

CPAreachcodes.org



CPA Reach Codes Program Webinar How to Reduce GHG Emissions in Buildings



- Welcoming Keynote: The Importance of Reach Codes- Ted Bardacke, CPA Chief Executive Officer
- CPA Updates and Reach Code Program Overview
- Updates on Berkeley and Statewide Interest to Move Forward
- Reach Code Case Study: City of Santa Monica
- Overview of Resources and Model Codes
- Stakeholder Support and the Importance of Equity





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Agenda

- Welcoming Keynote: The Importance of Reach Codes- Ted Bardacke, CPA Chief Executive Officer
- CPA Updates and Reach Code Program Overview
- Updates on Berkeley and Statewide Interest to Move Forward

Chat

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- Feach Code Case Study: City of Santa Monica
- Verview of Resources and Model Codes
- Stakeholder Support and the Importance of Equity



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Welcoming Keynote: The Importance of Reach Codes

Ted Bardacke, CPA Chief Executive Officer



CPA Updates and Reach Code Program Overview

Xico Manarolla, CPA Program Manager



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Program Purpose

Increase Reach Codes

- For the second secon
- Improve community, economic and environmental indicators
- Support regional and State electrification goals



What are Reach Codes?

Local ordinances adopted by the local government that exceed and enhance the state's green building standards.

Types of Reach Codes:



Building Decarbonization (New & Existing Buildings)



Electric Vehicle Infrastructure (EVI)



Program Timeline

Q1&2 2023 Feb: CPA Board Approves Program Budget Apr: Ninth	Q1&2 2024 Member agencies sign on to Reach Code Program				
Circuit reverses District Court Decision Apr: Program kicks off	Finalization of new model codes	Program set to end December 31, 2024			
• • • • • • • • • • • • • • • • • • •	Today: Re-laun Members bring Council	ch webinarTime is limited, nowcodes tois a great time to getstarted			
Development of Q3&4 2023	model codes Program brings new member a	s on gencies			

Q3&4 2024

Member Agencies and Reach Codes



- Member agencies with adopted reach codes:
 - Agoura Hills
 - Los Angeles County
 - Ojai
 - Santa Monica
 - Ventura County
 - West Hollywood
- Member agencies pursuing new reach codes with Reach Code Program:
 - Ojai
 - Rolling Hills Estates
 - Santa Monica
 - West Hollywood



Key Offerings from Clean Power Alliance

Templates and Tools

- Model ordinances and adoption resources developed through years of municipal support and stakeholder engagement
- Resource library, tools, templates, and presentations
- Streamlined delivery models based on lessons learned

Customization

- Diverse needs ≠ one size fits all
- Provide local research and specific tools to support municipal staff
- Interpret statewide CA code cost-effectiveness studies related to climate zones and goals
- Integrate feedback regarding unique building stock and community feedback

Adoption Support

- Technical assistance
- Present at City Council meetings
- Facilitate public workshops
- Regional Collaboration

Financial Offerings

Available to support the added costs for adopting a reach code ranging from \$2,500 - \$25,000

Participation Agreement is required to participate in the program.

Participation does not obligate the jurisdiction to adopt the developed reach code.







Updates on Berkeley & Statewide Interest to Move Forward

Taylor Taylor, TRC Reach Code Lead



Reach Code Litigation California Restaurant Association v. City of Berkeley

July 2019	Nov 2019	July 2021	April 2023	May 2023	January 2024
The City of Berkeley adopts a municipal gas ban/all-electric Ordinance.	The California Restaurant Association sued the City of Berkeley	The District Court originally rejected the CRA challenge	The Ninth Circuit reversed the District Court decision, concluding that EPCA	The City of Berkeley filed a petition for an En Banc rehearing.	The Ninth Circuit denied an En Banc rehearing. Berkeley has
The Ordinance prohibits, with some exceptions, natural gas infrastructure in newly constructed buildings.	on the grounds that the Ordinance was preempted by the federal Energy Policy and Conservation Act (EPCA).	because the ordinance does not directly regulate either energy use or energy efficiency of covered appliances. The CRA appealed that	preempted Berkeley's ban because it prohibited the onsite installation of natural gas infrastructure necessary to support covered		repealed their natural gas ban. Some jurisdictions are evaluating new building reach code approaches.

