Decarbonizing Homes and Buildings

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Equitable Building Decarbonization Program Direct Install - GFO-23-404

Presented at the November 13, 2024 Business Meeting

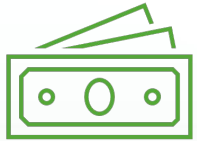
Benefits to Californians

Reduce Greenhouse Gas Emissions from Buildings

Advance Energy Equity

Improve Resiliency to Extreme Heat

Improve Air Quality



Improve Energy Affordability

Support Grid Reliability

Support Local Workforce

Building Decarbonization and Equity

Building decarbonization must prioritize low-income, disadvantaged, and tribal communities, who bear the highest energy burden and have suffered the most from historical environmental injustices, economic disparities, and the current climate crisis.

- Equitable Building Decarbonization Direct Install Program Guidelines

Equitable Building Decarbonization Program Subprograms

$412.95 million (State funds) + **$154.25 million** (Federal HOMES funds*)

$30 million (State funds)

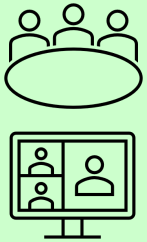
$30 million (State funds)

** Federal funds contingent on U.S. Department of Energy approval*

Statewide Direct Install Program Timeline and Public Process

Public Process to Develop Guidelines	Guidelines Adopted	Public Workshop on Draft Solicitation	Solicitation for Regional Administrators Released	Regional Administrator Applications Due	Notice of Proposed Awards Posted	Proposed Adoption of Regional Administrator Agreements	Program Launch (Retrofits Begin)
Dec 2022 – Fall 2023	**Oct 2023**	**March 2024**	**April 2024**	**June 2024**	**Aug 2024**	**Nov 2024**	**Spring/Summer 2025**

We are here!



- 5 regional workshops
  Fresno, Indio, Los Angeles, San Francisco, Santa Rosa
- 5 online-only workshops
- 2 tribal listening sessions

Statewide Direct Install Program Overview

The direct install program will serve…

Low-Income Households

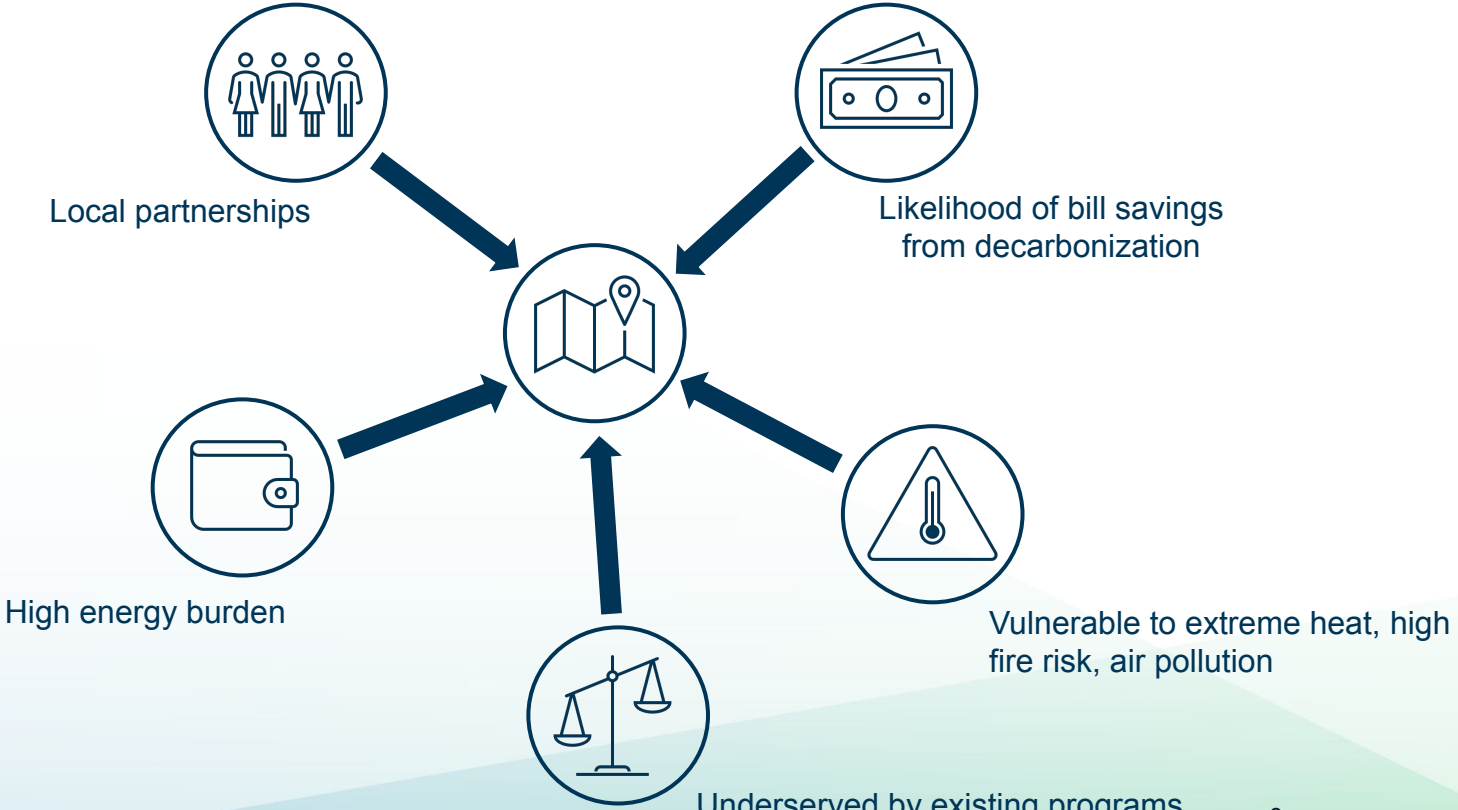
- Single-family
- Multifamily
- Manufactured and mobile homes

