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The Climate Center Comments

Please see attached document.

Additional submitted attachment is included below.



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Deliver rapid greenhouse gas reductions at scale, starting in California.

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October 20, 2020

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Docket Office, MS-4
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Via email: docket@energy.ca.gov and [online form](#)

Re: Docket # 19-BSTD-03: 2022 Title 24 Energy Code Pre-Rulemaking

Thank you for the opportunity to comment on the California Energy Commission's 2022 Building Energy Efficiency Standards. The Climate Center is a California nonprofit 501(c)(3) organization founded in 2001 with a mission to achieve rapid greenhouse gas (GHG) reductions at scale, starting in California.

We encourage the CEC to adopt an all-electric code for new construction as soon as possible. This move will be critical to help keep new housing affordable, construction costs low, reduce health impacts from air pollution, and reach the state's climate goals.

California has adopted aggressive greenhouse gas (GHG) emission reduction targets, including achieving 1990 levels by 2020, 40% below 1990 by 2030, and carbon neutrality by 2045. California met its 2020 target early and we applaud that achievement. However, The Climate Center asserts that in order to be in alignment with the latest climate science, the State must meet its 2045 target early - by 2030. Getting to net-negative emissions will be challenging and will require deep emissions cuts across all sectors of the economy, but it must be done if we are to meaningfully mitigate the rapidly worsening climate crisis.

For California to meet its climate goals, the State must decarbonize the built environment. Building emissions as of 2016 were responsible for more than 26% of statewide GHG emissions.¹ In early 2019, the Building Decarbonization Coalition published a roadmap laying out the key activities required to efficiently, equitably, and affordably electrify the building sector.² The roadmap emphasizes that any new building construction between now and 2045 that relies on fossil fuels for space and water heating represents incremental emissions increases, deepening the challenge of decarbonizing the sector. The cost of the natural gas (gas) infrastructure for a building also adds to construction cost and time, contributing to the housing affordability crisis. With a third of California's

¹ Emissions from buildings include fuel combustion, methane, refrigerants, and onsite electricity generation

² [A Roadmap to Decarbonize California's Buildings](#). Building Decarbonization Coalition (2019)

2045 building stock being built in the next 25 years, building industry stakeholders (manufacturers, architects, real estate agents, builders, contractors, et al) urgently need a clear signal from the State to move toward all-electric construction.

Therefore, we strongly urge the CEC to transition toward a building code that is aligned with the State's climate targets and adopt an all-electric building code for both residential and commercial buildings in the 2022 Title 24 update.

To decarbonize buildings and eliminate this source of emissions, the State must halt the expansion of gas infrastructure and replace gas end uses in buildings with electric end uses that can utilize the State's increasingly renewable and carbon-free electricity resources.

In the interim, the CEC should also remove the primary barriers to all-electric new construction in the current code, which include: 1) Using a cost-effectiveness test that accounts for the upfront cost of providing gas infrastructure to a building site, including the cost of adding a gas connection to the building and the cost of gas piping and combustion venting inside the building; and 2) Providing appropriate credit for some high-performance electric space and water heating equipment.

Thirty-one cities and counties in California have already adopted electrification reach codes beyond the State minimum requirements for energy use in building design and construction. As other cities and counties across California file their reach codes and commit to the State's climate goals, the patchwork of clean energy building codes across the state will only make it more complicated for building stakeholders to navigate. The Climate Center suggests that, as the CEC did with respect to the new homes solar mandate in the 2020 code and following the lead of several cities that adopted similar mandates, the CEC take the cue from these leading cities and do the same thing with a standard all-electric mandate.

Decarbonizing the building sector has other key benefits for Californians, including cost savings. According to an Energy and Environmental Economics (E3) report, all-electric new construction results in lifecycle savings of \$130 – \$540 per year when compared with gas-fueled new construction.³ Furthermore, building electrification also shields energy bill-payers from the volatile and rising price of natural gas.

All-electric homes additionally offer significant clean air and public health benefits. A UCLA Fielding School of Public Health report found that gas appliances emit a wide range of air pollutants, such as carbon monoxide, nitrogen oxides, particulate matter, and formaldehyde, which have been linked to various acute and chronic health effects, including respiratory illness, cardiovascular disease, and premature death.⁴ The risks of these air pollutants are most acute for apartments, due to a smaller residence size, which puts low-income communities at higher risk.

For California to meet its housing, health, and climate goals, homes and buildings must use clean energy. Newly constructed buildings will be in use for decades and continuing to connect new buildings to gas makes it much harder and costlier to convert them to clean electricity later.

For all the reasons mentioned above, The Climate Center strongly believes all-electric new construction is a strategy that will improve housing affordability in California, protect low-income communities, and

³ [Residential Building Electrification in California](#). Energy and Environmental Economics (2019)

⁴ [Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California](#). UCLA Fielding School of Public Health (2020)

help achieve State climate and clean energy goals. Therefore, we urge the CEC to move as quickly as possible to an all-electric code. We look forward to collaborating with the CEC and other interested stakeholders through the building code development process.

Sincerely,

A handwritten signature in black ink, appearing to read 'EC', with a long horizontal flourish extending to the right.

Ellie Cohen, Chief Executive Officer,
The Climate Center