

**DOCKETED**

<b>Docket Number:</b>	22-BSTD-01
<b>Project Title:</b>	2025 Energy Code Pre-Rulemaking
<b>TN #:</b>	244286
<b>Document Title:</b>	Grassroots Organizations' Comments on CEC Energy Accounting Workshop
<b>Description:</b>	N/A
<b>Filer:</b>	System
<b>Organization:</b>	Sierra Club on behalf of the Grassroots Organizations
<b>Submitter Role:</b>	Public
<b>Submission Date:</b>	8/1/2022 4:58:01 PM
<b>Docketed Date:</b>	8/1/2022

*Comment Received From: Sierra Club  
Submitted On: 8/1/2022  
Docket Number: 22-BSTD-01*

## **Grassroots Organizations' Comments on CEC Energy Accounting Workshop**

*Additional submitted attachment is included below.*



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**Re: Comments on the 2025 Energy Accounting Workshop**

Commissioner McAllister:

Thank you for the opportunity to comment on the Staff Workshop on Energy Accounting for the 2025 Building Energy Efficiency Standards (“2025 Building Code”). As the Commission begins its work to develop the 2025 Building Code, it must start on strong footing, with an approach that matches the urgency of the climate crisis. Unfortunately, based on the initial presentation, we are very concerned. In particular, the Commission appears to have selected a future scenario where California does *not* meet its greenhouse gas reduction requirements, resulting in an under-valuation of the cost-effectiveness of electrification. The Commission should reconsider the proposed demand scenario and select a scenario that assumes compliance with the state’s climate commitments. In addition, on behalf of the undersigned organizations and our hundreds of thousands of members and supporters in California, we urge the Commission to build off the 2022 Building Code and adopt an all-electric baseline for all building types in the 2025 Building Code.

As set forth in the slide below, the Commission has proposed to select a scenario for the purpose of developing 2025 life-cycle cost hourly factor calculations that assumes California fails to meet its legal obligations under SB 32 to reduce greenhouse gas pollution by at least 40 percent below 1990 levels by 2030.

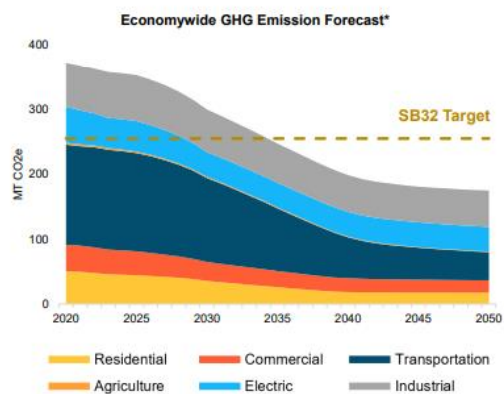


## Scenario Selection for 2025 Cycle

**CEC High Electrification Policy Compliance** selected for 2025 life-cycle cost hourly factor calculations as a **realistic future scenario** aligned with existing policy and anticipated future policy

Major policy included in proposed scenario includes

- Electricity sector targets set by **SB 100**
- Misses emissions reductions goals **SB 32 & 80 x 50**



\*Note that electricity sector emissions for "life-cycle-cost" analysis will be lower than electricity sector emissions in graph above due to detailed capacity expansion modeling

As an initial matter, it is extremely troubling that the Commission would move forward with a scenario that assumes California violates state law by failing to meet emission reduction requirements enacted by the Legislature through SB 32. This defeatist mindset is a disturbing departure from the Commission’s history of climate leadership and in direct contravention of recent direction by Governor Newsom to “do more” so “we can meet the urgency of the moment.”<sup>1</sup> Moreover, the Commission’s assumption that California will not meet its climate objectives for the purpose of determining 2025 life-cycle cost hourly calculations becomes self-fulfilling. Assuming non-compliance with state climate law reduces the cost-effectiveness of electrification under cost hourly factor calculations, potentially resulting in a weaker code and fewer greenhouse gas benefits. The Commission’s scenario selection should be revised to assume the Commission meets its emission reduction requirements.

