AGENDA: 14

Bay Area Air District

Adoption of Proposed Amendments to Regulation 9, Rule 6

Board of Directors Meeting

November 4, 2026

Gregory H. Nudd
Deputy Executive Officer
Policy

Presentation Outline

I. Rule 9-6 Background and Overview
II. Proposed Amendments
III. Exemption Framework and Implementation Process
IV. Socioeconomic and Environmental Impacts
V. Public Comment
VI. Resolution and Recommendation

Recommended Action

Staff recommends that the Board adopt the Resolution, which includes:

- Proposed Amendments to Regulation 9, Rule 6; and
- Findings of necessity, authority, clarity, consistency, non-duplication, and reference.

Abbreviations

AMI: Area median income

BTU/hr: British thermal units per hour; measure of heat energy

CARE: California Alternate Rates for Energy

CEC: California Energy Commission

CEQA: California Environmental Quality Act

CPUC: California Public Utilities Commission

EIR: Environmental Impact Report

FERA: Family Electric Rate Assistance Program

GHG: Greenhouse gas

HPWH: Heat pump water heater

IWG: Implementation working group

NOx: Nitrogen Oxides

PG&E: Pacific Gas and Electric

PM: Particulate matter

$PM_{2.5}$: Fine particulate matter

WIC: Women, Infants and Children (supplemental nutrition program)

Bay Area Air District

Part I. **Rule 9-6 Background and Overview**

Current Requirements

- Zero NOx standards adopted in 2023 apply to natural gas fired water heaters (Rule 9-6) and furnaces (Rule 9-4)
- If the Board does not approve the proposed amendments today, current requirements remain in place, these do not include exemptions for affordability installation costs or implementation challenges
- Requirements **phase in over time:** all ***new*** sales or installations of units manufactured after compliance dates
- Requirements only apply to natural gas-fired water heaters and furnaces

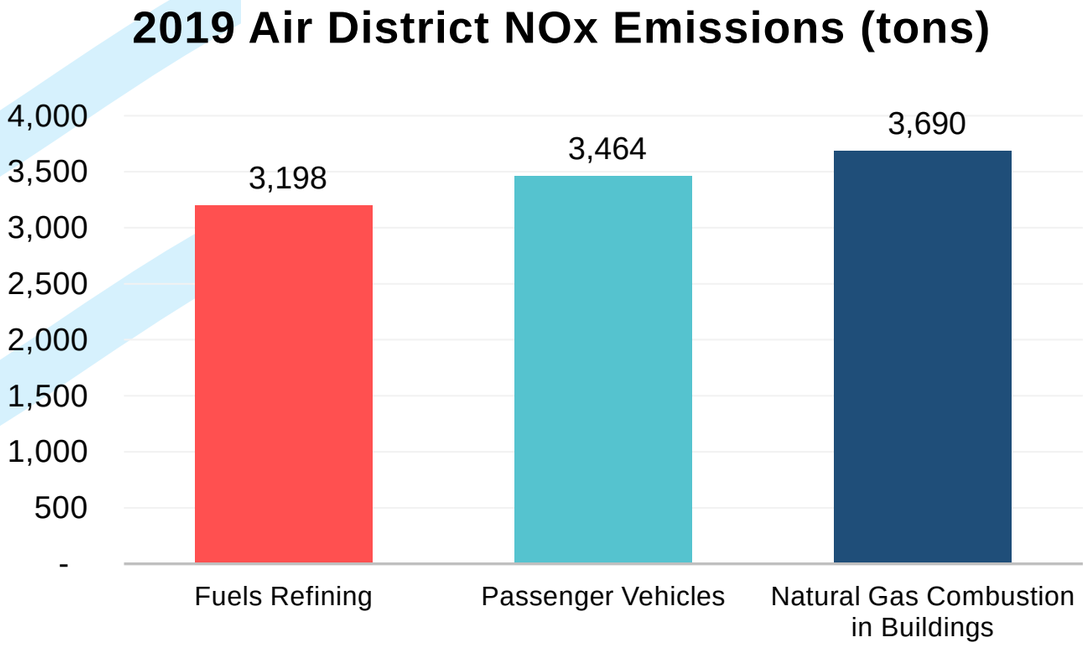
1/1/2027	Water heaters less than 75,000 BTU/hour
1/1/2029	All applicable natural gas-fired furnaces (e.g., residential and commercial; including direct-vent units)
1/1/2031	Water heaters 75,000 to 2 million BTU/hour

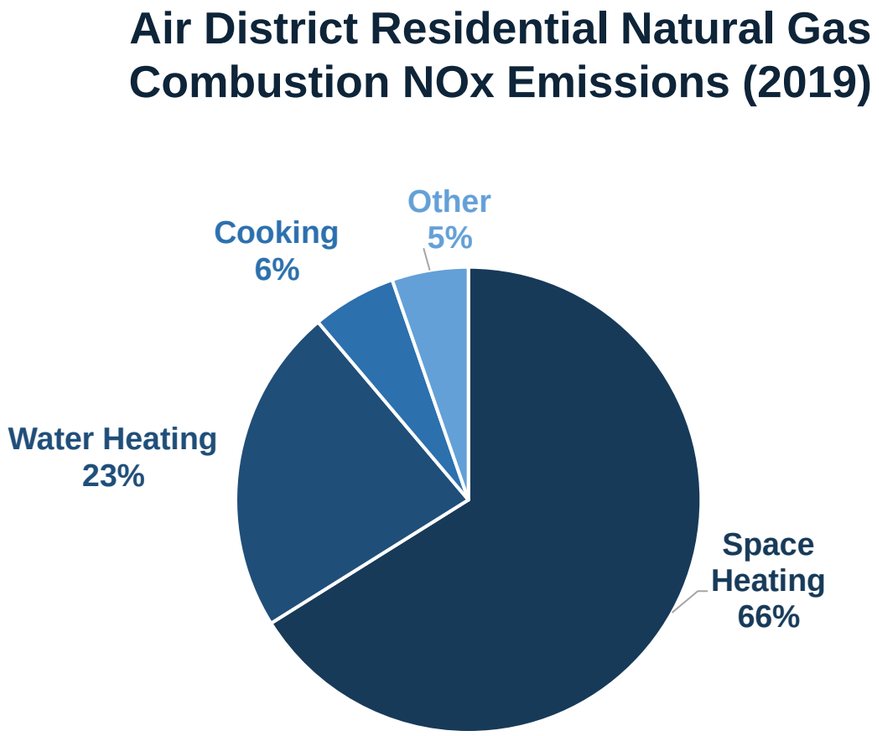
Decision Before the Board

THE PROPOSED AMENDMENTS WOULD:

- Allow for continued sales of small-capacity natural gas water heaters
- Establish targeted exemptions for space, electrical, and affordability barriers
- Extend compliance dates for certain water heaters and properties
- Provide additional time for implementation and public outreach

NOx Emissions from Buildings





Major Health Benefits from Rules 9-4 and 9-6

These appliance rules help improve regional air quality by reducing pollution from furnaces and water heaters.

Cleaner outdoor air

Less NOx and $PM_{2.5}$ from venting



Lower pollution means lower exposure to fine particles ($PM_{2.5}$).

