

# Referral: Amendments to the Berkeley Green Code for Certain Newly Constructed Buildings and Existing Construction



Sustainable Power → Healthy Homes → Green Planet →

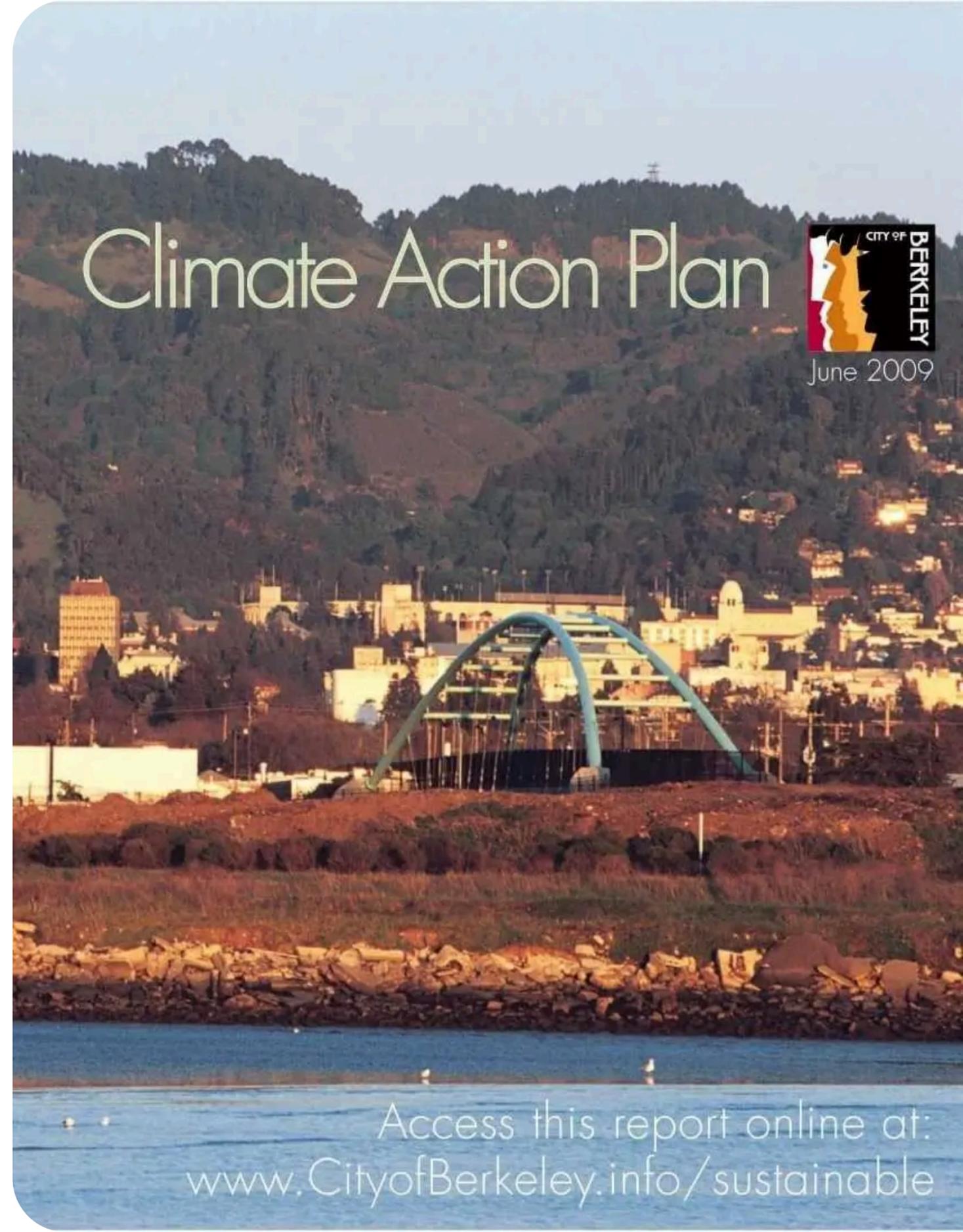
***Shared Commitment to a Better Planet***

