
**SENATE COMMITTEE ON ENERGY, UTILITIES AND
COMMUNICATIONS**

Senator Steven Bradford, Chair

2023 - 2024 Regular

Bill No:	AB 593	Hearing Date:	7/10/2023
Author:	Haney		
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Urgency:	No	Fiscal:	Yes
Consultant:	Nidia Bautista		

SUBJECT: Carbon emission reduction strategy: building sector

DIGEST: This bill requires the California Energy Commission (CEC), on or before June 1, 2024, to identify an emission reduction strategy, with milestones, for the building sector to support achieving the net-zero greenhouse gas (GHG) emissions by 2045 and requires the CEC to implement the strategy by July 1, 2025.

ANALYSIS:

Existing law:

- 1) Requires the State Energy Resources Conservation and Development Commission (also known as the California Energy Commission (CEC)), by January 1, 2021, to assess the potential for the state to reduce the emissions of GHGs from the state's residential and commercial building stock by at least 40 percent below 1990 levels by January 1, 2030. (Public Resources Code §25403(a)(b))
- 2) Requires the CEC to include in the 2021 edition of the integrated energy policy report (IEPR) and all subsequent IEPR, a report on the emissions of GHGs associated with the supply of energy to residential and commercial buildings. (Public Resources Code §25403(c))
- 3) Requires the CEC to establish the Equitable Building Decarbonization Program that includes a direct install program and a statewide incentive program for low-carbon building technologies. (Public Resources Code §25665 et seq.)
- 4) Establishes the policy of the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and to ensure that, by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the statewide GHG emissions in 1990. Requires the California Air Resources Board

(CARB) to update the Scoping Plan, pursuant to Health and Safety Code §38561, which requires the plan to be updated at least once every five years. Requires CARB to identify and implement a variety of policies and strategies that enable carbon dioxide removal solutions and carbon capture, utilization, and storage technologies. (Health and Safety Code §38562.2)

- 5) Requires CARB to ensure that statewide GHG emissions are reduced to 40 percent below the 1990 level by 2030. (Health & Safety Code §38566)
- 6) Appropriated \$1.12 billion from the General Fund for purposes of the Equitable Building Decarbonization Program. (Budget Act of 2022)

This bill:

- 1) Requires the CEC, on or before June 1, 2024, to identify an emission reduction strategy, with milestones, for the building sector to support achieving the net zero GHG emissions by 2045.
- 2) Requires the emission reduction strategy to:
 - a) Maximize workforce development.
 - b) Provide clear market signals to appliance manufacturers and installers.
 - c) Minimize impacts on ratepayers.
 - d) Support extreme heat goals.
 - e) Reduce barriers for low-income individuals.
 - f) Identify how to deploy zero-emission home heating and cooling technologies, including bidirectional heat pumps to meet the needs of communities impacted by climate change and extreme weather events.
- 3) Requires the CEC, on or before July 1, 2025, to implement the emission reduction strategy as a part of the Equitable Building Decarbonization Program and to take certain actions for purposes of implementing the strategy.

Background

GHG emissions from the building sector. According to CARB, residential and commercial buildings are responsible for roughly 25 percent of California's GHG emissions when accounting for electricity demand, fossil fuels consumed onsite, and refrigerants. Of the 25 percent, roughly 10 percent of emissions are

attributable to fossil fuel combustion, including natural gas, with residential buildings accounting for slightly more of those emissions than commercial buildings. However, CARB has noted that these emissions numbers can vary from year-to-year. Additionally, the building sector also includes “embodied carbon” which refers to the GHG emissions arising from the manufacturing, transportation, installation, maintenance, and disposal of building materials. The majority of a building’s total embodied carbon is released upfront at the beginning of a building’s life. Unlike with operational carbon, there is no chance to decrease embodied carbon with updates in efficiency after the building is constructed. It is unclear what the exact breakdown is between embodied and operating emissions, but due to California’s mild climate, increasing renewable electricity supply, and relatively efficient building stock, our state’s operational emissions may be a smaller percentage of total building energy use, compared to the embodied carbon in new construction.