Underresourced Communities

- Disadvantaged communities
- Low-income communities

First phase of the program will serve "Initial Community Focus Areas"

Initial Community Focus Area Criteria



Eligible Measures

Heating and Cooling

- Heat pump
- Duct testing/sealing
- Smart thermostat
- Ceiling fan, whole-house fan

Building Envelope

- Insulation
- Air sealing
- Solar window film

Water Heating

- Heat pump water heater
- Low-flow showerheads and faucets

Cooking, Laundry

- Induction range or cooktop
- Electric clothes dryer

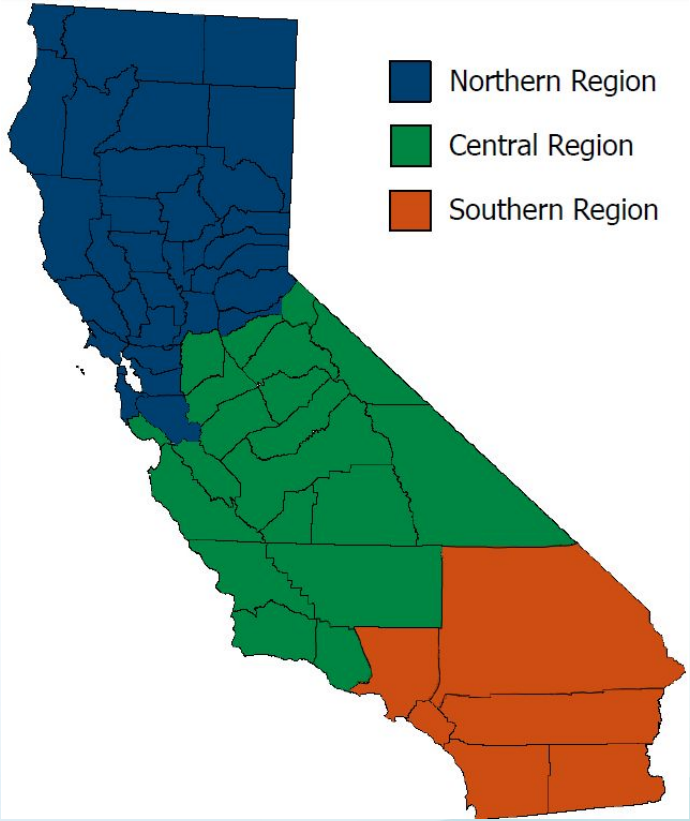
Air Quality, Lighting

- Air filtration
- LED lights

Electrical and Remediation

- Electrical wiring and panel upgrades
- Remediation and safety

Regional Funding Allocation



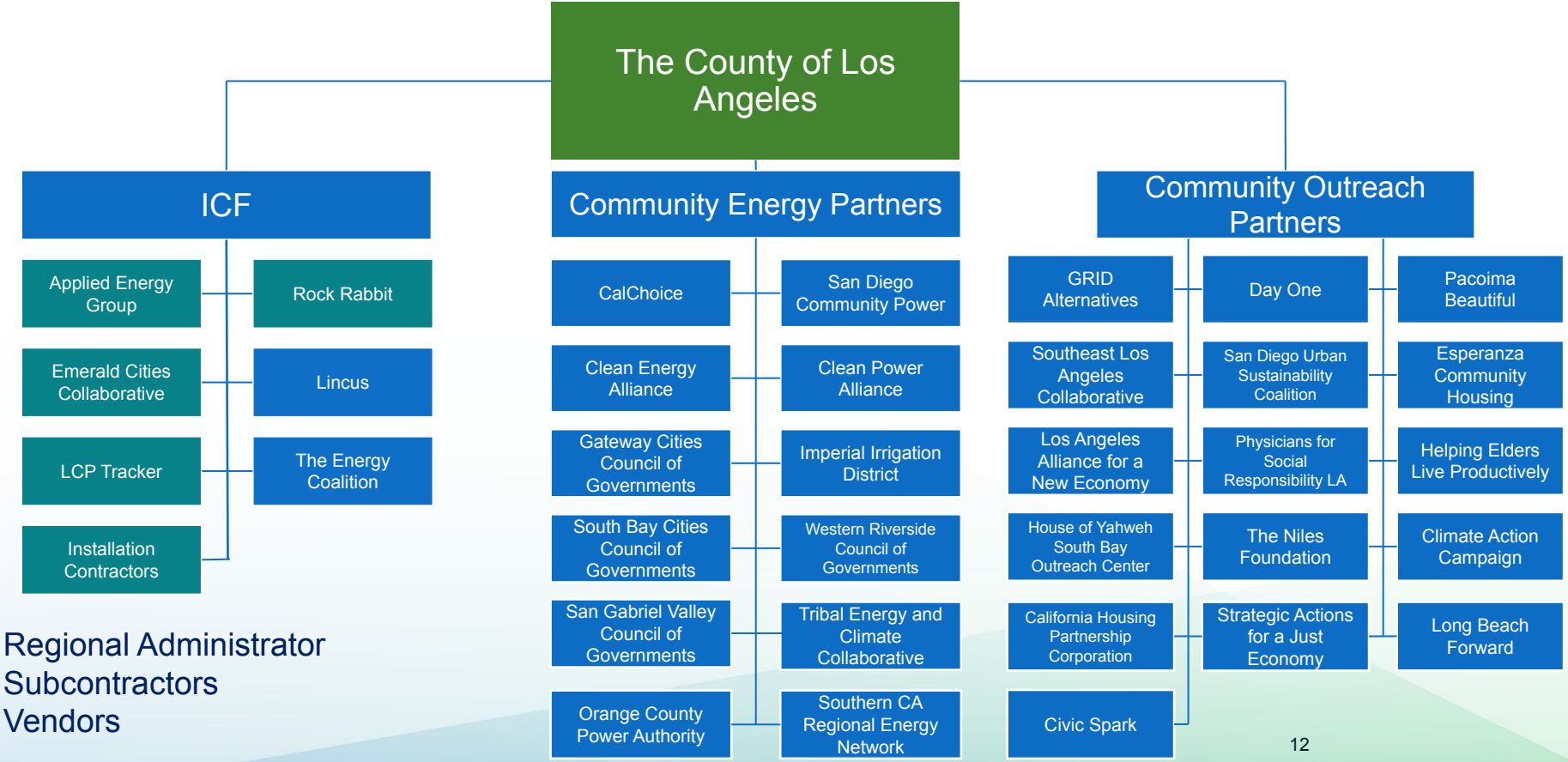
Region	Population of Underresourced Communities	Percentage of Statewide Direct Install Program Funds
Northern	5.3 million	23%
Central	4.3 million	19%
Southern	13.6 million	58%
Total	**23.2 million**	**100%**