— FITES Committee - November 5, 2025

# Rationale for Recommendation

## The proposed referral aligns with:

- Climate Action Plan (2009)
- Berkeley Resilience Strategy (2016)
- Fossil Fuel Free City (2018)
- Climate Emergency Declaration (2018)
- 100% Renewable Electricity by 2035 (2018)
- Net Zero Carbon Emissions by 2045 (2018)
- Race to Zero (2021)
- Existing Building Electrification Strategy (2021)
- Berkeley Strategic Plan
  - Global leader in addressing climate change
  - Resilient, safe, connected, and prepared City
- Unanimous referral by Council (5/20/25)
  - Authorize the City Manager to evaluate and develop amendments to the 2025 Energy and CALGreen Codes and/or other ordinances to accelerate building decarbonization for Council consideration



Access this report online at:  
[www.CityofBerkeley.info/sustainable](http://www.CityofBerkeley.info/sustainable)

# Rationale for Recommendation

## Regional Health and Climate Impacts:

- **More NOx pollution than all passenger vehicles**
- More than **6 times** as much NOx as all the power plants combined
- Heating is responsible for roughly **11% of California's statewide climate emissions**

Heat pumps reduce lifetime space heating emissions by **up to 93%**

- **85 premature deaths** annually
- **15,000 asthma attacks** per year
- Health-related costs from air pollution exposure total **\$890 million** annually

## Stakeholder Engagement:

**Environment & Climate Commission** discuss Zero NOx Reach Code, several commissioners **demonstrate support.**

**Stakeholder roundtable** conducted by staff in 2024 and **stakeholder engagement** conducted by Councilmember Tregub in 2024-2025



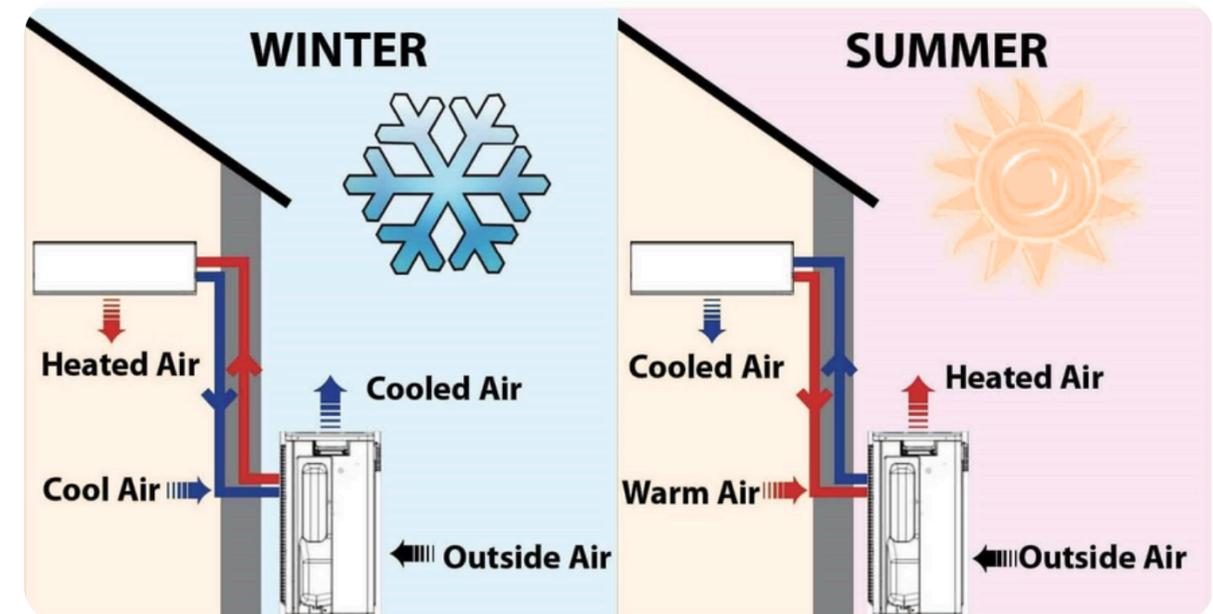
# Recommendation 1

## AC/Heater to Heat Pump conversions for certain existing buildings

A heat pump is an electric system with a 2-in-1 function that can both heat and cool a home by transferring heat between the indoors and outdoors.