Cleaner Bay Area communities

Biggest $PM_{2.5}$ reductions in communities of color and overburdened neighborhoods



Reducing $PM_{2.5}$ and NOx exposure can prevent dozens of early deaths every year in the Bay Area.

Up to 85 early deaths avoided

each year from cleaner air



Health improvements from cleaner air avert unnecessary costs from health impacts.

Up to $1.1B

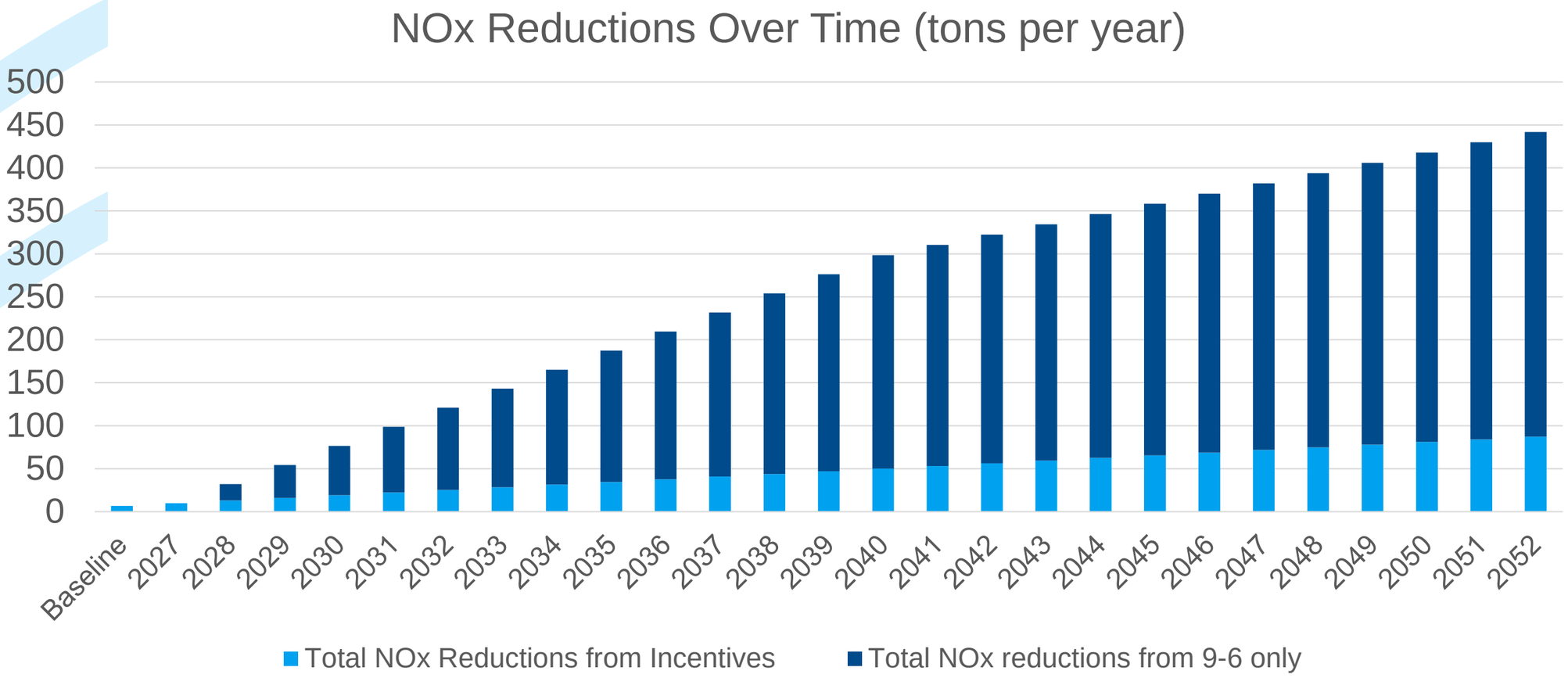
Annual health benefits saved in avoided illnesses, hospital visits, and early deaths



Health Benefits Not on the Balance Sheet

- Avoiding suffering: respiratory distress
- Brain conditions: Dementia/Alzheimer's and Parkinson's
  - More than the cost of the 1st hospitalization
- Stroke: caregiving costs, impact on family members
- Sub-clinical benefits: chronic inflammation, oxidative stress, metabolic impacts
- Climate change mitigation benefits and potential indoor air exposure

Benefits Accumulate Over Time
NOx Reductions from Incentives and Rule 9-6



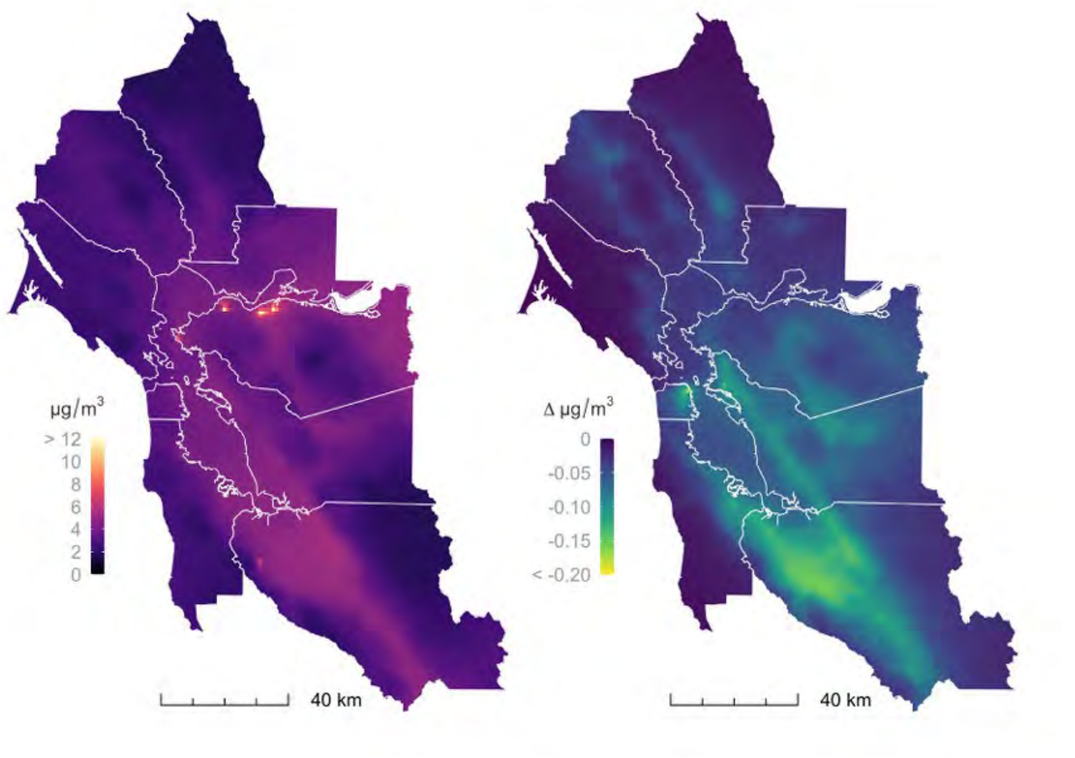
Long-Term Benefits of Rule 9-6 with Proposed Amendments

	Premature Mortality[1,2]	Asthma Onset[1]	Overall Valuation[1,2,3]
Annual Projected	16 avoided/yr	21 avoided/yr	$90 million/yr
Cumulative benefits 2028–2058	**300 avoided**	**400 avoided**	**$2 billion**

1. *Incorporating regional population growth forecast by Plan Bay Area 2050+.*
2. *Upper ends of estimated ranges.*
3. *Present valuations expressed in 2024 dollars, including a 3% real discount rate.*

Public Health Benefits: Who? Where?

