



Proposed Amended Rule 1111 – Reduction Of NO_x Emissions From Natural Gas-Fired Furnaces

Proposed Amended Rule 1121 – Reduction of NO_x Emissions From Residential-Type, Natural Gas-Fired Water Heaters

Working Group Meeting #8

February 13, 2025

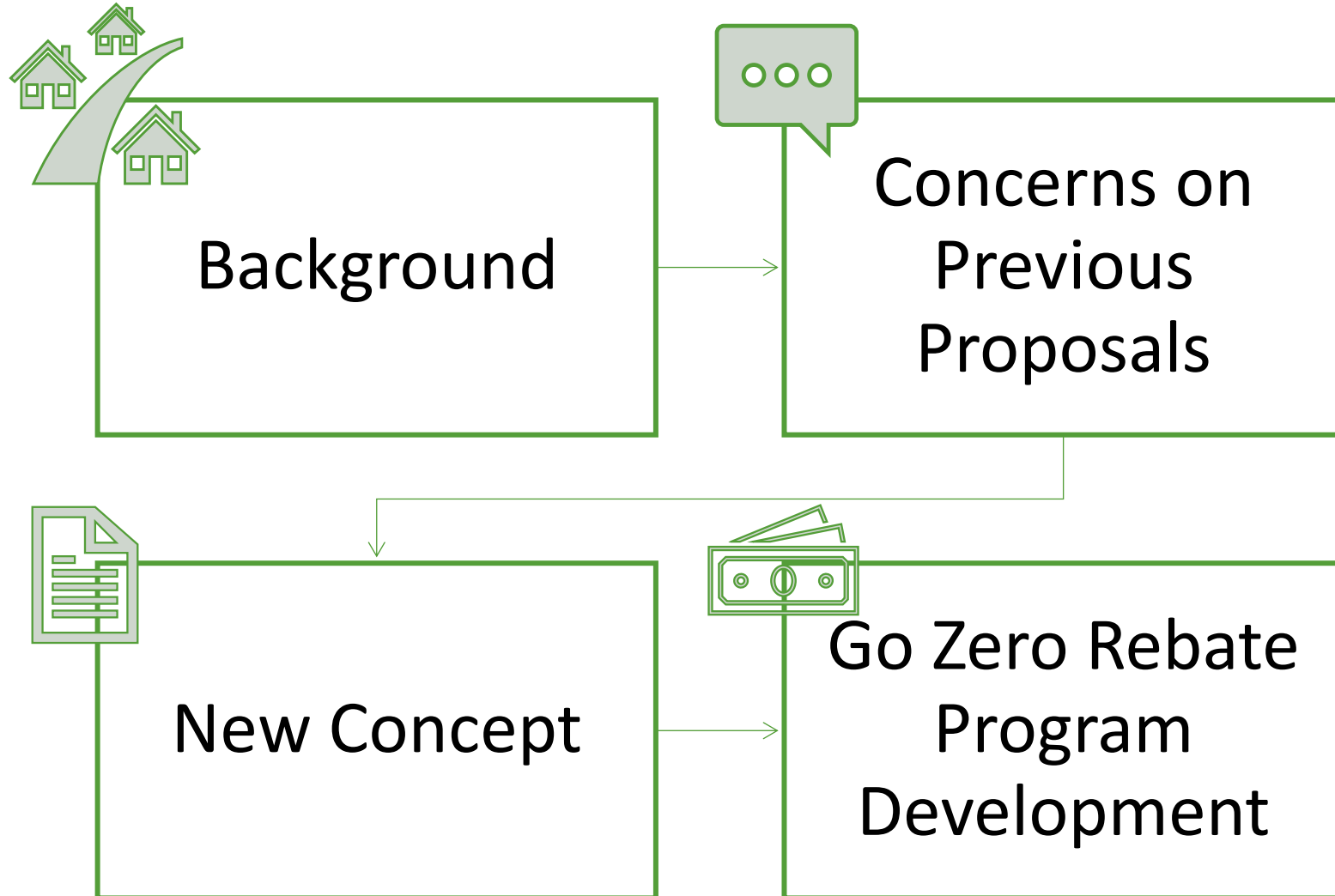
2:00 PM – 4:00 PM (PT)

Join Zoom Meeting:

<https://scaqmd.zoom.us/j/97271436016>

Meeting ID: 972 7143 6016

Agenda



Summary of Working Group Meeting #7

- In Working Group Meeting #7, staff presented:

Enhanced Outreach Efforts

Key Comments received from stakeholders

Updates to Cost-Effectiveness Calculations

Replacement Cost Examples

Updates to Proposed Rule Language

Go Zero Rebate Program Development

Actions Taken Since Working Group Meeting #7

- Presented proposed rules to further promote public awareness
 - Councils of Government (Orange County/San Bernardino)
 - Industry, Manufacturing, Trade, and Community Organizations
- Presented to Stationary Source Committee on December 20th
- Developed proposed rule outreach materials
- Met with stakeholders for concerns and input
- Reviewed and evaluated public comments
- Considered new rule concepts



Background

South Coast AQMD is the government agency responsible for air quality in the greater Southern California region

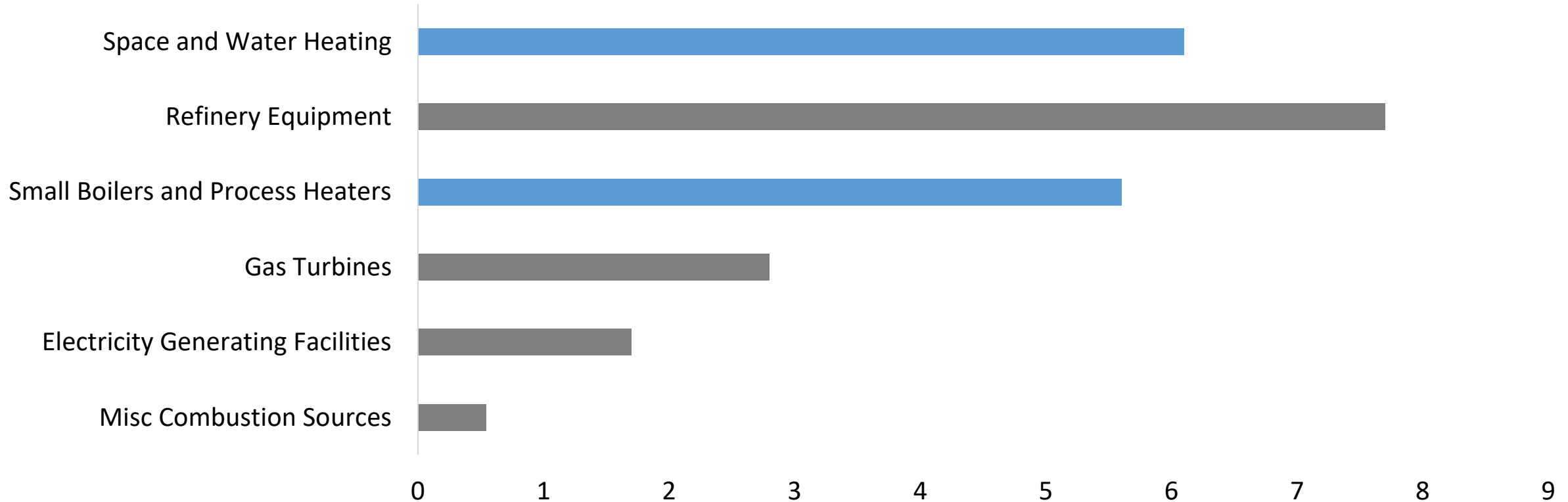
The 2022 Air Quality Management Plan (AQMP) proposes 67% reduction in NO_x emission over baseline levels by 2037

- Includes three control measures that require evaluating feasibility of zero-emission technologies for space and water heating

Proposed rules for space and water heating needed to implement 2022 AQMP

- Rulemaking process initiated in September 2023
- Conducted seven Working Group Meetings and a Public Workshop
- Presented to the Stationary Source Committee in October and December 2024

Estimated NOx Emission Reductions



- Combined space and water heating rules will achieve more NOx emission reductions than any of the recently amended rule for the REgional CLean Air Incentives Market (RECLAIM) sunset
 - Total RECLAIM reductions for all 14 landing rules combined = 13.6 tons per day
 - Change of scope to space heating rule (discussed in slide 9) will reduce potential emission reductions

Original Rule Concept

New Residential Structures

- Require zero-emission appliances California building code already requires zero-ready starting 2026

Existing Residential Structures

- Require replaced appliances to meet zero-NOx-emissions standard *beginning in 2029* when:
 - The consumer *chooses* to replace, or
 - The equipment *needs to be replaced*
- Staff proposed alternative compliance options for certain situations
 - Emergency replacements
 - Stranded asset from newer AC unit
 - Multifamily buildings
 - Installations in high altitude regions

