



April 15, 2025

Chair McCallon and Members of the Stationary Source Committee
South Coast Air Quality Management District
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RE: Agenda Item 2: Update on Proposed Amended Rule 1111 – Reduction of NO_x Emissions from Natural Gas-Fired Furnaces and Proposed Amended Rule 1121 – Reduction of NO_x Emissions from Residential Type, Natural Gas-Fired Water Heaters

Dear Chair McCallon and Members of the Stationary Source Committee:

We respectfully urge the South Coast Air Quality Management District (AQMD) to adopt Proposed Amended Rule 1111 (PAR 1111) and Proposed Amended Rule 1121 (PAR 1121) at its June 6 meeting to phase down harmful emissions from residential space and water heating equipment. Delaying or further weakening the zero-emission transition for this sector would slow down needed market transformation, adversely affect the lives of additional South Coast residents, and bring further disproportionate harm to communities of color.

We respectfully request that the Committee consider a couple key changes to PARs 1111 and 1121 to ensure the novel sales targets approach that staff has integrated into the rule proposals can be successful at achieving the emissions reductions that the air basin requires:

- By structuring the proposed noncompliance fees in tiers based on the extent to which sales targets are missed, the Air District can establish an essential guardrail against uncontrolled deviation from its projected emission reductions.
- And by aligning proposed sales targets with the state's existing commitments on zero-emission equipment sales,¹ the agency can deliver a strong market signal that moves beyond business-as-usual.

Increase the Proposed Noncompliance Fees With Increased Noncompliance

In an April 9 letter to the agency, Earthjustice et al. suggested a commonsense revision to the proposed noncompliance fees in PARs 1111 and 1121, a tiered structure that raises the noncompliance fee

¹ NESCAUM, "[Building Electrification](#)."

modestly as a manufacturer gets farther away from their sales target. This tiered structure provides an additional incentive for manufacturers to comply with sales targets — and if they do not, it generates additional funding for the South Coast Air Quality Management District’s (AQMD’s) new Go Zero Incentive Program, which will launch this spring to help South Coast residents and building owners upgrade their HVAC and water heating equipment to efficient electric heat pumps.

The suggested revision by Earthjustice et al. would add an additional \$250 to the currently proposed noncompliance fee for each NOx-emitting unit sold more than 10% over the sales target, increasing to an additional \$500 for each NOx-emitting unit sold more than 20% over the sales target. As they noted:

“This feature serves as an essential guardrail, motivating manufacturers to meet, or at least come close to meeting, zero-emission sales targets. Importantly, if manufacturers meet, or come close to meeting, the Rules’ sales targets, there are no additional non-compliance fees. Instead, this tiered structure provides an incentive for manufacturers to meet sales targets, and where they are not met, generate additional funds to deploy zero-emission space and water heating to help meet compliance targets in subsequent years.”²

We recommend that the Air District adopt this tiered structure for the noncompliance fees in PARs 1111 and 1121 to ensure that there is sufficient compliance to achieve the critical emissions reductions that the agency highlights from this rulemaking.

At the highest tier, for polluting equipment sold more than 20% over the sales target, the revised noncompliance fee would total \$750 per NOx-emitting water heater and \$1000 per NOx-emitting furnace. Staff acknowledges that fully mitigating the health harms caused by emissions from a gas water heater over its lifetime would cost approximately \$900, while full mitigation for a gas furnace would cost around \$3,000.³ Even at the highest tier for most severe noncompliance with the PARs, these revised fees will still fall short of recouping the full health impacts from the continued manufacture, installation, and operation of each unit of NOx-emitting space and water heating equipment.

Adding additional tiers to the noncompliance fee is a commonsense measure to safeguard the 6.1 tons per day of NOx reductions that staff projects from these PARs.⁴

Align Proposed Sales Targets With the State’s Existing Commitments

In an April 4 letter to the Governing Board, Northeast States for Coordinated Air Use Management (NESCAUM) — the association of state air agencies in the northeastern United States — pointed out that the current proposed sales target of 50% zero-emission sales in the 2029-2032 period:

“falls short of a target that California has already set as part of a multistate, NESCAUM-led Memorandum of Understanding (MOU) it signed in 2024.... Given the urgency of acting to address air pollution in the South Coast region, NESCAUM believes that South Coast AQMD’s zero-emission standards for residential-scale water heaters and furnaces should set the pace for the rest of the state. Accordingly, PAR 1111 and 1121 should establish targets that align with or even

² Earthjustice, California Environmental Voters, Coalition for Clean Air, and Sierra Club Angeles Chapter, Letter to the South Coast Air Quality Management District, April 9, 2025.

³ South Coast Air Quality Management District (SCAQMD), [Draft Staff Report for: Proposed Amended Rule 1111 & Proposed Amended Rule 1121](#), April 2025 ([Appendix B-65](#)).

⁴ *Ibid.* (p. 5-2).

exceed the goal that California has already set for 65% of manufacturer sales to be zero-emission equipment by 2030.⁴⁵

We recommend that the Air District follow through on this request from its peer air agencies on the East Coast by ramping up the sales targets in PARs 1111 and 1121 to match the state’s existing commitments on zero-emission equipment sales.