- Benefits are less in your home, they’re for neighbors and the region.
- Emissions reductions will take longer to achieve due to exemptions
- Maintains regional benefit due to the reduction in secondary $PM_{2.5}$

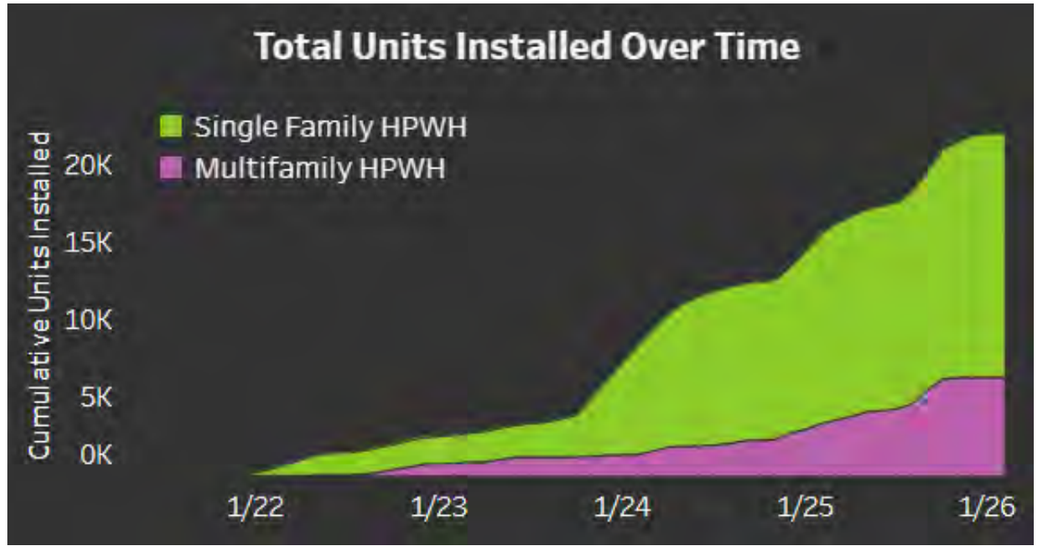


Baseline concentrations (left) and reductions (right) for secondary PM2.5 (Source: 2023 Rule 9-6 Staff Report)

Zero NOx Water Heater Technology is Widely Available

- Diverse technology options available for installation

- 20,000+ units installed in California and growing



Source: TECH Public Reporting Heat Pump Data Visuals

Implementation Working Group Phase 1 Small Water Heaters

Technical Readiness

Equitable Transition

40+ members

- **Environmental Justice and Community-Based Organizations**
- **Subject Matter Experts on Energy, Buildings, and Technology**
- **Regional/Local Government and State Agencies**
- **Labor and Trade Organizations**
- **Utilities and Community Choice Aggregators**

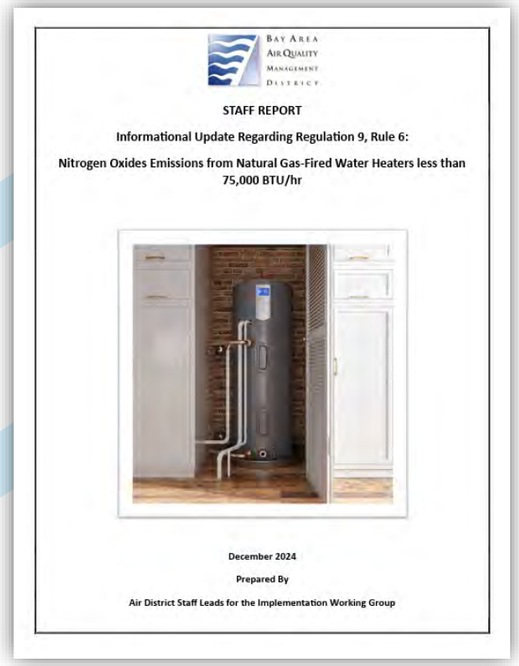
20+ Meetings

- 6 Public Plenary
- 5 Steering Committee
- 5 Technical Subcommittee
- 5 Equity Subcommittee

Board and Committee Timeline

Date	Venue	Summary
March 15, 2023	Board of Directors	Adoption of zero NOx amendments to Rules 9-4 & 9-6 Board directed staff to come back with a Rule 9-6 implementation report in 2024
December 4, 2024	Board of Directors	Informational report on staff's research and a summary of IWG findings for Rule 9-6 implementation
October 24, 2025	Public Comment Period	Public Release of Rule 9-6 Concepts Paper (flexibility options) informed by Phase I of the IWG
December 10, 2025	Stationary Source Committee	Presentation on potential flexibility amendments based on affordability and availability issues for Rule 9-6 Committee directed staff to come back with information on possible exemptions for low-income property owners
February 11, 2026	Stationary Source Committee	Presentation on the definition of "low-income" including considerations for housing cost burden and how much it costs to help low-income households switch to zero NOx water heaters.
May 6 and 13, 2026	Stationary Source Committee	Staff to returned with a full set of proposed changes so the full Board can give clear directions on how to proceed with the rule

Continuous Public Reporting


STAFF REPORT

Informational Update Regarding Regulation 9, Rule 6:

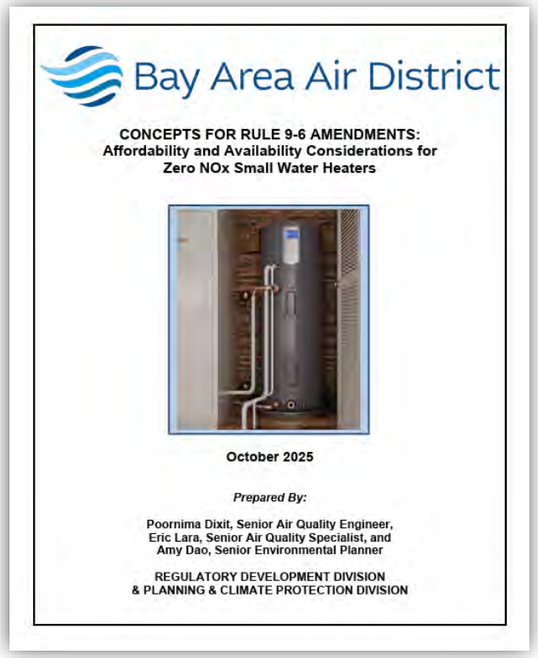
Nitrogen Oxides Emissions from Natural Gas-Fired Water Heaters less than 75,000 BTU/hr

December 2024

Prepared By

Air District Staff Leads for the Implementation Working Group

DECEMBER 2024


Bay Area Air District

CONCEPTS FOR RULE 9-6 AMENDMENTS: Affordability and Availability Considerations for Zero NOx Small Water Heaters

