Environment and Climate Commission

ACTION CALENDAR
[Meeting Date (Month Day, yyyy)]

To: Honorable Mayor and Members of the City Council

From: Environment and Climate Commission (ECC)

Submitted by: Brianna McGuire, Chairperson, ECC

Subject: Amendments to the Berkeley Green Code for New and Existing Construction

RECOMMENDATION

Council should agendize and approve the Green Building Code Amendments that encourage the usage of electric appliances for space and water heating, include a residential air conditioning to heat pump (AC2HP) requirement, and widen the applicability of the non-residential AC2HP requirement.

FISCAL IMPACTS OF RECOMMENDATION

None, as staff has already been directed to work on green building code amendments.

CURRENT SITUATION AND ITS EFFECTS

On September 2, 2025, Councilmember Tregub introduced a "Referral: Amendments to the Berkeley Green Code for Newly Constructed Buildings and Existing Construction." This item was considered at the Agenda Committee and referred to FITES for further review. This report provides some context about the urgency of these potential amendments, provides additional recommendations, and communicates the ECC's recommendation that they be approved with the utmost urgency.

As of 2023 when the Ninth Circuit ruled that the federal Energy Policy and Conservation Act prohibited Berkeley's new construction ban, there is no measure prohibiting the expansion of natural gas infrastructure in Berkeley. Although the statewide energy code mandates partial electrification, builders may still install central gas hot water heaters in multifamily residential and most non-residential developments. Given that the majority of Berkeley's greenhouse gas emissions in buildings comes from water heating and effectively all new construction is multifamily or commercial, the practical impact is that the vast majority of the construction needed to meet our regions' urgent housing needs will lock in climate and health-damaging infrastructure for decades to come.

2022 vs. 2025 Energy Code

New Construction (Climate Zones 3 & 4)

Key: Electrification | Gas Allowed | Electric Ready

Prescriptive Requirements	Space Heating		Water Heating		Appliances/ Other
Cycle	2022	2025	2022	2025	2025
Single Family	Heat Pump	Heat Pump	Gas/propane or HPWH	HPWH	N/A
Multifamily	Heat Pump	Heat Pump	**All systems**: Gas/propane or HPWH	**Individual**: HPWH **Central**: Gas/propane or HPWH	Building electrical system sizing for future electrification
Nonresidential	Single zone HPs required in most building types (retail, grocery, school, office, bank, library)	Same single zone requirement Multizone HPs required for offices and schools	HPWH in schools <25k ft2	HPWH in schools <25k ft2	Electric readiness requirements for commercial kitchens
All Buildings	N/A				Pools and spas heated by HP pool heaters or partially by renewable energy

Courtesy The Research Corporation (TRC) 2025

There is a way forward. While the Ninth Circuit ruling was a major setback statewide, many local jurisdictions have continued to pass innovative policy to reduce greenhouse gas emissions from new and existing buildings. However, with the recent passage of AB 130 in California, cities will be prohibited from changing the building code until 2031. Thankfully, the law provides limited exemption pathways for municipalities with strong references to climate and electrification in their General Plan, for which Berkeley should qualify.

BACKGROUND

In October 2024, Council was set to consider amendments to the Green Building Code that would prohibit the installation of NOx-emitting appliances in new construction, with exceptions for industrial uses and commercial applications (Item 24, https://berkeleyca.gov/city-council-regular-meeting-eagenda-october-15-2024). These amendments had received a unanimous positive recommendation from the Health, Life Enrichment, Equity, and Community Policy committee, but consideration by full Council was halted due to uncertainty surrounding the legal status of Zero NOx measures. However, with the recent ruling in favor of the South Coast Air District's Zero NOx regulations (https://www.sierraclub.org/press-releases/2025/07/federal-court-upholds-southern-california-zero-emission-boiler-rule), the environmental community is confident that Zero NOx is on firm legal ground, and there should be no impediments to passing such rules locally. Council should immediately agendize and vote on the existing prepared ordinance.

Additionally, the ECC believes that Council should adopt an AC2HP ("Air Conditioning to Heat Pump") ordinance as referenced by the September 2, 2025 referral. Under an "AC to Heat Pump" (AC2HP) policy, any new installation of an air conditioner would instead be required to use a heat pump, which provides both heating and cooling through a two-way valve. The 2025 update to the state building code includes a model AC2HP ordinance as part of CalGreen and the California Energy Codes and Standards program has published studies demonstrating the cost effectiveness of these measures (https://localenergycodes.com/content/reach-codes/electric-ready. AC2HP amendments have already been passed by Sunnyvale and Mountainview, with others under consideration.

An AC2HP amendment has the additional benefit of aligning well with the recently passed amendments to the Buildings Emissions Savings Ordinance (BESO), which provides an early compliance pathway for single family homes with heat pumps (something desired by realtors). Furthermore, the Berkeley Existing Buildings Electrification Strategy, passed by Council in 2021, lists AC2HP as a Phase 1 strategy for implementation by 2025. This is because an AC2HP policy is a "time-of-replacement" policy, which applies only when a new appliance is being purchased. For comparably efficient air conditioners and heat pumps, this cost difference can be low as a few hundred dollars, and generous state and local incentives can cover thousands of dollars in costs.

The Commission also believes that Berkeley should expand on the non-residential AC2HP requirements that are part of the incoming state energy codes. The incoming code requires a heat pump for units with capacity under 5 tons, but recent cost-effectiveness data demonstrates that the measure is cost effective for units up to 20 tons (https://localenergycodes.com/download/2049/file_path/fieldList/2025%20NR%20Alterations%20CostEff%20Report.pdf). This will likely cover over 90% of new installations and has the capacity to multiply emissions reductions relative to only passing the residential requirements.

ENVIRONMENTAL SUSTAINABILITY AND CLIMATE IMPACTS

Passage of Zero NOx and AC2HP amendments to the Green Building Code would have substantial climate and environmental benefits.

Emissions from natural gas usage in buildings accounts for 33% of Berkeley's overall greenhouse gas emissions. These amendments would ensure that any new construction does not further contribute to gas combustion as well as potentially decarbonize 51% of emissions from space heating in single family homes by 2030 (https://buildingdecarb.org/resource/why-cooling-is-key).

The reduction of NOx emissions associated with reduced gas combustion would also substantially improve air quality and public health. NOx emissions from space and water heating applications in the Bay Area are attributable to $890 million in incremental healthcare costs annually (https://www.baaqmd.gov/~/media/dotgov/files/rules/reg-9-rule-4-nitrogen-oxides-from-fan-type-residential-central-furnaces/2021-amendments/documents/20230522_faq_appliance-rules_final-pdf.pdf?rev=47f3b1dc912b4e97869a4f2e487fb266

RATIONALE FOR RECOMMENDATION
City goals require substantial greenhouse gas emissions reductions in the coming decades, and additional measures are needed to tackle emissions from existing buildings.

ALTERNATIVE ACTIONS CONSIDERED
None.

CITY MANAGER

CONTACT PERSON
Brianna McGuire, Environment and Climate Commission Chair