Next Steps: For jurisdictions looking for an alternative reach code that could mitigate legal risk, there are several approaches available.



California's Upcoming Electrification Changes





Anticipated Zero Emission Appliance Regulations

Agency	Appliance	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
	Water Heaters			<u>New Construction:</u> < 75 kBtu/hr	<u>All Buildings</u> (except mobile): < 75 kBtu/hr			Existing Mobile Homes			
	Furnaces			New Construction: ≤ 2000 kBtu/hr		All Buildings (except mobile): ≤ 2000 kBtu/hr		Existing Mobile Homes			
SCAQMD (South Coast) Regulating the sale and installation	Other/Specialty			New Construction: Boilers, Storage Water Heaters, and Process Heaters ≤400 kBtu/hr Tankless ≤200 kBtu/hr	<u>All Buildings</u> (except mobile): Storage Water Heaters	New Construction: Pool Heaters, Boilers, Water Heaters, and Process Heaters ≤ 2000 kBtu/hr	All Buildings: Boilers, Storage Water Heaters, and Process Heaters ≤400 kBtu/hr Tankless ≤200 kBtu/hr <u>New Construction:</u> High-Temperature Boilers, Water Heaters, and Process Heaters ≤ 2000 kBtu/hr	Existing Mobile Homes	All Buildings: Pool Heaters, Boilers, Water Heaters, and Process Heaters ≤ 2000 kBtu/hr		All Buildings: High-Temperature Boilers, Water Heaters, and Process Heaters ≤ 2000 kBtu/hr
CARB	Boilers and Water Heaters				<u>All Buildings:</u> < 75 kBtuh		<u>All Buildings:</u> < 400 kBtuh		<u>All Buildings:</u> < 2000 kBtuh		
(State-wide) TBD Regulating the sale (Rulemaking in Process)	Tankless Water Heaters						<u>All Buildings:</u> < 200 kBtuh		<u>All Buildings:</u> < 2000 kBtuh		
	Other/Specialty						<u>All Buildings:</u> Furnaces < 2000 kBtuh		All Buildings: Pool heaters < 2000 kBtuh		<u>All Buildings:</u> High-temp Boilers < 2000 kBtuh

Why Establish Reach Codes?

State and AQMD Codes Aren't Certain	 South Coast Air Quality Management District is considering proposals to go to zero NOx emissions limits for water heating and space heating, starting as early as 2026, but they aren't adopted yet
Local Reach Codes Influence the State	 Statewide electrification codes incorporate elements from local reach codes Smoother implementation of state-wide requirements
Allows More Action, Sooner	 Earlier actions have exponential greenhouse gas emissions savings Existing building policy is needed immediately to meet 2030, 2035, and 2040 climate goals
Continuous Signal to the Market	 Avoid a progress gap for new construction from 2024-2026 Send clear, continuous message to market Avoid stranded asset cost of continued gas investment
Local Control	 Ability to design customized exemptions and language Jurisdictions with more progressive climate targets can pass more progressive reach codes



California Carbon Emissions by Economic Sector

- Emissions from Transportation and Commercial and Residential buildings account for 52% of the CA inventory in 2020
 - Mainly from the fossil fuel combustion
 - Nearly all gas appliances can be electrified, except some hightemperature industrial applications.

2022 California GHG Emission Inventory



California Buildings Gas Usage

The combined gas usage for cooking, water heating, and space heating accounts for 96% in residential and 91% in non-residential sectors.



Residential

Non-Residential



What are the Community Benefits?

By developing reach codes, cities and counties in CPA's service area can:

- Save energy and provide resiliency to communities
- Reduce the cost of new construction buildings and eliminate future retrofit costs
- Make progress toward Climate Action Plans
- Improve indoor air quality and reduce combustion fire risks
- Reduce greenhouse gas emissions and the negative effects of climate change



Reach Code Adoption Process (Part 1)

Member Agency Reaches Out to CPA for Support Email <u>CPAReachCodes@cleanpoweralliance.org</u> to start the process

Introductory Meeting with TRC and CPA (1-2 weeks)

High level discussions of member agency goals and program offerings

Member Agency Signs Participation Agreement

Kick-Off Meeting with Program Team and Essential Jurisdiction Staff

In-depth discussions of specific member agency goals, policies, support needed, and next steps

Research, Education, and Support for Council Approval (1-3 months)

CPA team researches relevant policies, local policies and stakeholders, and provides technical assistance to the city/county and education at stakeholder events

Council Study/Information Session

City/county staff presents the reach code topic to council for information only. <u>TRC requests</u> <u>presenting duties at the study session</u>. Council may direct staff to conduct further research and stakeholder engagement before presenting a reach code ordinance to council.

