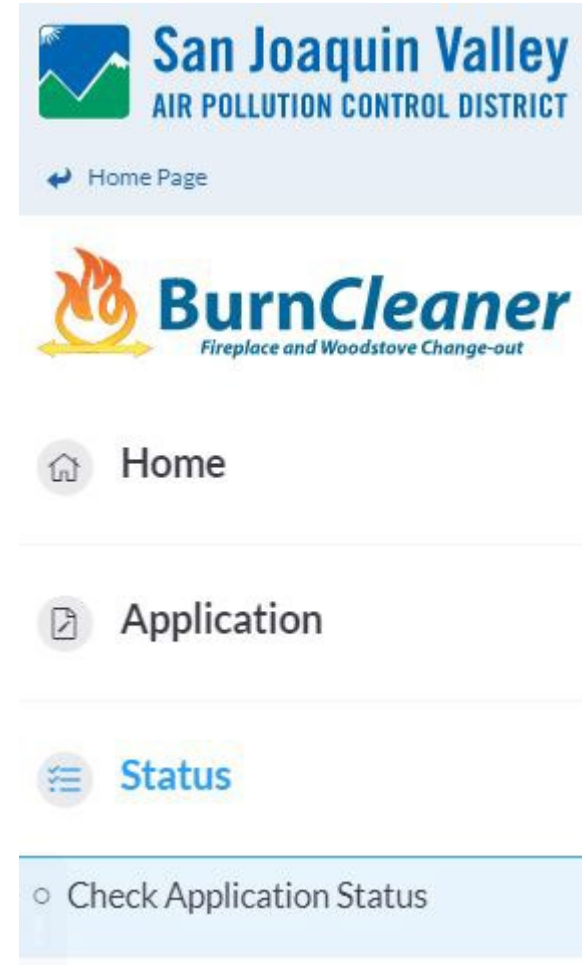
1 <https://www.govinfo.gov/content/pkg/FR-2020-01-09/pdf/2019-28442.pdf>

Active Enforcement by the District

- Extensive surveillance by District staff including nights & weekends
 - 3,917 staff hours spent on enforcement activities during 2021-22 season
 - Investigated and responded to all public complaints received
- Utilized low-light imaging technology designed to work with a single lens reflex camera to visualize and document smoke in low- to no-light conditions
- 750 Notices of Violation for 2021-22 season
- \$100 penalty (\$50 discount for attending compliance school)
 - Higher penalties for repeat offenders
- Increased public awareness, support, and compliance

Burn Cleaner Grant Program

- District's *Burn Cleaner* Program plays key role in replacing wood burning devices with cleaner units
- Since 2009, ~27,000 vouchers for nearly \$49 million in funds
- Program helps residents overcome financial obstacles in purchasing cleaner technology while achieving cost effective emission reductions
- Incentives up to \$5,000 to replace existing wood/pellet burning device with electric heat pumps or natural gas, and EPA-certified heating devices (only in areas without access to natural gas)
- District works closely with network of partnering hearth retailers to connect interested residents with program
- Online application portal provides applicants enhanced customer service while streamlining application process



Current *Burn Cleaner* Program Incentives

Project Type		Current Incentives	
		Hot-Spot	Standard
Gas	Device	\$3,500	\$2,000
	Install	\$650	
Electric Heat Pump		\$5,000	\$3,500
Low-Income			Additional \$1,500
Fireplace Decommissioning		Up to \$750	



Burn Cleaner Program Online Portal

STEP 1: REVIEW GUIDELINES

STEP 2: COMPLETE APPLICATION

STEP 3: UPLOAD DOCUMENTS

VOUCHER APPLICATION – Phase 1

To be eligible for a voucher, do not disassemble your old device or install a new device before receiving a voucher from the District. Only refundable deposits are allowed prior to voucher approval and the amount must be clearly noted on the final invoice as 'refundable'. All fields below are required unless otherwise indicated.

Applicant Information

First Name

First Name

Last Name

Last Name

Mailing Address

Mailing Address

City

City

State

California

Zip Code

Zip Code

County

☐

Check here if applicant's primary residential address is different than mailing address. (Not necessarily the device address)