Proposed Awardees

Region	Proposed Awardee	Proposed Funding: State	Proposed Funding: Federal*	Proposed Funding: Total
North	Association for Energy Affordability, Inc.	$94,978,500	$35,478,190	$130,456,690
Central	Center for Sustainable Energy	$78,460,500	$29,308,070	$107,768,570
South	County of Los Angeles	$239,511,000	$89,466,740	$328,977,740
Total	**All Regions**	**$412,950,000**	**$154,253,000**	**$567,203,000**

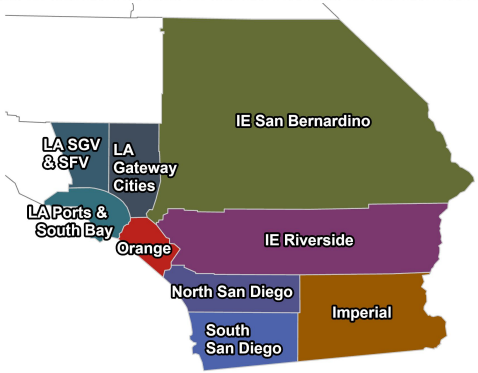
** Federal funds contingent on U.S. Department of Energy approval*

Southern Region: County of Los Angeles



- Regional Administrator
- Subcontractors
- Vendors

Proposed Awardee, Southern Region: Los Angeles County



	South San Diego	North San Diego	Orange County	LA Ports and South Bay	LA San Gabriel and San Fernando Valley	LA Gateway Cities	Inland Empire San Bernardino	Inland Empire Riverside	Imperial County
Community Energy Partners	• SDCP	• CEA • SDCP	• OCPA	• CPA	• CPA	• CPA	• CalChoice • IREN	• CalChoice • IREN	• IID
Community Outreach Partners	• SDUSC • SCTCA • CHP • GRID • ECC • TEC	• SDUSC • SCTCA • Climate Action Campaign • CHP • GRID • ECC • TEC	• CHP • Climate Action Campaign • GRID • ECC • TEC	• SBCOG • PSR-LA • ECH • SAJE • LAANE • SELA • Long Beach Forward • HELP • Niles Foundation • House of Yahweh • CHP • GRID • ECC • TEC	• SGVCOG • PSR-LA • ECH • SAJE • Niles Foundation • Day One • Pacoima Beautiful • CHP • GRID • ECC • TEC	• GCCOG • PSR-LA • ECH • SAJE • CHP • GRID • ECC • TEC	• SBCOG • CHP • SCTCA • GRID • ECC • TEC	• WRCOG • CHP • SCTCA • GRID • ECC • TEC	• CHP • SCTCA • GRID • ECC • TEC

Inquiries

For any Equitable Building Decarbonization Direct Install Program - Southern Region inquires, please contact Frederick Chung.

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South Coast Air Quality Management District Building Appliances Rules and Incentives

Regional Energy and Climate Hub
Inland Empire Workshop

Thursday, December 5, 2024

What is the South Coast Air Quality Management District?

- South Coast AQMD is an air pollution control agency
  - Includes Orange County and portions of Los Angeles, San Bernardino, and Riverside Counties
  - Covers an area of 10,743 square miles
  - Serves 17.5 million people with 11 million vehicles
  - Historically, have the worst air quality in the nation
- Responsibilities include
  - Controlling emissions from stationary sources (e.g., power plants, refineries, gas stations, painting facilities)
  - Permitting and inspecting over 28,000 affected businesses
  - Monitoring air quality and meeting federal and state air quality standards

Regional Air Quality

South Coast AQMD region fails to meet multiple national air quality standards

- Oxides of Nitrogen (NOx) is the key pollutant that must be controlled to address air quality