Develop Draft Code for Review (1-3 months)

TRC will deliver a first draft of the model code



Reach Code Adoption Process (Part 2)

Stakeholder Engagement (1-3+ months)

Solicit feedback from the community. TRC answers technical questions. Option for multiple meetings targeted at specific groups.

Customize Code (1-3 months)

TRC continues code edits based on feedback from city/county departments and local stakeholders

1st Council Reading (1+ month after study session)

City/county staff present the reach code ordinance to council. There is a public comment period and council vote to advance the reach code to a 2nd reading. TRC is available to answer technical questions.

2nd Council Reading (2 weeks after 1st reading)

Council votes to pass the reach code. Usually, this is on consent but may go through public comment if the item is pulled from the consent calendar. TRC is available to answer technical questions.

Submittal to the CBSC and/or CEC (up to 1-3 months)

Once the ordinance is approved, staff file it with the state so the code can take effect

Reach Code Goes Into Effect! (Total of ~ 4-8 months)

Who is Working on a Reach Code?

Los Angeles County and Ventura County Cities

	New Construction Buildings			E	EV		
Jurisdiction	Single Family	Multifamily	Nonresidential	Single Family	Multifamily	Nonresidential	Infrastructure
Ojai				Х		X	
Rolling Hills Estates	Х	X	Х				
Santa Monica	Х	Х	Х	Х	Х	X	Х
West Hollywood				X	X		

Other Cities

CP

	New Construction Buildings			E	EV		
Jurisdiction	Single Family	Multifamily	Nonresidential	Single Family	Multifamily	Nonresidential	Infrastructure
Brisbane	Х	Х	Х				Х
East Palo Alto	Х	Х	Х				
Mountain View	Х	X	Х	Х	X	X	
Palo Alto	Х	Х	Х				
Santa Cruz	Х	Х	Х	Х	Х		
San Luis Obispo	Х	Х	Х	Х			

Reach Code Case Study: City of Santa Monica

Ariana Vito, Santa Monica Senior Sustainability Analyst and Nico Predock, Santa Monica Sustainability Analysts

Avani Goyal, TRC Reach Code Lead



Santa Monica's Climate Goals

- Climate Action & Adaptation Plan (CAAP, 2019)
 - Zero Net Carbon Buildings 2030 Objectives
 - Discourage use of fossil fuels in **new buildings**
 - Reduce fossil fuel use in **existing buildings** by 20% by 2030
 - Actions
 - **ZNC5**: Adopt a Carbon Reduction Ordinance for Existing Buildings
 - **ZNC9**: Convert Existing Natural Gas Equipment & Appliances to Electric
 - (Equity Through Energy) ZNC10: Provide Educational & Cleantech Opportunities
 - (Equity Through Energy) ZNC11: Create Equitable Access to Clean Energy Programs





Santa Monica Building Electrification Policies – New Construction

1. Zero Emissions Building Code

- All-electric code requirement
- Adopted 2022; effective Jan 1., 2023
- Berkeley legal challenges → Proposing the 2024
 Energy Performance Approach as a local
 amendment to the 2022 California Energy Code

2. EV Charger Reach Code

- Adopted 2022; effective Jan 1., 2023
- 2024 CALGreen Intervening Code Cycle Updates exceed local Reach Code





Santa Monica Building Emissions

- Buildings = 26% of GHG emissions
 - Natural gas burned in buildings is responsible for 19.3% of emissions
- Clean electricity Clean Power Alliance (CPA): 95.3% of customers on 100% clean power rate
- Next task = reduce emissions from existing buildings



SM Building Electrification Policies – Existing Buildings

Building Performance Standards:

- Buildings > 20k SF
- Include Alternative compliance pathways define qualification process
- Develop "Equity-Priority Buildings Program"

Existing Building Reach Codes:

- Buildings <20k SF
- Focus on electric-readiness
- Time of Sale or Time of Permit (renovation)
- Focus on property-owner preferred upgrades (offer menu of options)