To be a leader in the fight against the climate crisis, California must take more aggressive action in the building sector. As the Commission begins its work on the 2025 Building Code, we urge the Commission to commit to adopting a code that includes an all-electric baseline for new construction and heat pump requirement for alterations for all feasible buildings types during the 2025 code cycle. With this letter, we amplify last year’s request by hundreds of organizations—ranging from environmental, environmental justice and public health groups, to utilities such as PG&E, to air districts and local governments, to architectural and business associations—for the Commission to require efficient heat pumps and heat pump water heaters for the 2022 code cycle.<sup>2</sup> Despite some progress towards that goal with the 2022 updates,<sup>3</sup> California is falling behind other states, like Washington who will require heat pumps and heat pump water heaters for new commercial buildings starting next year.<sup>4</sup>

All-electric buildings have tremendous benefits beyond reducing climate pollution. Notably, all-electric buildings are cheaper to construct. RMI’s research on the *The Economics of Electrifying Buildings* found that in Oakland it cost \$2,700 less to construct an all-electric single-family home than a mixed-fuel home.<sup>5</sup> The report *2019 Energy Efficiency Ordinance Cost-Effectiveness Study*, prepared for the California Energy Codes and Standards Program by Frontier Energy, evaluated the cost effectiveness of code compliance package options for both mixed-fuel and all-electric homes across all sixteen California climate zones. The report concluded that the all-electric code compliance option was cost effective in every climate zone when using time dependent valuation (TDV).<sup>6</sup> Ecotope, hired by the Washington State Building Codes Council to prepare the 2021 Washington Commercial Energy

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<sup>1</sup> <https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf?emrc=1054d6>

<sup>2</sup> <https://efiling.energy.ca.gov/GetDocument.aspx?tn=238287&DocumentContentId=71584>

<sup>3</sup> <https://www.canarymedia.com/articles/carbon-free-buildings/california-takes-bold-steps-to-make-electricity-the-fuel-of-choice-for-new-buildings> (incentivizing heat pumps or heat pump water heaters in residential buildings, all-electric readiness, heat pumps for small commercial buildings and multifamily buildings)

<sup>4</sup> <https://www.canarymedia.com/articles/carbon-free-buildings/washington-state-moves-to-electrify-new-buildings-by-requiring-heat-pumps>

<sup>5</sup> Billimoria et al., RMI, *The Economics of Electrifying Buildings: How Electric Space and Water Heating Supports Decarbonization of Residential Buildings* (2018) at 29

<sup>6</sup> California Energy Codes & Standards, 2019 Cost-effectiveness Study: Low-Rise Residential New Construction, at 41-42 (2019),

<https://srcity.org/DocumentCenter/View/25380/2019-State-Cost-Effectiveness-Study-forResidential-Reach-Codes>. See also RMI, Technical Comments Regarding Pre-Rulemaking for the California 2022 Energy Code Compliance Metrics, Docket # 19-BSTD-03, TN# 235556 (filed Nov. 10, 2020)

<https://efiling.energy.ca.gov/GetDocument.aspx?tn=235556&DocumentContentId=68478>

code cost effectiveness report, concluded the heat pump space heating proposal was more cost effective than a mixed-fuel baseline.<sup>7</sup>

All-electric buildings are also healthier for occupants. Research has found that children living in homes with gas stoves are at a 42% higher risk of experiencing asthma symptoms compared to children living in homes with electric stoves, and having a gas stove increases the risk of being diagnosed with asthma by a doctor by 24%.<sup>8</sup> Additionally, in 2016, the Environmental Protection Agency (EPA) made the conclusive finding that short-term exposure to nitrogen dioxide has a causal relationship to respiratory effects, including the development of asthma.<sup>9</sup> Studies consistently show that people frequently do not use ventilation while cooking. In California specifically, recent surveys suggest that less than 40% of occupants report using their range hoods or open windows while cooking. Additionally, Lawrence Berkeley National Lab (LBNL)'s presentation to the Commission showed that, in practice, people actually use their range hoods half as much as they report - so the number of Californians that use their hood is likely closer to 20% rather than 40%.<sup>10</sup> Thus, relying on occupants to adjust their behavior to reduce indoor pollutant concentration —whether through turning on ventilation or opening windows—is a highly fallible mitigation strategy.

In addition to indoor air pollution, outdoor air pollution resulting from burning gas in buildings is also deadly for Californians. People of Color in California are exposed to 1.3 times as much fine particle pollution from residential gas appliances as Whites, with Black people's exposure 1.5 times as high as Whites'.<sup>11</sup> The annual combined health and climate costs of appliance pollution in California are at least \$6.8 billion.<sup>12</sup> Additionally, buildings with heat pumps allow residents to cool their home during hot

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<sup>7</sup> <https://sbcc.wa.gov/sites/default/files/2022-07/20220621%20Cost%20Benefit%20Analysis%20Report-Final.pdf>