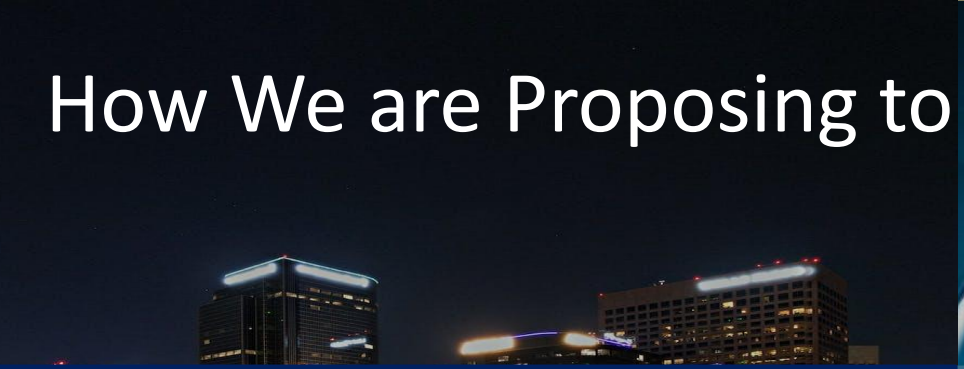
Under Federal law, areas that fail to meet air quality standards by required deadlines face potential sanctions

- Most severe would be loss of millions of dollars in federal highway funds

Region needs to reduce over 67% NOx emissions to meet air quality standards by the 2037 deadline

- Requires that we adopt zero-emission technologies to replace combustion *wherever feasible*

How We are Proposing to Improve Air Quality:



Proposed Amended Rule 1111 (PAR 1111)

Reduction Of NOx Emissions From Natural Gas-Fired Furnaces

Residential and commercial space heating

Proposed Amended Rule 1121 (PAR 1121)

Reduction Of NOx Emissions From Small Natural Gas-Fired Water Heaters

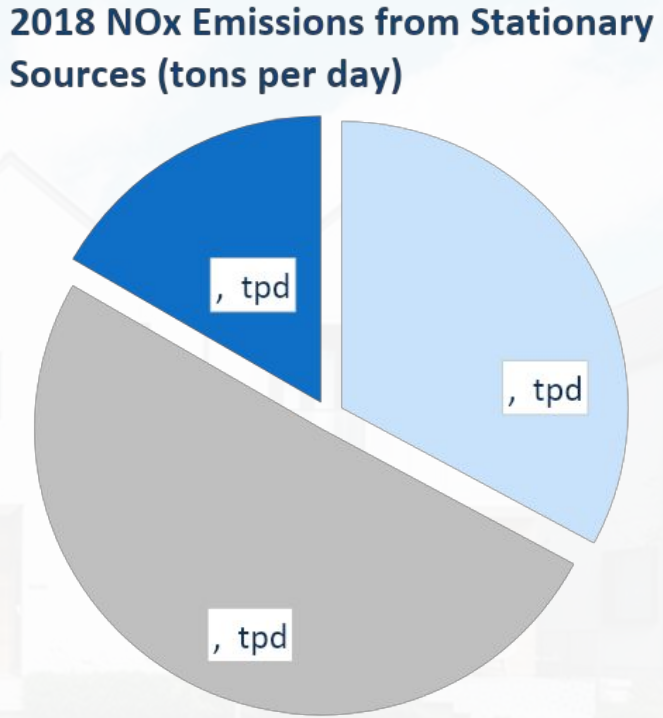
Residential water heating

Preliminary Draft Rules and Draft Staff Report released on September 20th, revised version released November 5th