Scoping Plan. The 2022 Climate Change Scoping Plan, the most recently adopted plan, identifies actions to reduce GHG emissions from the building sector, including progressively improving building codes and standards, energy efficiency measures, pursuing voluntary efforts to exceed code requirements, and completing existing building retrofits. The most recent Scoping Plan also noted:

“Achieving carbon neutrality must include transitioning away from fossil gas in residential and commercial buildings, and will rely primarily on advancing energy efficiency while replacing gas appliances with non-combustion alternatives. This transition must include the goal of trimming back the existing gas infrastructure so pockets of gas-fueled residential and commercial buildings do not require ongoing maintenance of the entire limb for gas delivery.”

California’s agencies are taking steps toward achieving carbon neutrality by 2045 and meeting the state’s ambitious 2030 GHG emissions reduction target, including with actions specific to reducing emissions from the building sector.

CEC assessment on reducing GHGs from building sector. AB 3232 (Friedman, Chapter 373, Statutes of 2018) required the CEC to prepare a Building Decarbonization Assessment, in consultation with the CPUC, CARB, and the California Independent System Operator. The report is intended to assess the potential for California to reduce GHG from buildings by 40 percent below 1990 levels by 2030. The Assessment helps illustrate the state’s pathway to decarbonizing single-family, multifamily, and commercial buildings; identify challenges to and opportunities from decarbonizing; estimate the impact of

decarbonization activities on the electricity grid; and illustrate topics and data gaps needing additional analysis in future proceedings. However, importantly, the Assessment did not consider cooking and other applications that use fossil fuels in buildings.

Numerous policies to address reducing GHGs from the building sector:

- The CARB adopted a strategy to end sales of natural gas space and water heaters starting in 2030 as part of the 2022 State Implementation Plan for meeting the eight-hour ozone standard, which is submitted in compliance with the federal Clean Air Act. CARB will need to adopt regulations to implement these measures.
- The CEC adopted building energy efficiency standards in 2022 that establish electric-ready standards, encourage electric heat pump technologies, and expand the solar photovoltaic system and energy storage standards.
- The California Public Utilities Commission (CPUC) has eliminated financial subsidies available to builders to offset the costs of extending natural gas lines to serve new buildings, known as allowances which are funded by natural gas utility customers. The CPUC's intent is to eliminate these allowances, beginning in July 2023, in order to encourage builders to construct new buildings without gas utility service, essentially all-electric. *(D.22-09-26 Phase III Decision Eliminating Gas Line Extension Allowances, Ten-Year Refundable Payment Option, and Fifty Percent Discount Payment Option Under Gas Line Extension Rules)*
- In December, the CPUC adopted a decision to comprehensively review natural gas utility infrastructure investments "in order to help the state transition away from natural gas-fueled technologies and avoid stranded assets in the gas system. The decision requires gas investor-owned utilities (IOUs) to seek CPUC approval of projects via an application for a certificate of public convenience and necessity (CPCN) prior to commencing construction on any gas infrastructure project whose cost exceeds \$75 million; or is located near a sensitive receptor (housing, school, health care facility) and the project requires a permit from the local air district in a non-attainment area for federal air quality standards. *(D. 22-12-021 Order Instituting Rulemaking to Establish Policies, Processes, and Rules to Ensure Safe and Reliable Gas Systems in California and Perform Long-Term Gas System Planning.)*

- Earlier this year, the CPUC adopted a decision to reduce incentives for natural gas energy efficiency measures in residential and commercial new construction to align more closely with the state's GHG reduction, climate change mitigation, and decarbonization goals. (*D. 23-04-035 Decision Addressing Codes and Standards Subprograms and Budgets and Staff Proposal on Reducing Ratepayer-Funded Incentives for Gas Energy Efficiency Measures.*)

Equitable Building Decarbonization Program. The Equitable Building Decarbonization Program was established in budget trailer bill, AB 209 (Committee on Budget, Chapter 251, Statutes of 2022) with the goals to reduce GHGs related to the building sector. The program has two components: a direct install program and a statewide incentive program for low-carbon building technologies. The direct install program provides minimal or no-cost retrofits to low- and moderate-income households, with preference given for buildings located in under-resourced communities, or owned or managed by a California Native American tribe or a member of a California Native American tribe. The retrofits include installation of energy efficient appliances, energy efficiency measures, demand flexibility measures, wiring and panel upgrades, building infrastructure upgrades, efficient air conditioning systems, ceiling fans, and other measures to protect against extreme heat, where appropriate, and remediation and safety measures to facilitate the installation of new technologies. The statute defines low- and moderate-income residents as those persons and families whose income does not exceed 120 percent of area median income, adjusted for family size, in accordance with the U.S. Department of Housing and Urban Development. The statute also authorizes the direct install program to include tenant protections for participating rental properties.