CPA Reach Code Program





CPA Reach Code Program

Reach Code Trigger	Requirements	Notes
Time of Sale	 Energy audit/assessment at time of listing Install additional measures if home does not have heat pump 	 If home has heat pump – in compliance Mostly applies to SF
Time of Permit (Renovation)	 Must meet target score through "flex- path" options At time of mechanical or building combo permit or area-remodel 	 12% of mechanical permits are for heat pumps in SM A/C installation – prescriptive heat pump or efficiency measure pathway
Air Quality Approach	Zero NOx emission requirementsApplies at point-of-sale	 Effort being led by regional AQMDs



Existing Building Reach Codes

Takeaways from focus group meetings

- Small mom & pop multifamily building owners expressed most concern
 - Cost concerns were most prevalent
- Property owners have 2 priorities for policy development
 - Access to up-front funding, federal/regional/local rebates
 - Good customer service is essential if relying on rebates
 - Cost-effectiveness
 - Use cost-effectiveness studies to determine most cost-effective project types & policy triggers
- Flexible Policy is essential must be menu of upgrade options

Timeline:









Thank you!

Contact: <u>Nico.Predock@SantaMonica.gov;</u> Ariana.Vito@SantaMonica.gov



Overview of Resources and Model Codes

Taylor Taylor, TRC Reach Code Lead



What are the Types of Reach Codes?



New Construction & Existing Buildings

 Goal: to reduce the use of methane gas, ensure buildings are operating efficiently, and to prepare the market for statewide electrification goals



There are two pathways when amending the energy code:

- Prescriptive Codes: Require one or more specific energy efficiency or renewable energy measures.
- Performance Codes: Require buildings to meet an energy budget/performance score through a custom design, allowing applicants flexibility.



Electric Vehicle Infrastructure (EVI)

 Goal: to improve market readiness and increase equitable access to clean transportation EV charging stations



New Construction Policy Comparison

Approach	Description	Advantages	Challenges	Who's done it?
Energy Performance	Requires a higher <i>Source</i> <i>Energy</i> compliance margin than what the state requires through the performance path of the Energy Code, Part 6.	 Mitigates legal risk by allowing methane gas pathways Can provide an all-electric cost- effective pathway Enforcement process is already in place, the compliance margin is increased 	 Limited to regulating space heating/cooling and water heating Likely lower carbon savings compared to all-electric only pathways 	East Palo Alto Encinitas Palo Alto Santa Cruz San Jose San Luis Obispo
Other Strategies				
Air Quality	Regulates building or appliance emissions through CALGreen, Part 11.	 Uses Clean Air Act authority rather than Energy Policy and Conservation Act Regulates all emitting equipment (cooking, fireplaces, dryers, etc.) Likely to result in all-electric construction, which includes construction cost savings Direct benefit to air quality / health High impact on emissions reduction 	 Legally untested Potentially new enforcement approach Concerns adopting this approach could negatively impact the on-going work with the AQMDs 	Los Altos Hills New York City



How Does an Energy Performance Approach Work?

What is it? What support is available? How does it work? A stricter regulation of Typically takes effect **Technical Assistance** Source Energy which is through amendments to a proxy for carbon the Energy Code, Title emissions. 24, Part 6. Model Code Language Source Energy is Building applicants who regulated in the current use the performance path **∃**≚ Energy Code through the need to meet a stricter performance path. Source Energy target. Staff Report Templates Enforcement is the same, The goal is to reduce except instead of meeting new building emissions a value of "0 or greater", Council Meeting

the reach code target or

greater is met.



and prepare buildings for

future electrification.

Support

How does this approach meet the Energy Policy and Conservation Act (EPCA)?

EPCA Exemption and the 7-Factor Test

Permit a builder to […] select items whose combined energy efficiency meet an overall building energy target.

Not specifically require any EPCA-covered appliance to exceed federal standards.

Offer options for compliance, on a 1-for-1 equivalent energy use or equivalent cost basis.

Energy Performance Approach Technical Considerations

Instead of regulating appliance fuel infrastructure, the Energy Performance Approach sets a target energy score using the EDR1/Source Energy margin (used in modeling software for CA building permits).

This approach sets the target energy score assuming federally required minimum equipment efficiencies.

This approach sets a common target energy margin for both mixed-fuel and all-electric buildings.



What is Electric Vehicle Infrastructure (EVI)?