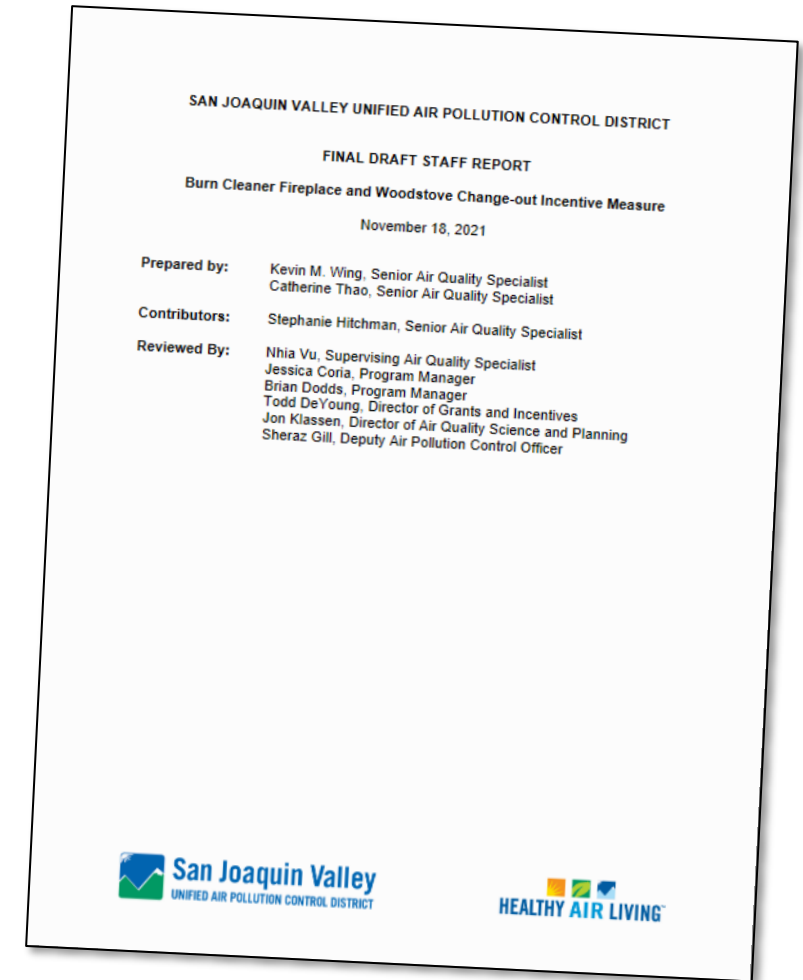
Primary Phone (###) ###-####

E-mail Address (Required)



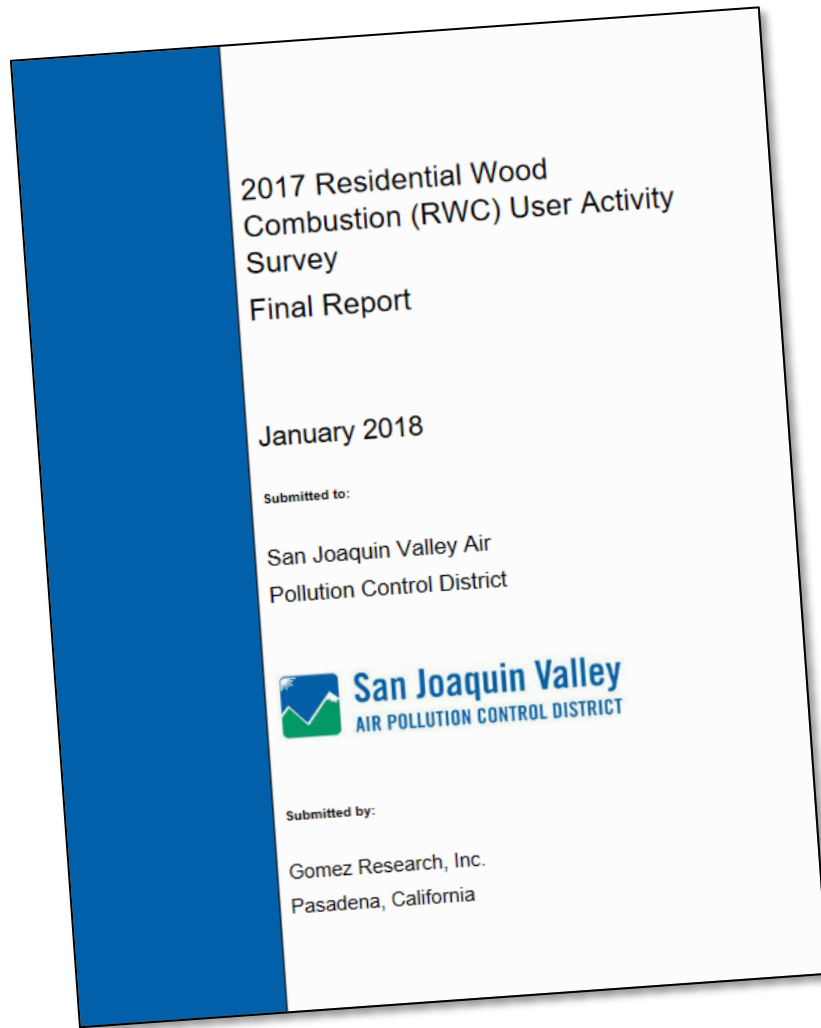
Burn Cleaner Grant Program SIP Credit

- November 2021, District approved *Burn Cleaner Incentive Measure* for inclusion in SIP
- *Burn Cleaner* operated with SIP-integrity standards to ensure Surplus, Quantifiable, Enforceable, and Permanent reductions
- Methodology developed with CARB/EPA
 - Accounts regulatory curtailment program
 - Ensures compatibility with Plan baseline inventory
- To date, District able to demonstrate 0.27 tpd PM2.5 reductions
- Currently awaiting EPA approval