October 2025

Prepared By:

Poornima Dixit, Senior Air Quality Engineer, Eric Lara, Senior Air Quality Specialist, and Amy Dao, Senior Environmental Planner

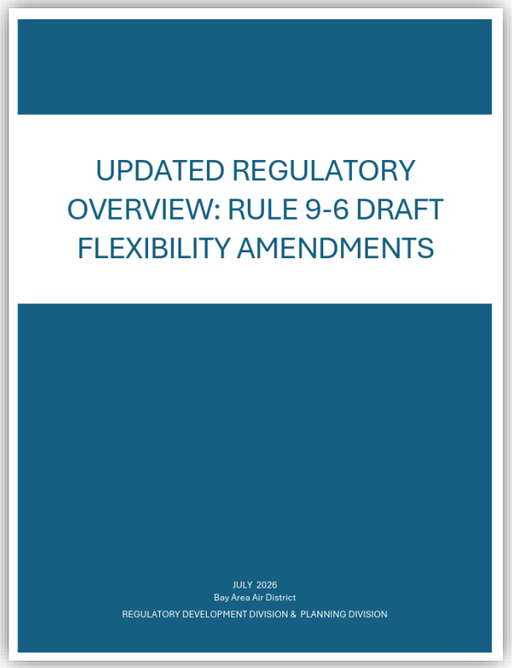
REGULATORY DEVELOPMENT DIVISION & PLANNING & CLIMATE PROTECTION DIVISION

OCTOBER 2025


REGULATORY OVERVIEW: RULE 9-6 FLEXIBILITY AMENDMENTS

APRIL 2026
Bay Area Air District
REGULATORY DEVELOPMENT DIVISION & PLANNING DIVISION

APRIL 2026


UPDATED REGULATORY OVERVIEW: RULE 9-6 DRAFT FLEXIBILITY AMENDMENTS

JULY 2026
Bay Area Air District
REGULATORY DEVELOPMENT DIVISION & PLANNING DIVISION

JULY 2026

During this time, staff has received and responded to over 5000 public comments, as well as engaged with many stakeholder groups

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Part II. **Proposed Amendments**

Proposed Amendments

IMPLEMENTATION CHALLENGE 1:

- *Additional time needed to establish the exemption process and conduct public outreach*

PROPOSED SOLUTION:

- **Extend Compliance Date to January 1, 2028**

IMPLEMENTATION CHALLENGE 2:

- *Limited availability of small capacity Zero NOx water heaters*

PROPOSED SOLUTION:

- **Continued Sales of Small Capacity Units** *(< 30 gallons)*

Proposed Amendments (cont.)

IMPLEMENTATION CHALLENGE 3:

- *Certain water heater installations require additional long-term planning to address technical or infrastructure challenges*

PROPOSED SOLUTION:

- **Extend Compliance Dates to January 1, 2033 for:**
  - Multi-family buildings (5 units+), Deed-restricted affordable housing, Non-Profit Mutual Housing Cooperative
  - Larger capacity units (>75,001 Btu/hour)
  - Hydronic systems
  - Qualifying Businesses with specialized applications and high hot water demand

Proposed Amendments (cont.)

IMPLEMENTATION CHALLENGE 4:

- *Emergency water heater replacements may not allow for sufficient time to install compliant equipment*

PROPOSED SOLUTION:

- **Allow for Temporary Emergency Replacements**
- **Require Removal Within 12 Months or Obtain an Exemption Certificate**

ADDITIONAL APPLICABILITY PROVISIONS:

- Wholesale sales: Clarify the applicability of requirements to wholesale transactions
- Mobile home water heaters: Clarify the existing exemption for natural gas-fired mobile home water heaters

Proposed Amendments (cont.)

IMPLEMENTATION CHALLENGE 5:

- *Some installations may require more costly space modifications or electrical upgrades*

PROPOSED SOLUTION:

- **Establish One-Time Limited Exemptions for Qualifying Projects with:**
  - *Insufficient space for heat pump water heaters*
  - *Electrical infrastructure limitations*

IMPLEMENTATION CHALLENGE 6:

- *Some property owners may be unable to afford equipment replacement costs*

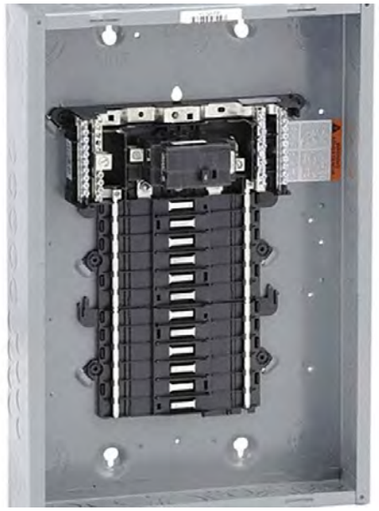
PROPOSED SOLUTION:

- **Establish a Low-Income Qualified Property Owner Exemption**
- **Eligibility Based on Qualifying Assistance Programs or Household Income**

One-Time Exemptions: Space and Electrical Constraints

5: Electrical Constraints

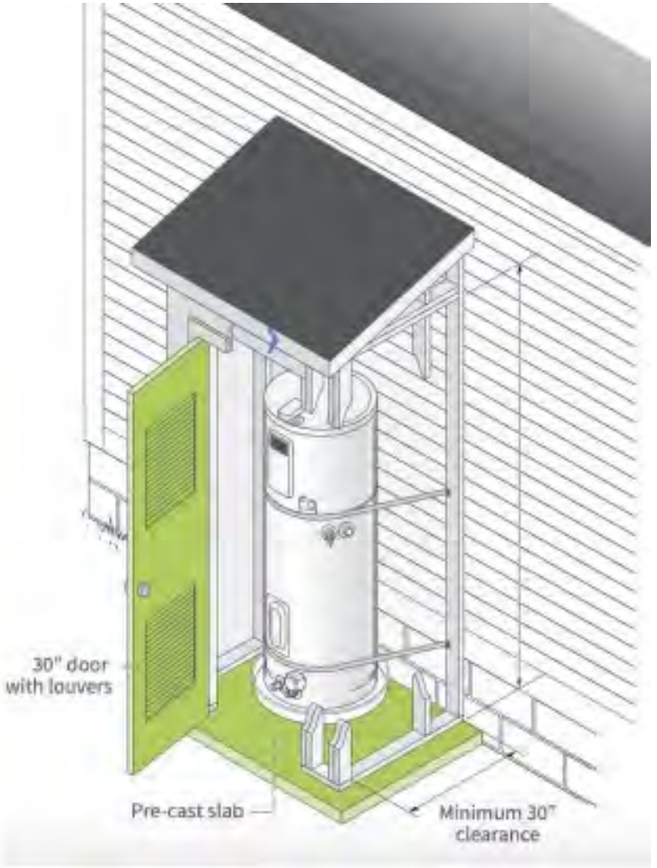
- <100 amp for single-family; <60 amps per multi-family home
- No open breaker space
- Knob and tube wiring
- >50 feet of 240v conduit required



Source: Granger.com

Space Constraint

- <700 cubic feet of space available
- Cannot be fitted with a louvered door, transfer grille or air duct
- Does not meet minimum height required
- Space constraint issues would result in relocation, adding an external closet (shown in figure)