Key Comments Overview

- Over 250 comment letters received since Public Workshop on October 3, 2024
 - ~20% letters supported the rule concept
 - ~70% letter opposed the rule concept, including cities and Councils of Governments
 - ~10% raised concerns and provided feedback
- Key comments include:
 - Affordability, especially for low-income
 - Lack of consumer choice if rule mandates a complete conversion to zero-emission technologies
 - Concerns about zero-emission technology readiness
 - Concerns about electricity demand and grid sustainability
 - Proposed rules will impact small units in schools and businesses



Applicability

- Rules apply to appliances based on **size** (e.g., rated heat input capacity)
- PAR 1121 (water heating) applies to natural gas-fired units less than 75,000 Btu/hr
 - Most installed in single family homes with some in-unit multifamily buildings
 - Generally, tank-type water heaters of up to 75 gallons
 - Schools with larger water heaters are not regulated by this rule
- Initially PAR 1111 (space heating), proposed to expand applicability from 175,000 Btu/hr to 2 million Btu/hr
 - Staff recommending to revise proposal to keep current applicability (up to 175,000 Btu/hr)
 - Includes units at residential and commercial buildings (up to ~5,000 square foot space)
 - Will address units up to 2 million Btu/hr in future rulemaking



Considerations to Address Concerns with Residential Appliance Rules

Establish a Zero-Emission Manufacturer Alternative Compliance Option

- Set compliance goals to allow manufacturers to sell a certain percentage of NOx emitting units (e.g. gas) and reduce percentage over time with mitigation fee
- Alternative compliance option in lieu of meeting compliance date for all sales

Staff used Energy Information Administration (EIA) estimated 2020 appliance use in California to establish compliance goal

- 20 - 30 percent of furnaces are zero-emissions*
- 20 - 30 percent of water heaters are zero-emissions**

* <https://www.eia.gov/consumption/residential/data/2020/state/pdf/State%20Space%20Heating%20Fuels.pdf>

** <https://www.eia.gov/consumption/residential/data/2020/state/pdf/State%20Water%20Heating.pdf>

Potential Building Appliance Targets and Effective Dates



Target Dates*	2027-2028	2029-2032	2033-2035	2036 and after
NOx Emitting Units (e.g. gas)	70%	50%	25%	10%
Zero-Emission Units	30%	50%	75%	90%

* Could propose different target for space and water heater appliances

Implementation Approach

Who is Subject?

- All manufacturers who sell gas units subject to Rule 1111 and 1121 (~10 in total)
- No requirements for manufacturers who only sell zero-emission appliances, not subject to rules

What is required*?

- Manufacturers submit annual reports after the end year
 - Report gas and zero-emission appliance sales starting February ~~2030~~2028
 - Sales data will be used to estimate the percent sales
 - Pay mitigation fees for gas units

Staff meeting with each manufacturer to discuss their implementation

* Considering if we should include any requirements on OEM before start of compliance period

Proposed Mitigation Fee

- Proposing alternative compliance option for manufacturers combined with mitigation fees
 - Fee will partially mitigate emission forgone from the alternative compliance option
 - Provide a revenue stream for Go Zero incentive program
- Manufacturers previously paid \$150 - \$450 mitigation fee per 40 ng/J gas furnace
 - Proposing nominal fee to incentivize transition to zero-emission technologies without putting undue financial burden on homeowners

Mitigation fee for all gas units sold after 2027

- \$100/gas furnace
- \$50/gas water heater
- \$500 mitigation fee for each units sold over target*
- Discounted fee if zero-emission goal exceeded

* Considering increasing fee over time

Estimated Emissions Reductions for Revised Concept

Revised

- Implementation of revised concept will result in a slower transition to zero-emission units
- Slightly less emission reductions at full implementation
- Potentially more incentives available in early years to support transition to zero-emission

NOx Reductions (tons per day)	2031	2032	2037	2054	2060
Original Proposal (New 2026/Existing 2029)	1.4	1.9	4.2	10.0	10.0
New Concept (Manufacturer Alternative and Scope Change*)	1.0 <u>0.7</u>	1.2 <u>0.9</u>	2.9 <u>2.1</u>	7.3 <u>5.0</u>	9.0 <u>6.1</u>

* Not expanding space heating rule applicability changes potential emission reductions by ~3 tons per day

