

# A Journalist's Guide to Building Electrification in California

## Cleaner, Safer and More Affordable: Why California Cities are Moving Toward Zero-Emission Buildings

Experts agree that California cannot meet its climate targets without rapidly cutting fossil fuel use in buildings. Homes and buildings are responsible for 25% of greenhouse gas emissions in the state, around two-thirds of which come from burning fossil fuels like propane and natural gas for heating, hot water, and cooking.

Numerous studies show that building electrification — or the transition to clean electricity-powered appliances — is the lowest-cost, lowest-risk pathway to cutting these emissions. Electrification can reduce greenhouse gas emissions in homes by up to 60% in 2020 and that will increase to up to 90% in 2050 compared to mixed-fuel homes.

Additional benefits include monthly energy bill savings for residents, improved public health from eliminating a major source of indoor air pollution linked to respiratory illnesses like asthma, and helping developers to build more quickly and affordably by avoiding gas hook-ups.

## What is Building Electrification?

Building electrification describes the move from fossil fuel-powered appliances — like gas and propane furnaces, hot water heaters and stoves — to clean, highly efficient electric appliances like electric heat pumps, hot water heaters and induction stoves. Transitioning to efficient electric appliances allows Californians to bring the state's commitment to 100 % clean energy into their homes — creating zero-emission healthy living spaces.

## What are the benefits of building electrification?

### It's more affordable for residents and developers

- Homeowners and developers can save between \$130 – \$540 per year for all-electric new construction compared to homes that burn gas.
- Single-family homeowners that retrofit their homes can also see savings of between \$10-\$60 each month on energy bills.
- California homeowners could save an additional \$1,500 upfront, and hundreds of dollars annually, with the installation of electric heat pumps instead of gas furnaces in new construction.

### THE ORANGE COUNTY REGISTER

#### Say goodbye to gas-powered appliances? Homebuilders jump on the all-electric bandwagon

Going all-electric is a competitive advantage. Buyers not only get a home that's livable, well designed and has lower utility bills, but also one that's better for the environment.

**"The price point of these zero-energy homes is actually less than a conventional home. So, it's really about making a smarter decision."**  
-- C.R. HERRO, Meritage Homes

#### How Cost Savings from building electrification can help ease housing costs

By tying homes and businesses to fossil fuels, we're driving up housing costs and hurting struggling families. Connecting a new home to gas lines and meters can cost between \$6,000 and \$20,000. The National Association of Home Builders estimates that for every \$1,000 increase in the price of a home, more than 15,000 families are priced out of the market in California.

Building Electrification is only going to get more and more affordable as the market transforms, while gas prices continue to rise. Gas rates in California are increasing much faster than electricity.

## All-electric homes are safer and healthier than homes that use gas for heating and cooking.

- Moving local homes and buildings to clean electricity powered by renewable energy will improve public health and eliminate a substantial source of indoor air pollution.
- Fossil fuel appliances release dangerous toxins - including nitrogen dioxide, carbon monoxide, nitric oxide, and ultrafine particles, as well as formaldehyde and acetaldehyde - leading to air pollution levels in many gas homes that would be illegal if measured outside.
- Children are particularly at risk — a recent study found that gas stoves may be responsible for up to 12 % of childhood asthma cases.

## What are cities doing?

To capitalize on the benefits of electrification, more than 50 California municipalities are considering various forms of local building codes, ordinances, or other incentives/ performance standards to help ensure their residents get access to clean, affordable electric appliances.

- The city of Carlsbad in San Diego County was the first city to adopt a water heating emissions reduction ordinance that will promote the installation of heat pump or solar water heaters in homes.
- Berkeley is the first city to pursue a measure phasing out gas hookups in all new construction starting in 2020. The city council will hold two votes on the ordinance, starting in July 2019.
- The city of Los Angeles recently released a plan for new buildings to be zero-emission by 2030, followed by all existing buildings by 2050.
- Los Angeles County, Santa Monica, San Luis Obispo, San Jose, San Francisco and dozens of other local governments across the state are also considering options to accelerate zero-emission buildings, beginning with ordinances covering new construction.

## Induction Stoves Are Supported By Chefs

**Celebrity chef Curtis Stone** – who operates acclaimed restaurants in Los Angeles and Beverly Hills — has been using induction cooktops for years. He says the electric cooking technology is faster, cleaner and more efficient than a traditional gas stove — and importantly, it's more accurate. Other chefs are taking notice. A recently opened luxury French restaurant from James Beard Award-winning chef Claude Le Tohic in San Francisco – ONE65 – chose induction over gas stoves.