Funds appropriated. The State Budget Act of 2022 appropriated over \$1 billion from the General Fund for the Equitable Building Decarbonization Program, specifically allocating \$112 million for the program for its first year, and roughly \$900 million is budgeted over the next four fiscal years. However, in light of changing State Budget conditions, the Governor's January 2023 Budget proposes reducing the funding to 91 percent, maintaining approximately \$835 million for support of projects reducing GHG emissions in homes and advancing energy equity. The CEC preliminarily proposes to allocate 66 percent of total funds to the direct install program. In the recently adopted budget bill, SB 101 (Skinner, Chapter 12, Statutes of 2023) appropriates nearly \$400 million for the program to be encumbered by June 30, 2026.

Local rules to limit or ban gas use. In 2019, the City of Berkeley adopted the nation's first ban of natural gas hookups in most new residences and commercial buildings. Since then, about 50 other California cities and counties have adopted reach codes (those that surpass state building standards) or ordinances that either limit or ban the installation of gas connections to new buildings. Additionally, last month, the Bay Area Air Quality Management District adopted rules prohibiting installation of natural gas furnaces and water heaters in residential and commercial settings beginning in 2027.

Federal court overturns City of Berkeley ban. On April 17th, a federal court overturned the City of Berkeley's ban on natural gas hookups. The California Restaurant Association filed suit against the City of Berkeley months after the city adopted the ban. The Restaurant Association explains in its complaint that restaurants rely on natural gas for preparing certain foods, with many chefs trained only on natural gas stoves. The Association alleges that one or more of its members would like to open or relocate a restaurant in a new Berkeley building completed after the ordinance became effective on January 1, 2020. But those members could not do so because of the ban on natural gas.

A lower district court upheld the ban in 2021, however, the 9th U.S. Circuit Court of Appeals found the ban to be in direct violation of the Energy Policy and Conservation Act of 1975 (EPCA) (*California Restaurant Association v. City of Berkeley* (United States Court of Appeals, 9th Cir. 2023)). The three-judge panel held that "the Energy Policy and Conservation Act 42 U.S.C. § 6297(c), expressly preempts state and local regulations concerning the energy use of many natural gas appliances, including those used in household and restaurant kitchens. Instead of directly banning those appliances in new buildings, Berkeley took a more circuitous route to the same result. It enacted a building code that prohibits natural gas piping into those buildings, rendering the gas appliances useless." The court ruled that the EPCA preempts the Berkeley ordinance. The City of Berkeley is likely to appeal the decision. It may be too soon to know the full implications of the court decision on similar local ordinances and related state rules.

Comments

Need for this bill. The proponents of this bill suggest an updated emissions reduction strategy, with milestones, is needed in light of the state's carbon neutrality goal. The supporters argue that the state simply can't wait to tackle these emissions sources and there's a need to delegate to one state agency the responsibility to address emissions from the building sector. However, CARB is tasked as the agency to develop emissions reductions targets and strategies,

including an existing statutory requirement to update the Scoping Plan at least once every five years. Given the recent adoption of the net-zero GHG emissions goal, per AB 1279 (Muratsuchi, Chapter 337, Statutes of 2022), including strategies for carbon capture, utilization, and storage, CARB will be updating the next Scoping Plan to include this goal economy wide and by sector. As such, this bill would seem to circumvent that effort and instead require the CEC to develop and implement the strategy. Such a change would be a departure from agencies' historical roles. Additionally, it would be premature to implement a strategy that has yet to be developed. However, given the numerous activities (including many noted above) as it relates to reducing GHG emissions from the building sector, there may be value in having the CEC work with stakeholders and relevant agencies, through a robust public process, to develop a strategy informed by the GHG targets established by CARB and providing recommendations about milestones, policies to address stakeholder needs (including the affected workforce, low- and middle-income residents, disadvantaged communities, renters, rural communities, and others). As such, *the author and committee may wish to amend this bill to ensure the emissions reduction target is pursuant to the targets determined in the Scoping Plan, to ensure the CEC develops the strategy via a public process, including public workshops, and working with relevant agencies, and require consideration of related issues (such as: extreme heat, energy utility bills for customer segments, unique considerations for tenants. Additionally, the author and committee may wish to delete language that requires the CEC to implement the strategy.*

Prior/Related Legislation

SB 48 (Becker, 2023) requires the CEC along with other agencies, to develop to a state strategy to achieve State goals for energy and GHG emissions from existing buildings, and authorizes the CEC to implement the strategy, upon appropriation, including authorizing establishing Building Performance Standards for existing commercial buildings to require reductions in energy usage and GHG emissions. The bill is pending in the Assembly Committee on Natural Resources.