How the New Rule Concept Addresses Concerns

Affordability, especially for low-income residents

- Individual decision as gas units will still be available

Lack of consumer choice

- Homeowners will have a choice to purchase gas unit or zero-emission unit

Concerns about zero-emission technology readiness

- Slower transition to zero-emission allows more technology development

Concerns about electricity demand and grid sustainability

- Slower transition will slow demand increase and time to meet future demand

Other Benefits to New Proposed Rule Concept Addresses Concerns

Simplifies the proposed rules, removes other alternative compliance options

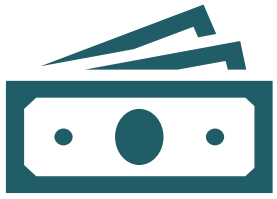
- Original concept put more responsibility on the installer
 - Request delays for construction
 - Notify for emergency replacements

Mitigation fee will help fund Go Zero

- Provides funding source
- Longer life of the program
- Focus on low-income residents

Go Zero Rebate
Program
Development





South Coast AQMD Go Zero Pilot Incentive Program

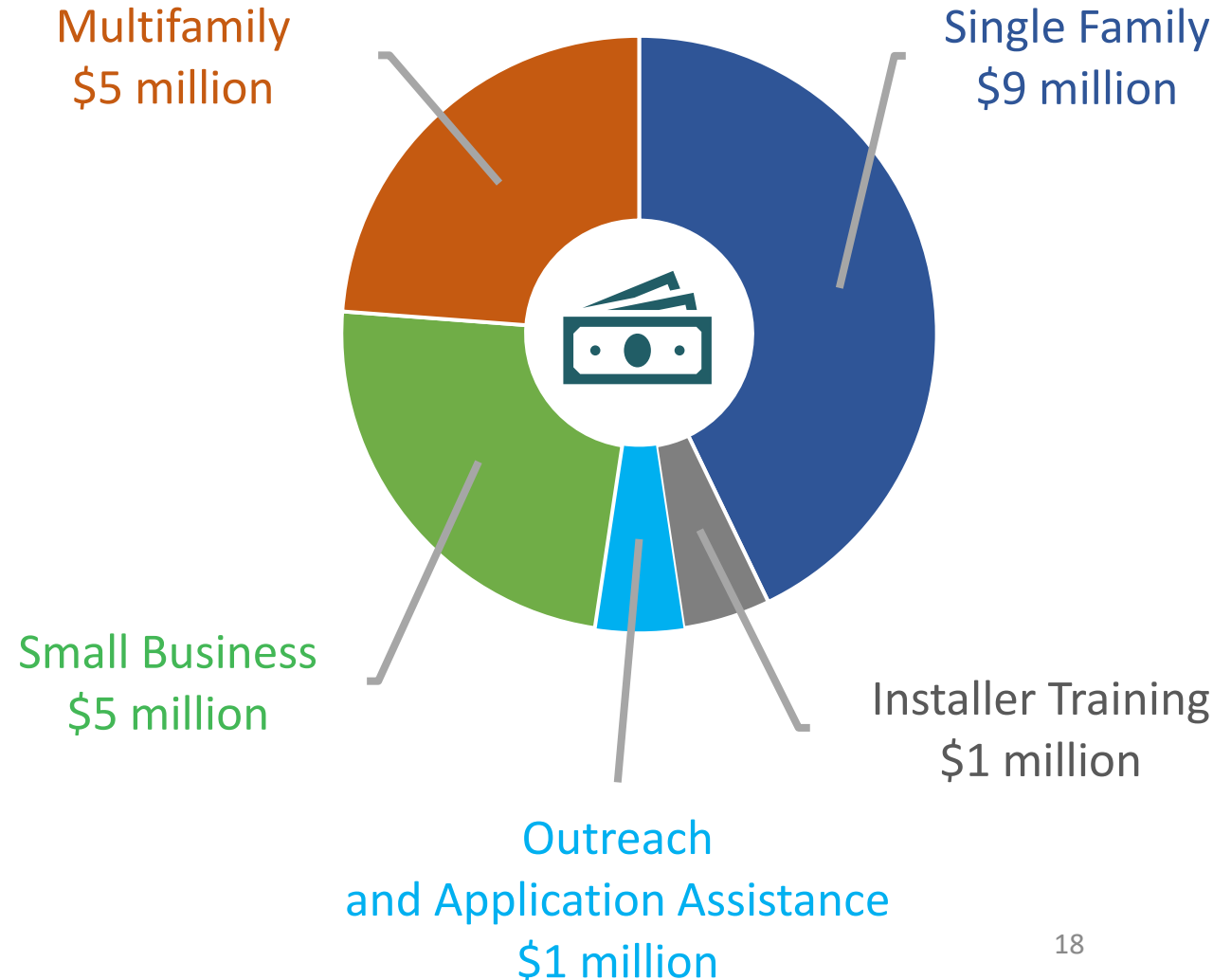
Incentives are critical to an equitable transition to zero-emission appliances