## Grassroots Leaders Call For Local Action

These cities are supported by health, business, labor, environmental justice, and environmental organizations across the state. A sign-on letter from more than a dozen grassroots organizations is encouraging this wave of action – possibly the largest local call-to-arms against climate change in the nation.



## What is the state doing?

- SB 100 requires 60 % of California's electricity to be generated from renewable resources by 2030, and requires 100 % carbon-free electricity by 2045.
- AB 3232 requires the California Energy Commission to assess how to reduce greenhouse gas emissions from the state's building stock by 40 % by 2030.
- SB 1477 provides \$50 million in annual incentives through 2023 to jumpstart the market for clean, low-emission heating technologies.
- California's updated building code, which goes into effect in 2020, requires all new single-family and low-rise apartment homes in the state to have access to renewable electricity, and will make it easier to use high-efficiency electric heating technologies.
- The California Public Utilities Commission is overseeing a pilot program in the San Joaquin Valley to upgrade more than 1,600 households to clean, electric appliances – slashing indoor air pollution and saving participating households around \$1,500 each year.

## From the Experts:

**"Every home or building that's built using natural gas for heating deepens our challenge, further digging us into a climate hole we will eventually need to climb out of. Luckily, the alternatives are here and at cost with natural gas appliances."**

**Panama Bartholomy**  
*Director, Building Decarbonization Coalition*

**"Gas appliances are a primary contributor to indoor air pollution that exacerbates asthma and other respiratory conditions. The transition from combustion to low-emission electric appliances will improve the health of millions of Californians, and that's why we're calling on local governments to take action."**

**Kevin Hamilton**  
*CEO, Central California Asthma Collaborative*

**"Energy bills can take a major cut of low-income families' pay checks every month. We see a tremendous opportunity for efficient, electric appliances to deliver savings and benefits to the families that need them most, but to make this happen, local and state decision-makers should prioritize access to these appliances for lower-income communities."**

**Nick Dirr**  
*Director of Programs, Association for Energy Affordability*

**"Cities across California are leading a clean energy movement that will transform our communities and inspire the state to take action in line with climate science"**

**Rachel Golden**  
*Senior Campaign Manager, Sierra Club*

**"Creating climate-friendly homes and buildings is actually a huge economic and workforce opportunity. California's leadership and success in this endeavor will provide an international template for climate change solutions in building construction and operations."**

**Chris Walker**  
*California Association of Sheet Metal and Air Conditioning Contractors, National Association*

### These experts are available for interviews:

**Panama Bartholomy**  
Director, Building Decarbonization Coalition  
[panamabartholomy@gmail.com](mailto:panamabartholomy@gmail.com)

**C.R. Herro**  
Vice President of Innovation, Meritage Homes  
[CR.Herro@MeritageHomes.com](mailto:CR.Herro@MeritageHomes.com)

**Kevin Hamilton**  
CEO, Central California Asthma Collaborative  
[kevin.hamilton@centralcalasthma.org](mailto:kevin.hamilton@centralcalasthma.org)

**Nick Dirr**  
Director of Programs, Association for Energy Affordability  
[ndirr@aea.us.org](mailto:ndirr@aea.us.org)

**Jamie Gold**  
CKD, CAPS, MCTWC, independent San Diego-based kitchen and bath designer, wellness design consultant  
[jamie@jgkitchens.com](mailto:jamie@jgkitchens.com)

**Rachel Golden**  
Senior Campaign Manager, Sierra Club  
[rachel.golden@sierraclub.org](mailto:rachel.golden@sierraclub.org)

**Pierre Delforge**  
Senior Scientist, Building Decarbonization, Climate & Clean Energy Program, Natural Resources Defense Council  
[pdelforge@nrdc.org](mailto:pdelforge@nrdc.org)

**Bruce Nilles**  
Managing Director, Building Electrification, Rocky Mountain Institute  
[bnilles@rmi.org](mailto:bnilles@rmi.org)

**Robert M. Gould, MD**  
President, Physicians for Social Responsibility, San Francisco Bay Area Chapter  
[mgould1@yahoo.com](mailto:mgould1@yahoo.com)