Public Process Initiated September 2023, held seven Working Group Meetings

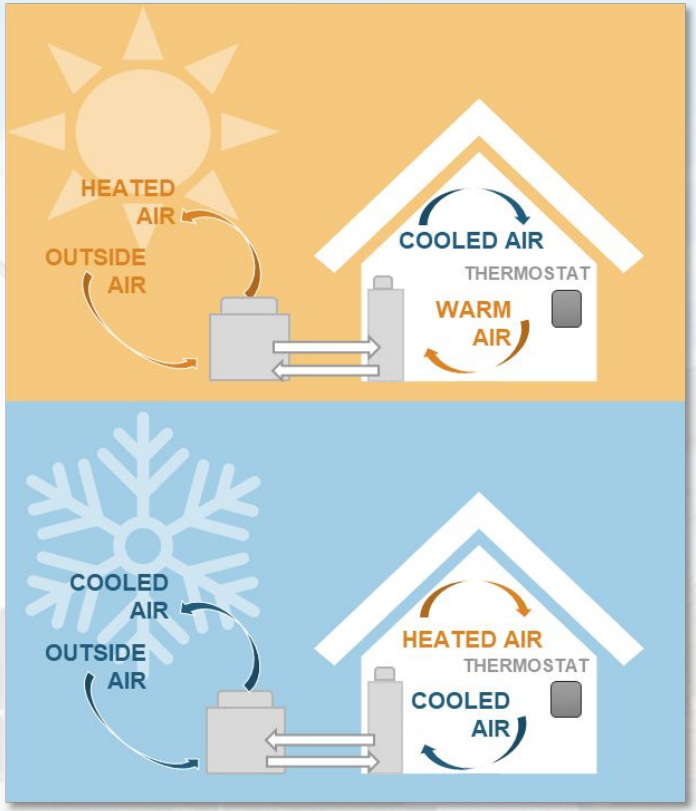
Why Regulate Space and Water Heating?

- Proposed rules will impact over 10 million units
  - 17% of stationary source NOx emissions
- Required by law to take all feasible measures to meet air quality standards
- Transition from combustion to zero-emission technologies



Zero-Emission Technologies

- Heat Pumps are the most common zero-emission technology
  - A heat pump is an air conditioner that provides heating and cooling
  - Heat pumps can also provide hot water (heat pump water heaters)
  - Heat pumps run on electricity, which means they produce zero NOx at the point of use
- Other technologies include:
  - Electric resistance
  - Solar
  - Fuel cells



Proposed Compliance Schedule

- Transition to zero-emission standard based upon:
  - Future effective dates
  - Natural turnover (when the consumer chooses to replace *or* equipment breaks)
- Natural turnover estimated ~ 4 – 7 percent per year
- Considering delaying existing building compliance dates to 2029
  - Address cost and infrastructure concerns

PAR	Type	Zero-Emission Start Date	
		New Buildings	Existing Buildings
1111	Residential & Commercial Furnaces	2026	2028
	Mobile Home Furnaces	2028	2030
1121	Residential Water Heaters	2026	2027
	Mobile Home Water Heaters	2026	2030

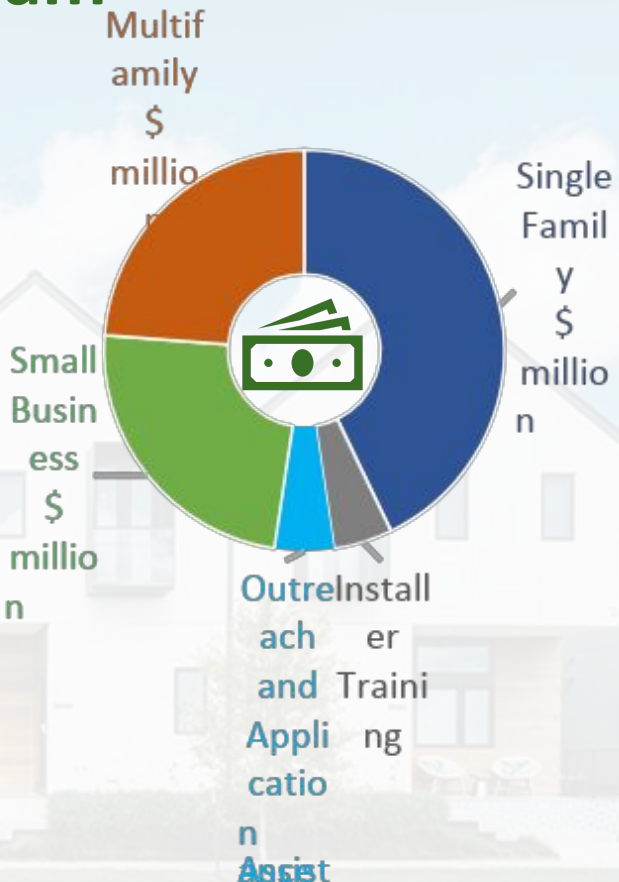
South Coast AQMD Go Zero Pilot Incentive Program