The pilot program will include:

- Heat pump rebates for space and water heating
- \$21 million funding for the pilot phase
- **75% of funding allocated to overburdened communities**
- Higher rebates for overburdened communities
- Potentially future phases to implement lessons learned
- Potentially fivefold increase in future funding



Program launch anticipated early 2025





South Coast AQMD Go Zero Pilot Incentive Program

Rebate Program Incentives



Single Family Resident
Rebate:
\$1,000 - \$3,000
per unit*



Multi-Family Resident
Rebate:
\$1,000 - \$4,000
per unit, up to
\$300,000 cap*



Small Business Rebate:
\$4,000 per unit

* Higher rebates for overburdened communities



South Coast AQMD Go Zero Pilot Incentive Program

Installer Training



Training will familiarize installers with plumbing, HVAC, and electrical work needed to install heat pumps



Contractor selected based on prior experience and training proposal to maximize installer benefits

Outreach and Application Assistance

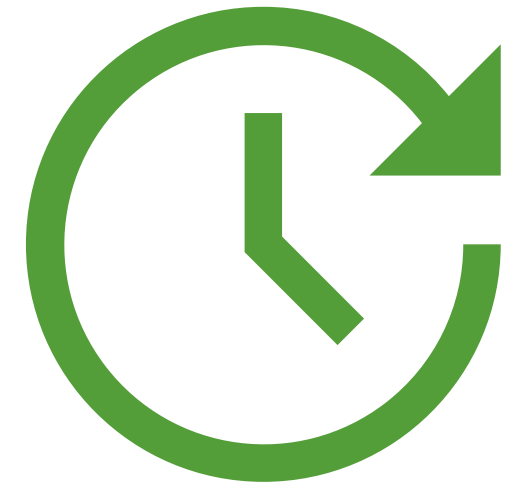


Outreach to overburdened communities to provide application assistance and stack other incentives



Contractor will disburse funding to reach the four-county jurisdiction

Next Steps



Next Steps

February 21, 2025

Update Stationary Source Committee with New Concept

March 2025

Release revised preliminary rule language and conduct more meetings

April 1, 2025

Release draft PAR 1111/1121 and draft supporting documents

May 2, 2025 (subject to change)

Public Hearing

Sign Up for Notifications

- To receive newsletter updates via email for notifications regarding Go Zero, 1111 and 1121 rule development, or other forthcoming building appliances rules, please subscribe by checking the **Go Zero, Rule 1111, Rule 1121, or Building Appliances** check boxes located under Rule Updates:

<http://www.aqmd.gov/sign-up>

- Visit our newly redesigned Residential Building Appliance Clearinghouse Webpage: <https://www.aqmd.gov/home/rules-compliance/residential-and-commercial-building-appliances>

The screenshot shows the 'Sign Up' form for the South Coast AQMD. The form includes a header with the title 'Sign Up' and a paragraph explaining that the AQMD offers periodic newsletter updates via email. Below this, there are instructions for receiving daily pollution forecasts (Air Alerts) and for printed copies of publications (Subscription Services). The form is divided into two main sections: 'Incentive Programs' and 'Rule Updates'. Each section has a blue header and a list of options with checkboxes. In the 'Incentive Programs' section, the 'Go Zero' option is circled in red. In the 'Rule Updates' section, the 'Building Appliances', 'Rule 1111', and 'Rule 1121' options are circled in red. The form also includes a section for entering contact information, with the 'Email Address' field circled in red. At the bottom, there is a blue bar with instructions to subscribe by checking the box adjacent to the E-Mail List(s) you are interested in and then clicking on the Subscribe button below.

Sign Up

The South Coast AQMD offers periodic newsletter updates via Email on a variety of topics . Click on the Manage Subscriptions link at the bottom of the form to update your subscriptions (unsubscribe from lists, subscribe to additional lists, or change your Email address).

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Incentive Programs:

Go Zero Updates on the incentive program for zero-NOx emission residential and commercial building appliances. ([More Information](#))

Rule Updates:

Building Appliances Working Group for Residential and Commercial Building Appliances

Rule 1111 Reduction of NOx Emissions from Natural-Gas-Fired, Fan-Type Central Furnaces

Rule 1121 Control of Nitrogen Oxides from Residential - Type, Natural-Gas-Fired Water Heaters

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