Low-Income Qualified Property Owner

6: **Defined as:**

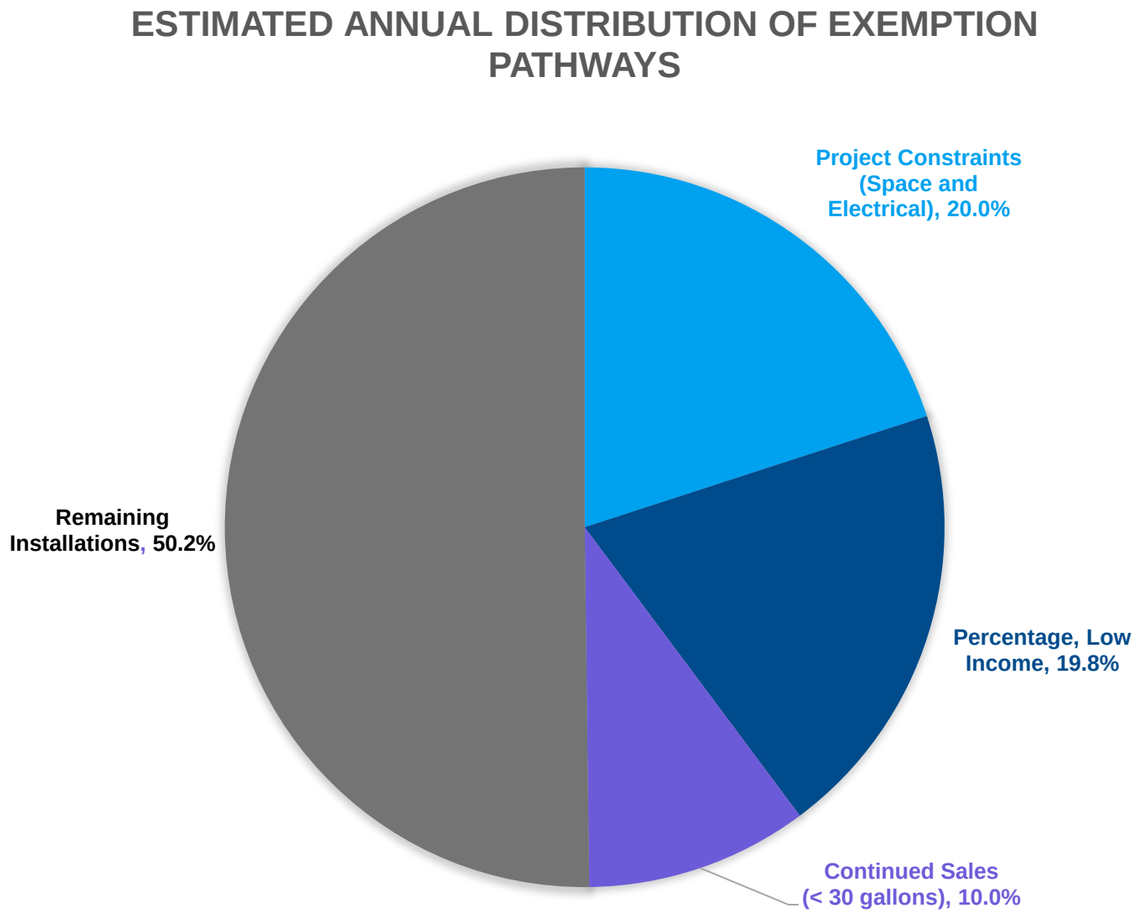
- Property owners that are either low-income program participants OR ≤80% Area Median Income (AMI)
- Housing cost burdened (annual mortgage and property taxes ≥28% of gross income)

Projected Percentage of Bay Area Households:

- 19.8%

Total Estimated Exemptions

- Approximately 120,000 small water heaters turnover annually
- Staff estimate up to half of water heater installations would qualify for exemptions



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Part III. **Exemption Framework and Implementation Process**

Implementation Guiding Principles

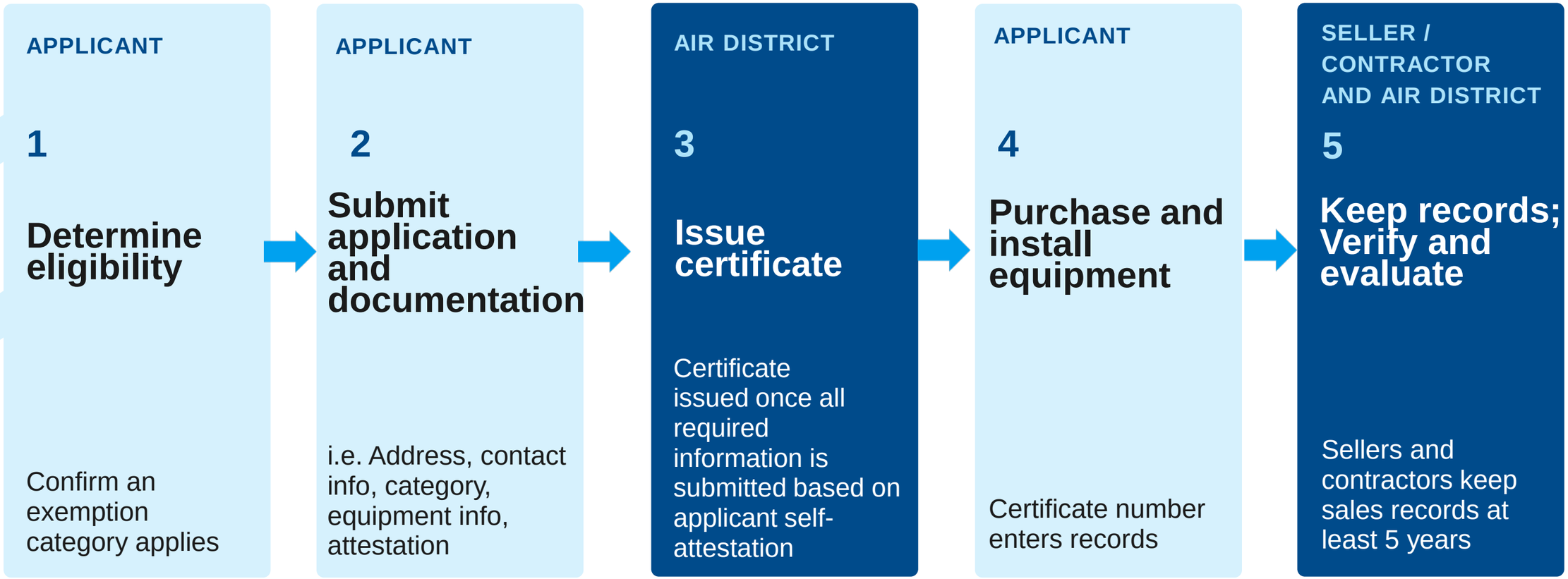
- **Simple:** Automated process with limited supporting documentation
- **Timely:** No delays in restoring hot water
- **Targeted:** For specific, identified barriers impacting installation, infrastructure and affordability



Source: istockphoto.com

An administrative certification process through an online portal, *not traditional permitting*

Implementation Process



Iterative: *APCO, with the Board, may adjust requirements in the future through a public process.*