- The integral equipment and materials necessary to support Electric Vehicle (EV) charging.
- This includes:
 - Electrical capacity (utility service, transformers, and feeders)
 - Panel space for EV dedicated breaker
 - Conduit/Raceway/Pathways for circuits
 - Wiring (circuits) for EV charger
 - EV dedicated receptacles or charging equipment
 - EV charging plug and cord
 - Energy management software



Existing Building Policy Comparison

	Description	Advantages	Challenges	Who's done it?
Time of Replacement	Require that property owners at the time of equipment replacement (upgrades or burnouts) abide by zero-NOx requirements and/or electric readiness requirements.	 Simple policy Replacements occur more frequently than major renovations 	 Emergency replacements May result in some bypassing the permit process 	San Mateo, Portola Valley, Marin County, Palo Alto
Time of Renovation	Require applicants that are already pulling a permit for a renovation project to abide by certain energy efficiency measures and/or electric readiness requirements.	 Customizable triggers Unlikely to impact small or low-cost renovation projects Unlikely to bypass the permit process 	 More complex policy Clarity of permit data Low permit/renovation rates can increase time to make impact 	San Mateo, Portola Valley, Piedmont, Marin County
Building Performance Standards (BPS)	Require property owners to regularly report energy- or emissions- use intensity (EUI). In addition, the policies require incremental reductions in EUI over a set time horizon.	 Monitor building stock Customizable triggers Regular enforcement cycles 	 Large administrative burden (cost/time) 	Cities: Denver, Reno, Chula Vista, St. Louis, etc. States: Oregon, Washington, Maryland, Colorado
Time of Property Transfer	Leverage real estate transactions to disclose relevant information on, incentivize, or require, certain home improvements. We do not recommend policies which inhibit or delay the sale of a property.	 Leverages major financial transaction Allows responsibility to be shared between buyer and seller 	 Limited precedence for jurisdictional authority Jurisdiction regulation of property transfer process Low transfer rates can increase time to make impact 	Piedmont, Berkeley, Davis

Find Resources on CPAReachCodes.org

- Model Codes
 - Building Electrification
 - Electric Vehicle Infrastructure
- Educational Slide Library
- **FAQs**
- And More!

CPA POWER ALLIANCE	Home	About Reach Codes	Model Reach Codes	Adoption Process	Resources	FAQ
Iodel Reach Codes						
uilding Electrification		The electrification re <u>Standards Program</u> For any questions or <u>CPAReachCodes@</u>	ach code language is (IOU's C&S) cost-effe support with adoptir cleanpoweralliance.	informed by <u>Investa</u> ctiveness studies. ng and customizing f org .	or-Owned Ut	i <u>lities Codes and</u> olease reach out to
	_	(0			

This model reach code was designed to mitigate legal risk by providing compliance pathways for all-electric and mixed-fuel buildings. The amendment is for Title 24 Part 6 of the California Code of Regulations, and can be used for Single Family, Multifamily, and Non-Residential New Construction buildings. It leverages a Design Rating, which is a carbon-based performance metric used to regulate energy performance. San Luis Obispo, San Jose, and Santa Cruz have adopted reach codes similar to this model code.

Energy Performance Approach Model Ordinance

Stakeholder Support and the Importance of Equity

Sami Taylor, Raimi + Associates Grace Hut, SAJE



Equitable Planning Considerations

- Mapping analysis
 - CalEnviroScreen 4.0
 - CalAdapt Ο
- Frameworks + Resources
 - USDN Guide to Equitable 0 **Community Driven Climate** Preparedness Planning (R+A)
 - APA Planning for Equity Policy 0 Guide
 - SAJE Decarbonizing 0 California Equitably

What strategies for advancing equity or mitigating unintended consequences will be incorporated?

Who are the most affected community members? How can we involve these community members in a meaningful and culturally appropriate manner?

Policy Development Who will benefit from or be burdened by the policy/project?

Community Engagement Which best practices for meaningful engagement will you incorporate?

How will you define the role of public input in the process? Will you share any decisionmaking power?