Cost is a barrier, so 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



Rebate Program Incentives

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

Multi-Family 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

Selection of contractor will consider prior experience and training proposal maximize installer benefits

Outreach and Application Assistance

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

Selection of contractor will prefer disbursement of funding to reach the four-county jurisdiction

Availability of Incentive Programs

- Incentives are available for heat pumps, and may be layered together:
  - **HEEHRA**, launched in November 2024, provides household incomes between 80% and 150% area median income (AMI) up to **$4,000**
    - Households with incomes less than 80% AMI are eligible for up to **$8,000**
    - Find out eligibility by using the pre-screening tool here
  - **Federal IRA Tax Credits** provide up to **$2,000** for heat pumps, more info here
  - **TECH Clean California** provides **$1,500** for heat pump HVAC, more info here
  - **Comfortably California** provides incentives for heat pump HVAC, more info here
  - **Golden State Rebates** provides incentives for heat pump water heating, more info here
  - Many local/utility incentives are available, with more info on the **Switch is On** website
  - Upcoming South Coast AQMD **Go Zero** rebates will provide **$1,500-$3,000** for heat pump HVAC and **$1,000-$2000** for water heating, along with application assistance

Incentive Stacking Example - HVAC	
HEEHRA	$4,000
IRA Tax Credit	$2,000
TECH Clean CA	$1,500
Go Zero	$1,500

Total **starts at $9,000**

\+ Plus other incentives from local, utility, etc.

\+ Additional funding for income-qualified:
+$4,000 HEEHRA
+$1,500 Go Zero

Starts at $14,500 for income-qualified

Next Steps for PAR 1111 and PAR 1121 and Go Zero

Future Public Meetings

- Public Comment Period Open Until
  - December 13, 2024
- Stationary Source Committee
  - December 20, 2024
- Public Hearing
  - February 7, 2025 (subject to change)

Technology Check-in

- ✔ Prior to future zero-emission effective dates
- ✔ Reassess technology development, availability, and costs
- ✔ Potential recommendations to amend rule

Launch Go Zero Incentive Program

Early 2025

Links and Contact Information

To receive future updates on rulemaking and incentives via email newsletter:

Subscribe by checking the **Building Appliances** check box located under Rule Updates:
http://www.aqmd.gov/sign-up

For more information on current projects:

Please check out the Building Appliances webpage at the link below or the QR code here:
https://www.aqmd.gov/home/rules-compliance/residential-and-commercial-building-appliance

For questions on building appliances rules and incentives:

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DECARBONIZATION BENEFITS LOCALS

ARIEL TOLEFREE-WILLIAMS

CITY OF PALM SPRINGS

City of Palm Springs

The City is a well-known resort destination with a year-round population of approximately 47,900 and a seasonal population that more than doubles.

With the resort amenities and heat Palm Springs is famous for, there is room for improvement with infrastructure, energy consumptions and energy costs.

What does Inequality look like?

01 | High Energy Costs

- Lack of affordability
- Need for community shared solar/ expanding energy storage.
- Need for levelized bill costs for CARE/FERA

02 | Residents with Fixed Incomes

- Fixed incomes / social security / disability
- Hospitality employees
- Retail employees
- Single incomes

03 | Climate Crisis = Cost of Living Crisis

- Rental/Utility Assistance
- Health Issues
- Dust pollution
- Heatwaves. over 100 days over 110*.
- Doesn't cool off at night, more cardiac arrest cases
- Right to cooling law (80*)

04 | Inefficient Buildings

- Are people comfortable and safe?
- Can mobile/ manufactured homes be updated?
- Parts of the City more in need than others?