Public Awareness Campaign Timeline

Multi-phase communications plan to educate and engage all audiences

Phase I – Summer and Fall 2026

- Develop clear, audience-specific messaging focused on benefits of switching to zero NOx appliances
- Conduct baseline awareness survey (April–June)
- Launch media, contractor, and social outreach

Phase II – Fall through early 2027 (post-Board action)

- Launch local advertising campaign
- Expand outreach, including door-to-door, with clear timelines and calls to action

Phase III – 2027 and beyond

- Continuation of advertising, public relations, stakeholder, and social media outreach

Bay Area Air District

Part IV. **Environmental and Socioeconomic Impacts**

2023 Socioeconomic Analysis

- Full socioeconomic analysis was conducted for the 2023 amendments
  - Considered compliance costs for both water heaters (Rule 9-6) and space heaters (Rule 9-4)
  - Provided details on how affordable the regulations would be for low-income households and renters
  - Calculated impacts on the overall economy due to shifts in spending driven by the zero-NOx requirements

2026 Socioeconomic Impacts from Amended Rule

- Full socioeconomic analysis of proposed amended Rule 9-6
- Updated costs of compliance for water heaters
- Updated regional economic metrics
- Provided updated details on how affordable the regulations would be for low-income households and renters
- Calculated impacts on the overall economy due to shifts in spending driven by costs to comply with the rule
- Assessed benefit of low-income exemptions by race/ethnicity and county

Socioeconomic Impacts from Amended Rule

- HPWH on average cost $3,500 more to install than new gas units based on data from > 4,000 Bay Area installations
  - Average baseline cost (gas-to-gas replacement): $3,575
  - Average upfront HPWH cost: $7,071
  - Annual utility savings: $40–$50
  - Incremental cost estimate supported by analysis of datasets without potential incentive project selection bias
- Household net cost: $33 per month for 13 years
- Regional net costs decline as more households receive ongoing utility savings

Socioeconomic Impacts from Amended Rule

- Analysis concludes that the proposed amendments are not expected to result in significant socioeconomic impacts
- Under worst case assumptions, costs from the amended rule reduce employment by less than 0.02% in impacted sectors
- Proposed homeowner exemptions reduce estimated net annualized household compliance costs by $97.9 million

Bay Area household costs	Annualized cost
Current Rule 9-6 requirements	$470.7 million
With proposed exemptions	$372.8 million
Savings from exemptions	$97.9 million

CEQA Impact Analysis: Rule 9-6 Addendum

The Addendum evaluates how the proposed amendments alter the analysis of the Rule's environmental impacts contained in the 2023 EIR.

- **Air Quality and GHGs**: *Beneficial impacts from emission reductions are delayed, with some potentially forgone due to exemptions.*
- **Utilities and Noise**: Adverse electrical infrastructure impacts are less than projected in 2023 EIR; noise impacts remain similar.
- **No new significant adverse impacts** or substantial worsening of significant impacts evaluated in 2023 EIR – no subsequent or supplemental EIR is required.

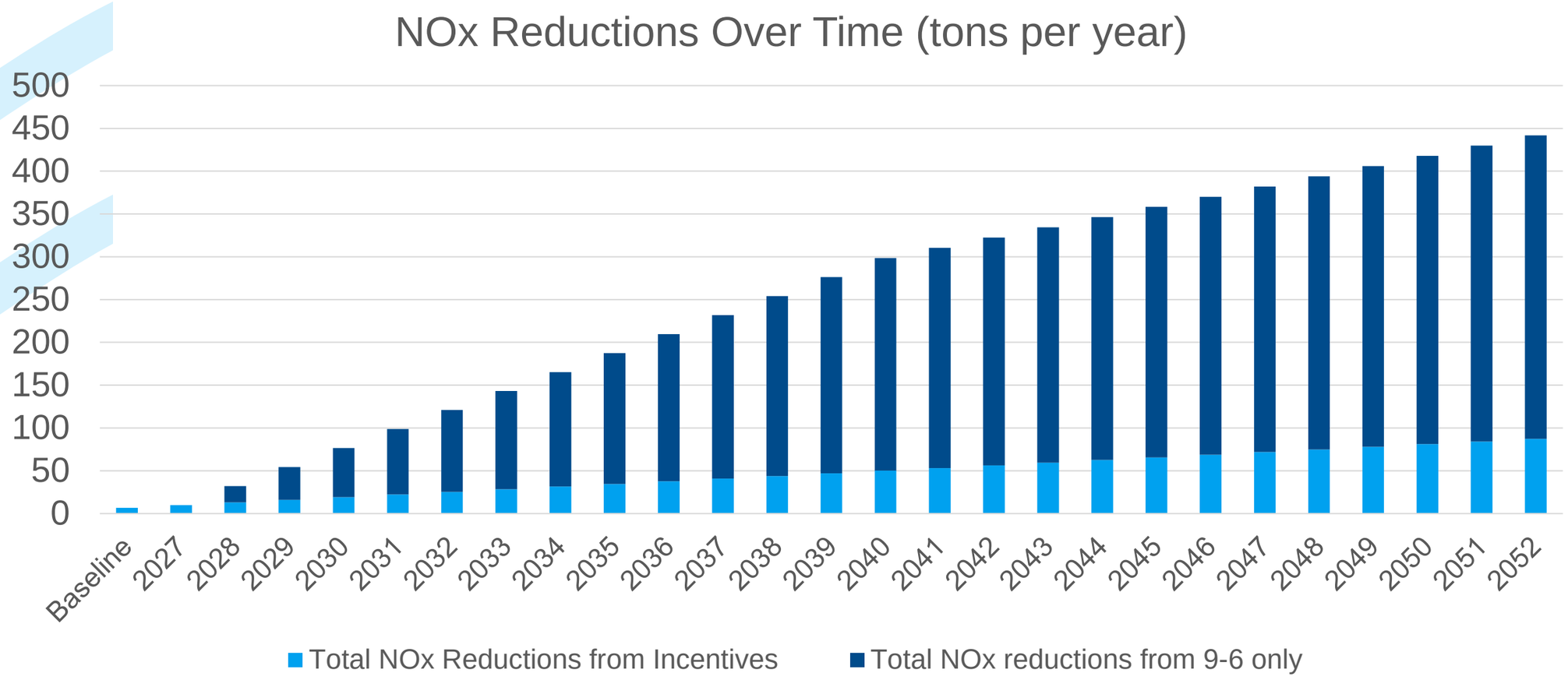
Ongoing HPWH Incentives

- In September and October 2026, staff requested full budgets for HPWH incentive programs from local administrators estimated for the next several years, if available
- The following organizations responded:
  - BayREN
  - CleanPower SF
  - MCE
  - Palo Alto Utility
  - PG&E
  - San Jose Clean Energy
  - Sonoma Clean Power
  - Silicon Valley Clean Energy (SVCE)
  - WestLight Energy (formerly PCE)

Ongoing HPWH Incentives, cont.