Identifying Stakeholders

- Sensitive Populations
 - Older adults
 - Cost burdened households
 - Fixed income residents
 - LGBTQIA+
 - Unhoused and previously unhoused
 - People with disabilities
 - Communities of color
- Local Organizations
 - Local climate activists
 - Regional/County energy or climate alliances
 - o Utilities
 - Contractors, design/build firms, architects



- Concerned Parties
 - Property owners/managers
 - Small mom and pop owners
 - o Renters/tenants
 - Neighborhood associations
 - Restaurant associations
 - Hospitality groups
 - Chamber/real estate
 - o Internal Stakeholders
 - Relative City departments (Building, Planning)



Outreach Activities

Phase 1: Discovery

- Targeted outreach
 - Focus groups
 - o Stakeholder interviews
- ✤ Surveys
- Social and traditional media
 - Newsletters
 - o Mailers
 - o Websites
 - o Social media channels
 - o Success story videos

Phase 2: Policy Development

- Community outreach
 - o Community workshops
 - o Surveys
 - Pop-up events

Phase 3: Policy Education + Promotion

- Case studies
- Resources and materials online and at planning counter
- Demonstration events
- Continued outreach to targeted stakeholders



Potential Impact of Reach Codes on Renters



LOCAL RSO TENANTS

Tenants are protected by rent-control measures implemented at the local level. Tenants are protected by regulations established at the state level that set limitations on rent increases and evictions.

AB 1482

TENANTS



EXEMPT TENANTS

Tenants in buildings fewer than 15 years old as well as of other exempted properties are not protected.

Impacts on Local RSO Tenants:

Example: City of Los Angeles

- Pass-through costs
- Construction-asharassment

Impacts on AB 1482 Tenants:

Example: City of Ventura

 No-fault evictions for substantial remodels

Other considerations:

- Poor / no enforcement
- Under-resourced housing departments
- Tenants lack of knowledge of their rights



Policy Solutions



Goal: Prevent rent burden and maintain affordability Goal: Prevent evictions and keep people housed

Goal: Protect tenants from disruptive construction

Policy Recommendation	Jurisdiction
Rent Stabilization Ordinances	Local
Prohibit pass- through costs for work related to energy efficiency and electrification	Local
Amend AB1482 to adjust rent caps	State

Policy Recommendation	Jurisdiction	
Just Cause Eviction Ordinances	Local	F
Close the substantial remodel loophole	Local, State	

Policy Recommendation	Jurisdiction
Tenant Habitability Plans	Local
Penalties for Illegal Construction	Local







Contact Us to Enroll Today!

CPA Reach Code Program cpareachcodes@cleanpoweralliance.org Xico Manarolla Electrification Program Manager (213) 376-4850 Ext. 139 xmanarolla@cleanpoweralliance.org

Tim Mensalvas (TRC) Program Manager (916) 844-0171 <u>tmensalvas@trccompanies.com</u>



Thank you!

Visit us at: <u>CPAreachcodes.org</u>





Participation Agreement

General Obligations:

- Must designate primary contacts
- Must engage with program team throughout process
- Primary contact or city/county representative must attend at least one model code workshop hosted by the program to help create new construction/existing building reach code templates.
- All tools, templates, and other resources generated by the program team during the development reach codes will be the intellectual property of CPA.
- Any adopted reach code may be posted on Reach Code Program websites by CPA.
- Participants who wish to receive a financial award must complete a Program Award Application and submit the required documentation.
- Participation does not obligate the jurisdiction to adopt the developed reach code
- Adoption of a reach code is done at the risk of the jurisdiction
- Participant agrees to conduct its own due diligence and review, including any technical or legal review of any proposed reach code it wishes to consider.



How to Join the Existing Building Pilot

Member agencies who are interested in being selected as an Existing Member Pilot should, in **1-2 paragraphs**, summarize why your jurisdiction is a good candidate to be an Existing Building Pilot.

Questions to address include:

- Is there support from your elected officials for pursuing or adopting an existing building reach code?
- Does your jurisdiction have support from community members, businesses or community representative organizations for existing building reach codes?
- Does your jurisdiction have staff time that you can dedicate to this process?
- Has your jurisdiction adopted a Climate Action Plan or similar document that requires your jurisdiction to investigate existing building reach codes?
- What are the population and building demographics of your jurisdiction?



Applications will be accepted on an ongoing basis

Submit 1-2 paragraph email to <u>cpareachcodes@cleanpoweralliance.org</u>. Title your email: "<u>{Jurisdiction Name} Existing</u> <u>Building Pilot Application</u>". Applications will be accepted through December 2024.