REACH Codes

Will require SFH built before 2011 undergoing additions or remodels to make targeted energy efficient upgrades

Why

- Reduce GHG emissions by 80%
- Reduce energy & carbon use in new homes/buildings
- Supply 50% of energy from renewable sources
- Help PS be more climate resilient

Triggers

- Additions or changes to structural elements
- Change or rearrangement of walls or full height partitions of an existing building
- Modifications of an electrical system, heating or cooling or gas plumbing

Exemptions

- Anyone who receives CARE/FERA via utilities

REACH Codes in action

Table 150.0-I Target Score			
	Building Vintage		
	Pre-1978	1978 - 1991	1992 - 2010
Permit Value	**Target Score**		
All Projects	LED + Photosensors	LED + Photosensors	LED + Photosensors
$10,000 - $24,999	+ Water Heating Package	+ Water Heating Package	+ Water Heating Package
$25,000 - $49,999	+ Water Heating Package & 16 points	+ Water Heating Package & 12 points	+ Water Heating Package & 6 points
$50,000 - $99,999	+ Water Heating Package & 32 points	+ Water Heating Package & 25 points	+ Water Heating Package & 12 points
$100,000 +	+ Water Heating Package & 48 points	+ Water Heating Package & 37 points	+ Water Heating Package & 17 points

Table 150.0-J: Measure Menu				
		Building Vintage		
Table 150.0-K ID	Measures	Pre-1978	1978 - 1991	1992 - 2010
E1	Lighting Measures	Mandatory		
E2	Water Heating Package	Mandatory for all projects with a permit value of $10,000 or more		
E3	Air Sealing	1	1	--
E4.A	R-38 Attic Insulation	7	3	1
E4.B	R-49 Attic Insulation	8	4	1
E5	Duct Sealing	9	10	1
E6.A	New Ducts, R-6 Insulation + Duct Sealing	17	13	5

Community Development Block Grant

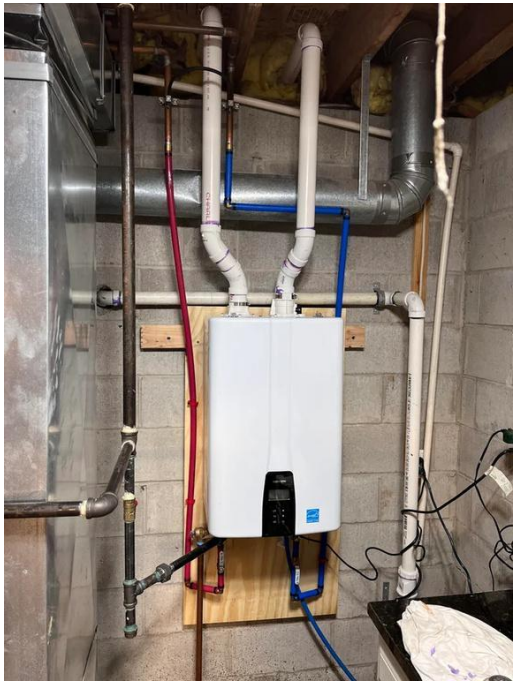
City of Palm Springs receives about $350,000 annually to be used towards residents under 80% AMI. The City grants each household up to $25,000. This existing program would be easy to expand.

Grant Objectives

- Support LMI residents
- Create sustainable and viable urban areas
- Address code deficiencies

Grant Uses

- Replacing water heaters
- Updating electrical panels
- Replacing inefficient doors and windows
- Replacing inefficient HVAC
- Roof repair/replacement (cool roofs for MHs)
- Energy Efficiency upgrades



Multi-Family Developments

80% of multi-family developments in Palm Springs were built before 2011. 15% of these are income-based, where utilities continue to price residents out.

Goals

- Equity
- Affordability
- Community Resilience

Things to Consider

- Difficulty tying in solar on older/ larger developments
- Property Owner/ Management buy-in
- Upfront costs
- Edison's program, does it work for us?
- Does performance based path work better here? (Reduce emissions by 10% annually). In unit (prescriptive) vs performance
- Benchmarking required (HUD, buildings over 50K sqft does this already) to make changes

THANK YOU

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