- Staff normalized funding amounts per year and for the Bay Area for organizations covering counties outside the Air District
- Most programs fund multiple measures (e.g., HPWH, HP HVAC, induction cooking, etc.)
  - Staff assumed 40% of these program funds are used for HPWHs
- Resulting annual total is $16.8 M annually for HPWHs in the Bay Area
  - Staff assumed $2,000 per HPWH = 8,400 replacements annually
  - Annual marginal NOx reductions of these replacements = 3 tons per year

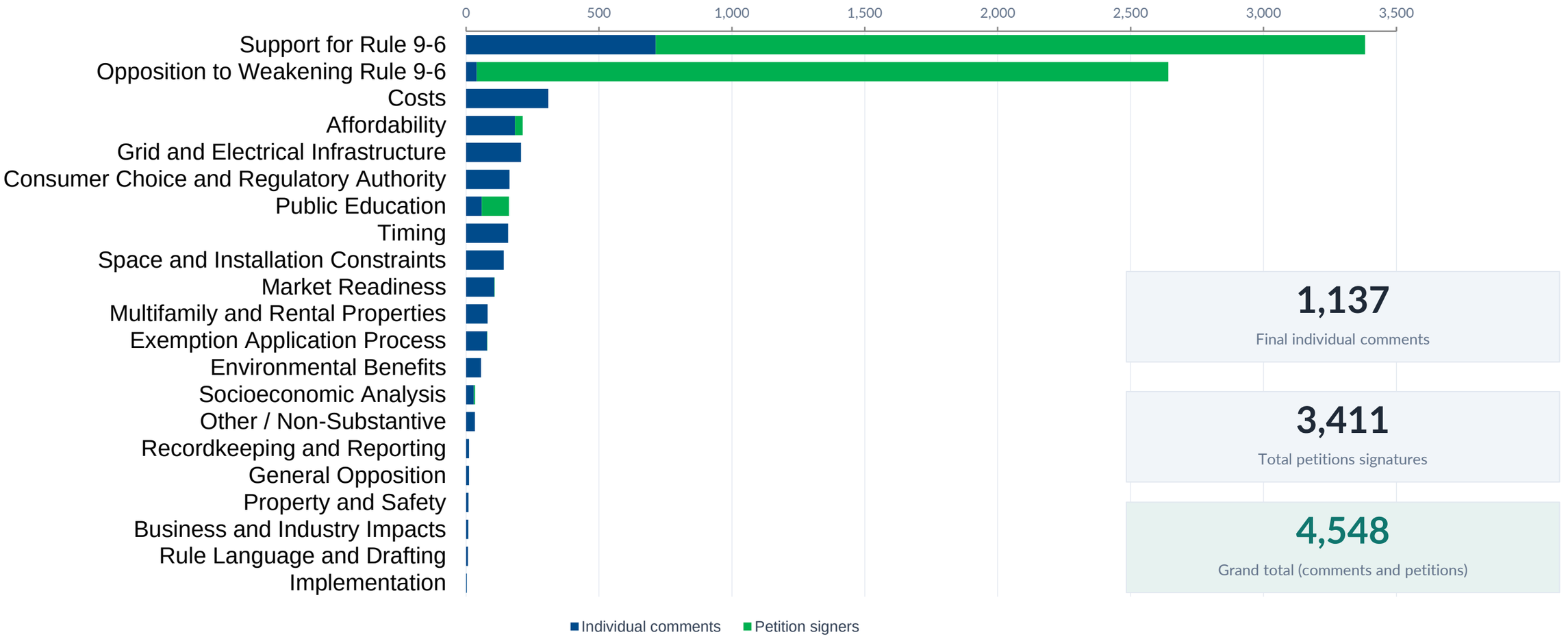
NOx Reductions from Incentives and 9-6



Bay Area Air District

Part V. **Public Comment**

Public Comments Received



1,137

Final individual comments

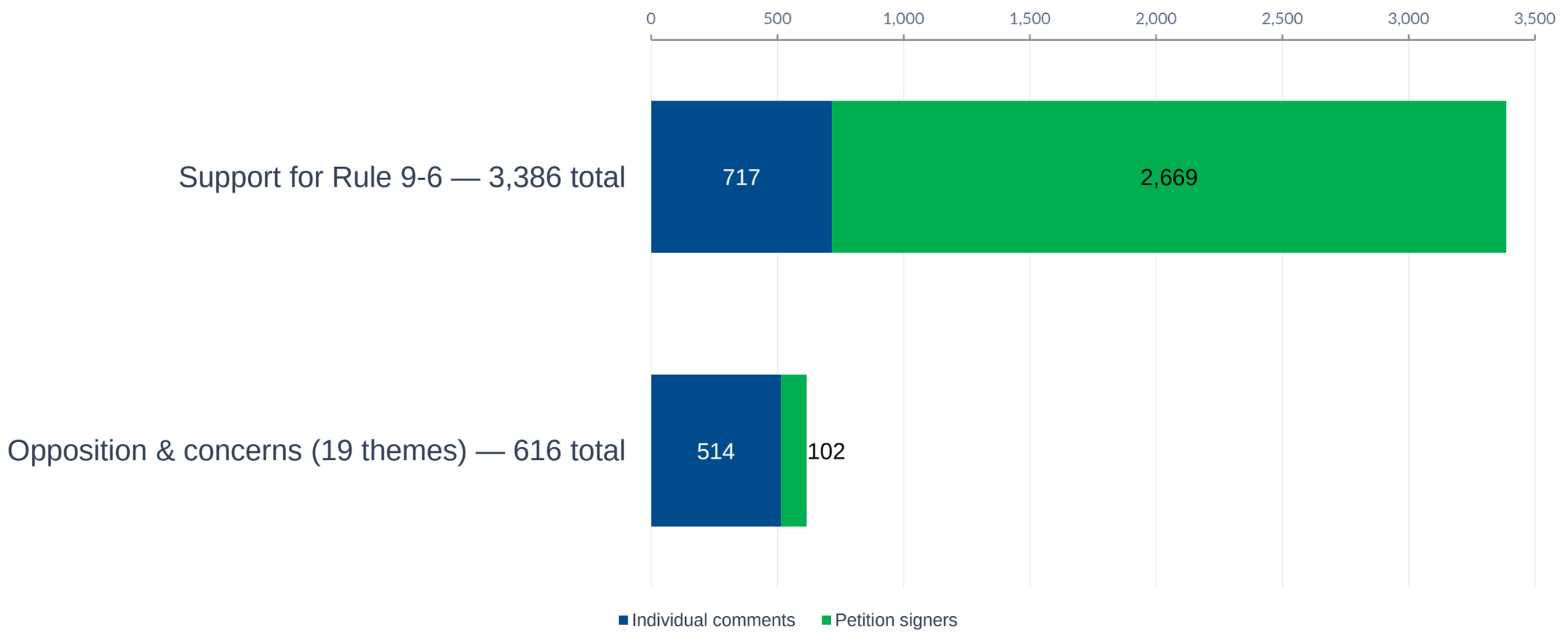
3,411

Total petitions signatures

4,548

Grand total (comments and petitions)