<sup>8</sup> Weiwei Lin et al., Meta-Analysis of the Effects of Indoor Nitrogen Dioxide and Gas Cooking on Asthma and Wheeze in Children, 42 *Int'l J. of Epidemiology* 1724, 1728 (2013), available at <https://doi.org/10.1093/ije/dyt150>

<sup>9</sup> U.S. EPA, Integrated Science Assessment (ISA) For Oxides of Nitrogen – Health Criteria, tbl. ES-1 at p. lxxxii (Final Report, 2016), <https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=310879>. See also RMI, Technical Comments Regarding Pre-Rulemaking for the California 2022 Energy Code Compliance Metrics, Docket # 19-BSTD-03, TN# 234934-1 (filed Sep. 28, 2020) <https://efiling.energy.ca.gov/GetDocument.aspx?tn=234934-1&DocumentContentId=67796>

<sup>10</sup> LBNL, Technical Comments Regarding Pre-Rulemaking for the California 2022 Energy Code Compliance Metrics, Docket # 19-BSTD-03, TN# 235047 (filed Oct. 6, 2020) <https://efiling.energy.ca.gov/GetDocument.aspx?tn=235047&DocumentContentId=67939>

<sup>11</sup> Christopher W. Tessum et al., PM<sub>2.5</sub> Polluters Disproportionately and Systemically Affect People of Color in the United States, 7 *Sci. Adv.* eabf4491, supplementary data file S2 (2021), <https://advances.sciencemag.org/content/suppl/2021/04/26/7.18.eabf4491.DC1>.

<sup>12</sup> RMI analysis using EIA GHG emissions data, Interagency Working Group 2020 social cost of carbon values using a 3% discount rate, EPA's value of statistical life, and median pollution-related mortality estimates from the results of 3 reduced complexity models used in: Jonathan J. Buonocore (Harvard T.H. Chan School of Public Health) et al., A Decade of The U.S. Energy Mix Transitioning Away from Coal: Historical Reconstruction of the Reductions in the Public Health Burden of Energy, 2021 *Environ. Res. Lett.* 16 054030, <https://doi.org/10.1088/1748-9326/abe74c>, as well as additional analysis from Jonathan Buonocore, Sc.D., the study's lead author. U.S. Energy Information Administration, Environment, Sectoral Specific Emission Tables by State, <https://www.eia.gov/environment/emissions/state/>; Interagency Working Group on Social Cost of Greenhouse Gases, Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990 (2021), [https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument\\_SocialCostofCarbonMethaneNitrousOxide.pdf](https://www.whitehouse.gov/wp-content/uploads/2021/02/TechnicalSupportDocument_SocialCostofCarbonMethaneNitrousOxide.pdf); EPA, Technical Support Document: Estimating the Benefit per Ton of Reducing Directly-Emitted PM<sub>2.5</sub>, PM<sub>2.5</sub>

weather events, which are happening at increasing frequency due to climate change.

Getting fossil-fuels out of our buildings is essential to meet the state's climate goals<sup>13</sup>. To ensure that the transition off gas is as equitable as possible, the Commission must enact policies that stop the extension of the gas system to new buildings. Continuing to build out the natural gas system when we know that we must get off of it, will result in stranded infrastructure and ballooning utility costs. These utility bills impact those who are least able to afford to get off gas. We must begin the transition now, to reduce the impact of adding new infrastructure costs to future utility bill payers, who are most likely to be cost burdened.<sup>14</sup>

Our organizations urge the Energy Commission to be bold and reclaim its mantle as the nation's climate leader. The first step to doing this is to choose a demand scenario that is aligned with the state's climate commitments, such as the High Electrification Mitigation scenario for the 2025 code cycle. This scenario should include a commitment to accelerated electrification policies such as an all-electric baseline for new construction and heat pump requirement for alterations for all feasible building types during the 2025 code cycle.

Sincerely,

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Precursors and Ozone Precursors from 21 Sectors, at 19 (Table 6) (2022),  
[https://www.epa.gov/system/files/documents/2021-10/source-apportionment-tds-oct-2021\\_0.pdf](https://www.epa.gov/system/files/documents/2021-10/source-apportionment-tds-oct-2021_0.pdf).

<sup>13</sup> E3, *Achieving Carbon Neutrality in California*, 2020, <https://ww2.arb.ca.gov/resources/documents/achieving-carbon-neutrality-california-final-report-e3>

<sup>14</sup> Greenlining Institute, *Equitable Building Electrification: A Framework For Powering Resilient Communities*, page 22 <https://greenlining.org/publications/reports/2019/equitable-building-electrification-a-framework-for-powering-resilient-communities/>,

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