Meeting or exceeding these commitments makes sense for the South Coast region, with its extreme nonattainment of air quality standards and high public health burden from pollution. Additionally, since the South Coast region accounts for more than 40% of the state’s population, if it only achieves a 50% zero-emission sales target by 2030 — instead of the 65% statewide goal — more than 900,000 additional households in the rest of the state would need to install heat pumps beyond the 65% threshold in order to meet the multistate commitment.⁶

The Scale and Impact of Residential Combustion Pollution

The two changes recommended above will help ensure PARs 1111 and 1121 deliver the intended and necessary air quality and public health benefits for the region. The AQMD suffers from some of the most polluted air in the country and has consistently failed to meet federal and state air quality standards for more than 30 years.^{7,8,9} Methane combustion in residential furnaces and water heaters is an important contributor to the AQMD’s air pollution burden,¹⁰ and emissions from these sources must be addressed in order for the region to attain health-protective air quality standards.

Methane gas-burning equipment in residential buildings generates very significant levels of smog and other outdoor air pollution in the South Coast region, including:

- **More than one-third** of the health-harming nitrogen oxide (NOx) emissions that fall under the South Coast AQMD’s direct authority and responsibility to control.^{11,12}
- More NOx pollution than regional oil and gas production, cement manufacturing, and power generation **combined**.¹³
- **More than five times** as much NOx pollution as the region’s power plants.¹⁴
- As much fine particulate matter (PM2.5) as regional refining and power generation **combined**.¹⁵

⁵ NESCAUM, Letter to the South Coast Air Quality Management District Governing Board, April 4, 2025.

⁶ U.S. Census Bureau, [2020 American Community Survey 5 Year Estimates – DP04: Selected Housing Characteristics](#), January 2025.

⁷ U.S. Environmental Protection Agency (EPA), "[Criteria Pollutant Nonattainment Summary Report](#)," March 2025.

⁸ EPA, "[California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants](#)," March 2025.

⁹ California Air Resources Board (CARB), "[Ambient Air Quality Standards Designation Tool](#)."

¹⁰ EPA, [2020 National Emissions Inventory](#), March 2023. Appliance emission estimates include residential emissions for the gas, oil, & other fuel categories.

¹¹ The South Coast Air Quality Management District includes large portions of Los Angeles, Orange, Riverside, and San Bernardino Counties. While approximately 5% of the four-county population resides in other Air Districts, full county data are used throughout this letter.

¹² SCAQMD, [2022 Air Quality Management Plan](#), December 2022 (Figs. 3-3 and 3-4, Table III-1-7).

¹³ EPA, [2020 National Emissions Inventory](#), March 2023. Appliance emission estimates include residential emissions for the gas, oil, & other fuel categories.

¹⁴ Ibid.

¹⁵ Ibid.

Analysis using EPA's Co-Benefits Risk Assessment (COBRA) health impacts tool demonstrates that this outdoor residential pollution is responsible for **\$970 million** of annual health impacts,¹⁶ comprised in part of:

- 36,000 asthma attacks per year.
- 14,000 lost days of school annually.
- More than 60 premature deaths each year.

Compounding existing environmental and social inequities, PM2.5 pollution from residential gas combustion **disproportionately harms** people of color in California,¹⁷ with:

- 30% higher exposure for people of color compared to white residents.
- 50% higher exposure for Black residents compared to white residents.

The South Coast AQMD's most recent air quality plan — the culmination of a multi-year public process — highlights that the “only way to achieve the required NOx reductions is through extensive use of zero emission technologies across all stationary and mobile sources.”¹⁸

South Coast AQMD Is Not Acting Alone

The South Coast AQMD's proposed healthy air standards for furnaces and water heaters align with a growing national trend to strengthen these standards as states and regions across the country take decisive action to further address air pollution and greenhouse gas emissions from buildings.

In addition to the Bay Area Air District, which adopted the nation's first zero-pollution standard for space and water heating in 2023,¹⁹ and California's active Zero-Emission Space and Water Heater Standards rulemaking,²⁰ Maryland is developing statewide zero-pollution HVAC and water heating standards as well.²¹ Eight additional states — Connecticut, Hawaii, Massachusetts, New York, Oregon, Pennsylvania, Rhode Island, and Washington — joined California and Maryland in 2023 in committing to explore the adoption of zero-emission standards for space and water heating equipment, and all are participating in an Equipment Emissions Standards Cohort convened by Northeast States for Coordinated Air Use Management (NESCAUM) and the U.S. Climate Alliance.^{22,23}

Building on this commitment, California joined eight states — Colorado, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, and Rhode Island — plus DC in signing a February 2024 agreement organized by NESCAUM to ensure at least 65% of collective sales of residential HVAC and water heating equipment are heat pumps by 2030 — and 90% by 2040.²⁴

¹⁶ EPA, [CO-Benefits Risk Assessment Health Impacts Screening and Mapping Tool \(COBRA\)](#), April 2024. Analysis used residential natural gas subsector.