Public Comments Received



Concern category	Individual	Petitions	Total
SUPPORT FOR RULE 9-6			
General support for Rule 9-6	673	2,688	3,361
Health / clean-air / climate benefits cited	275	2,609	2,884
Support conditioned on protecting low-income / vulnerable households	25	2,602	2,627
Economic and job benefits of electrification	0	89	89
Recommendations to strengthen or expand the rule	0	81	81
Renter protection from landlord-installed gas appliances	0	14	14
OPPOSITION TO WEAKENING RULE 9-6			
Oppose exemptions, delays, or weakening the standard	42	2,605	2,647
COSTS			
Upfront equipment / installation costs	282	9	291
Combined / cumulative impacts of Rules 9-4 and 9-6	65	4	69
Electricity operating costs / utility rates	25	4	29
GRID AND ELECTRICAL INFRASTRUCTURE			
Electrical panel, service, wiring, and circuit upgrades	162	8	170
Grid reliability, outages, PSPS, and resilience	68	4	72
SPACE AND INSTALLATION CONSTRAINTS			
Space, clearance, venting, noise, and siting constraints	78	6	84
Existing / older homes vs. new construction	91	2	93
AFFORDABILITY			
Seniors, fixed-income, and middle-income households	98	7	105
Low-income eligibility and housing-cost burden calculation	18	3	21
Access to rebates, incentives, and financial assistance	88	37	125
MULTIFAMILY AND RENTAL PROPERTIES			
Multifamily, condo/HOA, and rental property challenges	82	4	86
Tenant displacement, relocation costs, and occupied-unit conversions	8	0	8
TIMING			
Emergency / failed water heater replacements	88	6	94
Implementation timing and requests to delay	95	10	105
One-time exemptions do not resolve permanent constraints	15	2	17
EXEMPTION APPLICATION PROCESS			
Exemption application, documentation, and approval process	34	6	40
Alternative exemptions and compliance pathways (e.g., ultra-low-NOx gas)	50	4	54
Opposition to mitigation fees and exemption caps	2	0	2

Concern category	Individual	Petitions	Total
MARKET READINESS			
Heat pump performance, capacity, recovery, and reliability	45	1	46
Contractor/ workforce availability, permitting, and unpermitted installs	73	7	80
Availability of exempt or compliant equipment	11	1	12
ENVIRONMENTAL BENEFITS			
Questioning emissions benefits, science, or relative source contribution	56	5	61
Unintended consequences of slowing the transition (pre-emptive gas replacements, prolonging aging units)	1	0	1
CONSUMER CHOICE AND REGULATORY AUTHORITY			
Consumer choice, mandates, government overreach, and authority	167	4	171
BUSINESS AND INDUSTRY IMPACTS			
Impacts on distributors, contractors, manufacturers, and small businesses	9	2	11
RECORDKEEPING AND REPORTING			
Sales/installation recordkeeping, reporting, data confidentiality, and privacy	8	1	9
Point-of-sale notice requirements (Section 9-6-407)	3	0	3
PROPERTY AND SAFETY			
Property value, home sale, and safety concerns	12	1	13
PUBLIC EDUCATION			
Public outreach, notice, and transparency	51	8	59
Concerns about industry influence on the rulemaking / comment integrity	12	104	116
GENERAL OPPOSITION			
General opposition to Rule 9-6 without a specific concern	12	0	12
RULE LANGUAGE AND DRAFTING			
Wording, definition, and drafting corrections	4	0	4
Rheem requests for clarification	1	0	1
Warranty	1	0	1
Working group	1	0	1
Contractor needed for electrical exemption	2	0	2
SOCIOECONOMIC ANALYSIS			
Socioeconomic analysis understates costs / request for further impact analysis	24	7	31
Socioeconomic analysis overstates costs / understates benefits	6	9	15
IMPLEMENTATION			
Implementation Planning	3	0	3

Rule Language Updates

- Section 9-6-112: Statement regarding exemption not applying to new construction was the to header section of Section 9-6-112
  - Clarify that this exclusion of the exemption for new construction applies to all subsections of 9-6-112, including 9-6-112.3 for electrical exemptions
- Section 9-6-113.4: clarify that the non-profit mutual housing cooperative time-limited exemption applies to multiple organizational types
  - 501(c)(3) and 501(c)(12) organizations as well as other nonprofit stock cooperatives as defined by the Davis-Stirling Common-Interest Development Act and Civil Code Section 4190
- Section 9-6-115: Section 9-6-407 added to the list of sections from which wholesale sales are exempt
  - Clarify that wholesale sales do not need to meet the noticing requirement laid out in Section 9-6-407 as this section was intended to provide information to consumers in retail settings.

Key Responses: Grid Demand

- Rules 9-6 is projected to increase total electricity demand in California by approximately **0.4%** at full implementation
- Appliance replacements would add demand gradually, rather than creating a single, immediate increase in electricity use.
- Regional grid demand and a building's electrical capacity are different issues. The proposed electrical exemptions provide flexibility where an individual installation faces electrical constraints.

Key Responses: Incentive vs. Mandate

- Incentive programs through BayREN, PG&E and local CCAs have supported heat pump water heater installations in the Bay Area; program availability and funding levels may change over time.
- Proposed amendments rely primarily on exemptions, rather than incentives alone, to protect cost-burdened households.
- Intention of the proposed amendments is to exempt the most burdensome projects while still driving health benefits throughout the region for projects where replacement is feasible.
- Incentives are an important tool that the Air District will continue to support but the majority of emissions reductions associated with the implementation of Rule 9-6 come from projects that would likely not occur solely under a voluntary program.

Key Responses: Housing Affordability

- Proposed amendments include delay to 2033 for multifamily buildings (over 5 units)
  - Intention to assess multifamily holistically with upcoming process on Rule 9-4 for furnaces
- Draft resolution language includes direction to continue work with affordable housing providers to:
  - Evaluate delay provided in proposed amendments;
  - Continue engagement with affordable housing providers and multifamily housing owners and operators;
  - Assess infrastructure readiness associated with rule compliance, costs of compliance including consideration of available subsidies and financing options, cost recovery information associated with utility allowance schedules; and impacts on the availability of affordable housing

Bay Area Air District

Part VI. **Resolution and Recommended Action**

Statutory Findings

- Before adopting, amending, or repealing a rule, the Board of Directors must make the following findings based on the Health and Safety Code:
  - Necessity - Section 40727(b)(1)
  - Authority - Section 40727(b)(2)
  - Clarity - Section 40727(b)(3)
  - Consistency - Section 40727(b)(4)
  - Non-Duplication - Section 40727(b)(5)
  - Reference - Section 40727(b)(6)

Additional Resolution Language

Continued work with affordable housing providers to evaluate 2033 delay provided in proposed amendments:

- The Board of Directors directs Air District staff to **continue engagement with affordable housing providers and multifamily housing owners and operators**, including meetings with individual stakeholders and groups, as well as with stakeholder representatives regarding implementation of Rule 9-6.

- The Board of Directors directs Air District staff to evaluate and report to the Board of Directors **no later than December 31, 2030**, regarding the readiness of affordable housing and multifamily housing properties to comply with the requirements of Rule 9-6. The evaluation and report shall include **assessment of infrastructure readiness associated with rule compliance, costs of compliance including consideration of available subsidies and financing options, cost recovery information associated with utility allowance schedules; and impacts on the availability of affordable housing.**

Recommended Action

Adopt the Resolution, which includes:

- Proposed Amendments to Regulation 9, Rule 6; and
- Findings of necessity, authority, clarity, consistency, non-duplication, and reference