SB 306 (Caballero, 2023) makes changes to the direct install program approved in last year's budget as part of the Equitable Building Decarbonization Program and codifies the Extreme Heat Action Plan. The bill is pending in the Assembly Committee on Natural Resources.

SB 101 (Committee on Budget, Chapter 12, Statutes of 2023) provided \$10 million to support the Building Energy Benchmarking Program. Specifically, this funding requires the CEC to develop processes for outreach and enforcement to increase

compliance by building owners, and improve the quality of the data collected by the program.

AB 209 (Committee on Budget, Chapter 251, Statutes of 2022), among its many provisions, established the Equitable Building Decarbonization Program, including a direct install program to fund the installation of measures to reduce GHGs from buildings.

AB 179 (Ting, Chapter 249, Statutes of 2022), Budget Act of 2022, appropriated \$1.12 billion for the Equitable Building Decarbonization Program.

SB 68 (Becker, Chapter 720, Statutes of 2022) required the CEC to develop and publish guidance on best practices to help reduce barriers for building owners to transition to electric equipment and appliances, and install EV charging equipment.

SB 1477 (Stern, Chapter 378, Statutes of 2018) required the CPUC, in consultation with the CEC, to develop and administer a program to require gas corporations to provide incentives for near-zero and zero-emissions building technologies to significantly reduce the emissions of GHGs from those buildings below the minimum projected emissions that would otherwise be expected to result from the implementation of the state's building standards.

AB 3232 (Friedman, Chapter 373, Statutes of 2018) required the CEC to assess the potential for the state to achieve the goal of reducing the emissions of GHGs by the state's residential and commercial building stock by at least 40 percent below the 1990 levels by January 1, 2030.

AB 1279 (Muratsuchi, Chapter 337, Statutes of 2022) established the policy of the state to achieve carbon neutrality as soon as possible, but no later than 2045.

SB 32 (Pavley, Chapter 249, Statutes of 2016) required the CARB to reduce statewide GHG emissions to at least 40 percent below the 1990 emissions level by 2030.

AB 32 (Nuñez/Pavley, Chapter 488, Statutes of 2006) required CARB to develop a Scoping Plan that describes the state's approach to reducing GHGs to achieve the goal of reducing emissions to 1990 levels by 2020.

FISCAL EFFECT: Appropriation: No Fiscal Com.: Yes Local: No

SUPPORT:

Building Decarbonization Coalition, Sponsor
350 Humboldt: Grass Roots Climate Action
California Environmental Voters
Call 4 Change
Carbon Free Palo Alto
Carbon Free Silicon Valley
Carbon Zero Buildings
Climate Action California
Efficiency First California
Electric Action
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Marin Clean Energy
Menlo Spark
Redwood Energy
Rewiring America
Rising Sun Center for Opportunity
RMI
Sierra Club of California
Silicon Valley Clean Energy
Southern California Edison
SPUR
Stand.earth
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USGBC-LA

OPPOSITION:

California Association of Realtors, unless amended

ARGUMENTS IN SUPPORT: According to the author:

Out of control greenhouse admissions have forced our planet in to a climate crisis that is more and more apparent with every extreme weather forecast.

In California, commercial and residential buildings that burn methane gas are responsible for approximately 25% of the state's greenhouse gas emissions—second only to the transportation sector.

AB 593 requires the Energy Commission to take action to create an emissions reduction strategy for our building sector that will set low emission targets and create an action plan to move California's buildings away from methane and towards modern electrification.

ARGUMENTS IN OPPOSITION: The California Association of Realtors opposes this bill, as heard on April 10th in the Assembly Committee on Natural Resources, proposing amendments that would prohibit the CEC from adopting emissions reduction strategies which are triggered by the purchase of the home.

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