¹⁷ Christopher W. Tessum et al., “[PM2.5 pollutants disproportionately and systemically affect people of color in the United States](#),” *Science Advances* 7(18), April 2021 (Supplementary Data File S2).

¹⁸ SCAQMD, [2022 Air Quality Management Plan](#), December 2022 (Executive Summary).

¹⁹ Bay Area Air Quality Management District (BAAQMD), “[Rules 9-4 and 9-6 Building Appliances](#).”

²⁰ CARB, “[Zero-Emission Space and Water Heater Standards](#).”

²¹ Maryland Department of the Environment, “[Clean Heat Rules](#).”

²² U.S. Climate Alliance, “[U.S. Climate Alliance Announces New Commitments to Decarbonize Buildings Across America, Quadruple Heat Pump Installations by 2030](#),” September 2023.

²³ NESCAUM, “[Zero-Emission Heating Equipment Standards](#).”

²⁴ NESCAUM, “[Building Electrification](#).”

Available Incentives Can Drive Upfront Cost Savings on Zero-Emission Equipment

Using South Coast AQMD's assumptions on the upfront cost of equipment,²⁵ RMI examined the full spectrum of available and upcoming funding sources for both heat pump technologies and their conventional counterparts as of January 2025, from federal and state programs to local and utility incentives.²⁶ The analysis looked at the largest city in each of the AQMD's four counties and included the AQMD's new Go Zero Incentive Program, which will launch this spring to help South Coast residents and building owners upgrade their HVAC and water heating equipment to efficient electric heat pumps.

This analysis found that, without including any federal funding from the Inflation Reduction Act:

- Low-income households can save between \$2,400 and \$4,200 when choosing an air-source heat pump over a traditional furnace and AC system.
- Savings of \$2,125 to \$2,925 are available for low-income households switching to heat pump water heaters from traditional gas units.

With full incentive availability, clean heating technologies are not just cost-competitive — they also represent a significant opportunity for household savings on technology costs, potentially reducing net upfront costs by thousands of dollars compared to conventional gas equipment. Importantly, the cost-effectiveness of this transition does not depend on federal funding; state, local, and utility incentives alone can make heat pumps the more affordable choice for South Coast residents. Now, programs must improve accessibility and scale up funding to match the region's clean heating and cooling needs, particularly for low-income residents. The Go Zero program will be an important piece of this landscape.

The Zero-Emission Equipment Market Is Growing Fast and Most Buildings Are Ready

Air District staff have demonstrated in this long rulemaking process that the proposed measures are feasible and that technology to support the HVAC and water heating transition exists today. Indeed, efficient electric heat pumps that provide both heating and cooling have already outsold gas furnaces in the United States for the last two years,²⁷ with 35% year-over-year growth in the heat pump water heater market last year as well.²⁸ These technologies are proven.

In addition, through the use of power efficient equipment, circuit controllers, sub-panels, and breaker optimization, the vast majority of homes can fully electrify without upgrading electrical panels.²⁹ A recent analysis from UCLA found that only 3% of single-family homes and 10% of multi-family homes in California will need to upgrade their panels to fully electrify.³⁰ Current research is demonstrating that there is sufficient space on most panels for electrification, and that in tougher cases, emerging “Watt Diet” strategies can achieve full electrification without upgrading panels.³¹

²⁵ SCAQMD, [Preliminary Draft Staff Report for: Proposed Amended Rule 1111 & Proposed Amended Rule 1121](#), September 2024.

²⁶ RMI, [“Heat Pumps Reduce Smog in Southern California. Available Incentives Mean They Can Also Cost Less Than Gas Equipment.”](#) February 21, 2025.

²⁷ D. Reisinger (CNET), [“Heat Pumps Outsell Gas Furnaces Once Again: What's the Difference?”](#) February 24, 2024.

²⁸ EPA, [“ENERGY STAR® Unit Shipment and Market Penetration Report Calendar Year 2023 Summary,”](#) 2024.

²⁹ SPUR, [Solving the Panel Puzzle](#), May 2024.

³⁰ Fournier et al., [“Quantifying the electric service panel capacities of California’s residential buildings,”](#) *Energy Policy* 192:114238, Figs. 7-8, September 2024.

³¹ BAAQMD/Rincon Consultants, Inc., [Challenging Use Cases and Emerging Solutions for Zero-NOx Appliances](#), p.32, July 2024.

Adopt the Amendments to Rules 1111 and 1121 Without Further Delay

Planning for these rule amendments began years ago, and PARs 1111 and 1121 are critical for protecting the region's residents and achieving the core mission of the agency. The Governing Board should vote on them in June, without more changes to the calendar.

Further postponement or weakening of these regulations would only serve to delay and dilute the important market signal that manufacturers, distributors, contractors, homeowners, business owners, and other market actors are relying on to boost equipment supply, bring down costs, and develop complementary policies and financing structures. The proposed rule amendments have been years in the making, and they are ready for the planned vote on June 6.

Thank you for your service to the region, and your leadership and commitment to reducing air pollution.

Sincerely,

Charlotte Matthews, Managing Director
Jed Holtzman, Senior Associate
RMI