Public Outreach

- Continued Public Education and Outreach based on results of 2017-18 public survey, with the following goals:
 - Increasing emphasis on health impacts of woodsmoke through messaging within paid advertisements, educational videos, brochures and other outreach opportunities
 - Educating the public and the media about the collective benefits of choosing not to burn
 - Encouraging residents to upgrade to a cleaner device through the *Burn Cleaner* grant program
 - Warning residents when air pollution is expected to deteriorate and providing them with information regarding steps they can take to protect their health




Public Outreach (cont'd)



- Tradition bilingual advertising including network TV, cable TV, outdoor Billboards in targeted neighborhoods
- Social media outreach via Facebook, Twitter, Instagram, Nextdoor to generate healthy dialogue
- Digital advertising including on demand streaming services (such as Hulu) and Search Engine Marketing to target individuals searching for wood burning related content
- District's smart-phone application
- Public relations through multiple bilingual Press Releases and coordination with Valley meteorologists and weather reporters

Examples of Outreach

San Joaquin Valley Air Pollution Control District
Outreach & Communications Manager Heather Heinks • 7 Jan




Weekend Air Quality Outlook. While we have rain coming down in parts of the Valley today, there's not much wind helping disperse pollution. We don't anticipate the storm to last long and it will be followed by high pressure which traps everything underneath it. (Photo shows an inversion layer "lid" which often traps pollution in the Valley)

That means ANY pollution we add to the atmosphere is going to remain with us for the next week or more. Please consider your neighbors and avoid using wood burning devices (unless you have no other means to heat your home) so you do not add particulate matter pollution into the Valley's atmosphere.

Fireplaces and wood burning devices (including backyard firepits) contribute a significant amount of particulate matter pollution which can negatively impact your health. Please consider our our Burn Cleaner program which provides up to \$3,000 to switch out your high polluting fireplace for a natural gas insert. Learn more: www.valleyair.org/burncleaner

Daily Wood Burning Status is available at www.valleyair.org/burnstatus

 **Valley Aid District**
valleyair.org

Posted to Subscribers of San Joaquin Valley Air Pollution Control District

👍❤️👎 252 • 186,772 Impressions Like Comment Share




Check Before You Burn
1 800 SMOG INFO ValleyAir.org

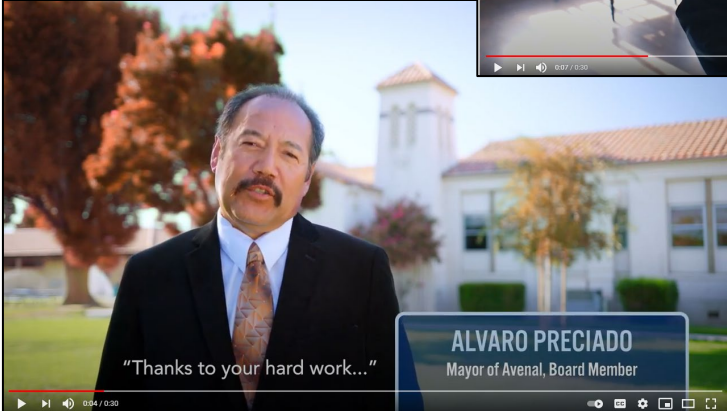
Tania Pacheco-Werner Ph.D., Board Member

 **HEALTHY AIR LIVING™**

 **San Joaquin Valley**
AIR POLLUTION CONTROL DISTRICT



During the winter,



ALVARO PRECIADO
Mayor of Avenal, Board Member

"Thanks to your hard work..."

Proteja la salud pública. ¡Por Favor No Queme!

La quema de leña emite partículas peligrosas en el aire del Valle. Esta forma de contaminación puede causar infecciones respiratorias, enfermedad pulmonar, ataques cardíacos y hasta derrame cerebral.

Cada invierno, el Distrito le informa si la quema de leña residencial es permitida en su condado cada día, basado en la calidad del aire y el tipo de aparato de leña que tiene en tu residencia.

Residencias sin ninguna otra fuente de calor en el hogar o sin acceso a gas natural (incluso si utiliza gas propano) están exentos de estas restricciones. Sin embargo, fogatas y aparatos para quemar leña al aire libre en todas las residencias aún están sujetos a las restricciones diarias, independientemente del estado de excepción.

Si tiene una estufa o inserto de gas que NO quema leña o combustible granulado, la puede usar cualquier día.

Hay tres niveles de declaraciones:



Nadie puede quemar.



Si tiene un aparato que quema limpiamente y está registrado, usted puede quemar en su residencia.



Si tiene que quemar, asegúrese de que su leña esté limpia, curada y seca. La leña sin curar arde lentamente, crea emisiones adicionales y puede resultar en una multa.