If accepted, you will be asked to sign a Participation Agreement.

What are Benefits of Electrification?

- <u>100% Green Power</u> (renewable clean energy) provided by CPA, can be the most beneficial to our communities when buildings and vehicles are electrified to only use that clean energy.
- Electrification transitions buildings and vehicles away from natural gas and gasoline— both of which are extremely harmful to the environment, health, and safety of our communities.
- All-electric buildings are cost effective, especially when adopted at the new construction stage.



Now is the time.

- Over 70 California municipalities have adopted building electrification reach codes. Over 100 nationwide.
- Cities adopting building electrification codes, are also adopting EV infrastructure code.
- Electrification is the lowest-cost, lowest-risk pathway to decarbonization.
- Moving in advance of the State allows communities to:
 - Reduce sunk costs on gas infrastructure
 - Prepare the local market for electrification
 - o Mitigate more greenhouse gas emissions
 - Improve the health and well-being of communities
 - Reach Climate Action Plan goals



Common Concerns and FAQ

• Typical questions and concerns answered



Common Concerns (1 of 2)

Concern	Response
Distribution grid upgrades are expensive	Sometimes true . Utilizing low amp or energy efficient equipment and circuit sharing solutions, combined with renewable energy strategies can help to avoid transformer upgrades. Costs are generally split between the developer and the utility depending on the type of project.
Resilience, power-shutoffs	Real problem, but gas does not help . Gas appliance ignition is electric. In emergencies gas is also shut-off. CA battery installation has grown <u>10x from 2020 to '23</u> .
Uniformity issues, impact of Berkeley ruling	Fair Concern, but not adopting ensures future risk . Regional partners are encouraging consistency. Inaction <u>locks in</u> future cost (retrofits, rates) and risk (fire).
In multifamily, central heat pump water heating requires more design expertise and space than gas boilers.	True, training is needed. There are scores of working systems, and best practice guidance is available.



Common Concerns (2 of 2)

Concern	Response
All-Electric heating uses too much energy or can't work in our cool climate	False. All-electric heat pumps are highly efficient and effective in weather far colder than ours. DOE studies show heat pump space heaters as highly efficient at as little as 5 degrees Fahrenheit.
Energy is not clean	False. CPA GreenPower service is 100% GHG free today
Equipment is not available	Mostly false . Some scenarios for high-volume or steam applications are more challenging to address. Heat pumps and induction stoves have a long-established history, are widely adopted in other states, but market awareness needs to grow.

Will Electrification Reduce Resilience?

Most gas appliances already require the use of electricity to operate

Gas furnaces require electric fans (but fireplaces still work).



Space Heating

Gas water heaters require electronic ignition or pumps



Water Heating

Gas stoves will work without electricity, but can be <u>unsafe</u> due to lack of proper ventilation

Gas dryers use electric motors to run tumbler



Cooking

Clothes Drying



Can the Grid Handle the Load Increase?

- Reliability is a concern only during summer peak cooling times. Increases in cooling demand are primarily due to climate change increasing summer temperatures.
- California Energy Commission's AB3232 analysis indicates that aggressive electrification will
 result in 20 percent additional summer peak load through 2030. Summer load will continue to
 be greater than winter peak load.*
- All-electric technologies can draw power flexibly. Electric vehicles can charge during off-peak
 periods, water heating tanks can increase temperature ahead of peak periods, thermostat
 setbacks can reduce space conditioning demand, and several other approaches will avoid power
 outages.
- Over the long-term, utilities and local jurisdictions have opportunities to make upgrades and implement strategies to produce, store, and manage clean energy to provide grid resiliency

*Represents PG&E territory. Assumes all-electric for 100% new construction, 90% replace on burnout, and 70% early retirement for remaining existing buildings.



Will the Grid be Reliable?

- 1. CEC has determined that electrification is the lower cost, lower risk approach to decarbonization, compared to all alternatives.
- CA-ISO has performed a 20-year study and has recommended over \$30B in transmission investments to account for increased renewables and decommissioned gas power plants
- 3. Utility-scale **battery power installation increased 10-fold** during heatwaves from 2020 to 2023. Having diversity in electrical power sources has already improved grid performance.
- The electricity suppliers have a service obligation to meet your needs. "PG&E fully expects to meet the needs that all-electric buildings will require" -Robert S. Kenney, Vice President, PG&E