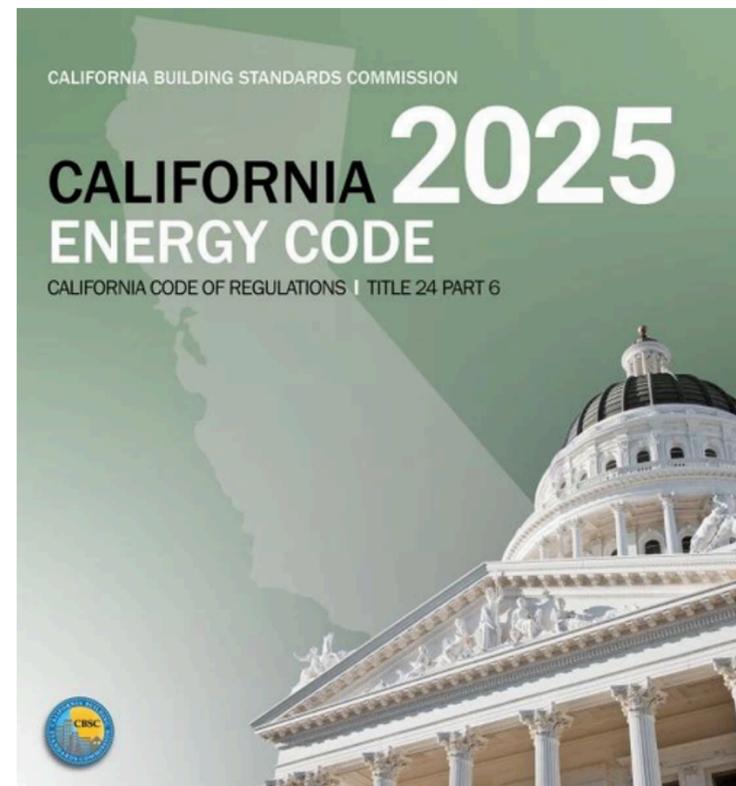
Heat pumps:

- Run on electricity
- Highly-energy efficient
- Act as Air Conditioners and Heaters



# Recommendation 2

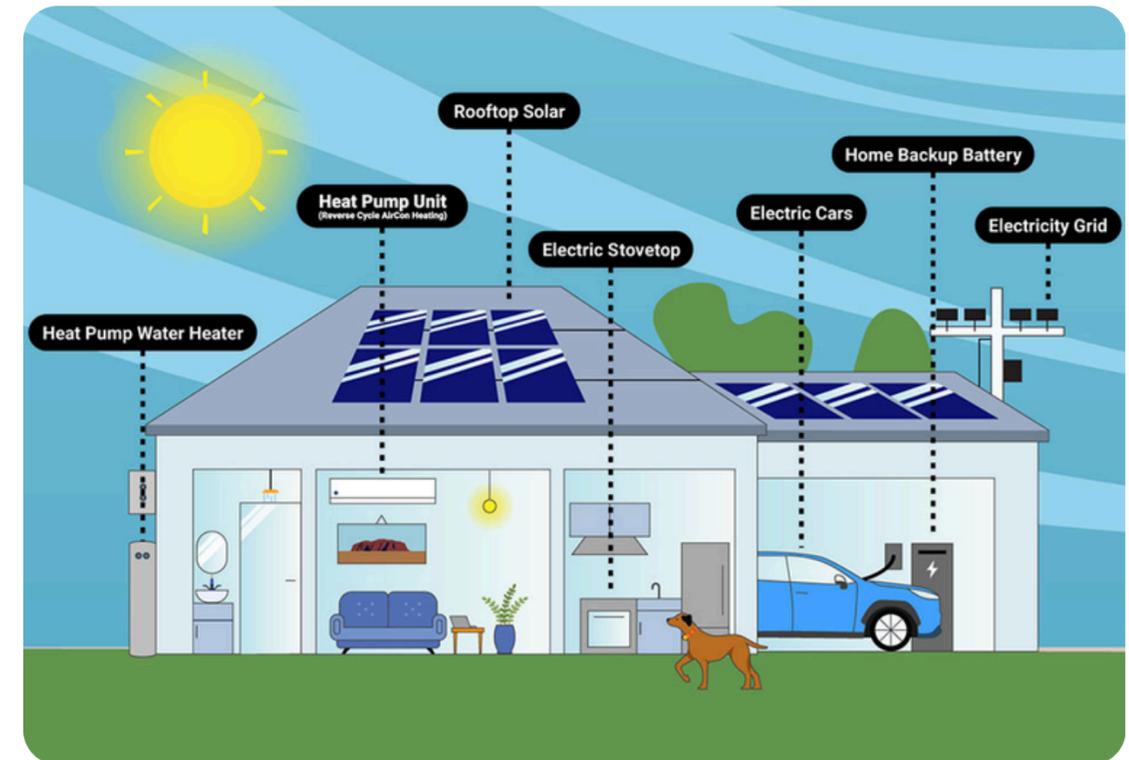
**Energy Reach Code for certain types of new construction**  
(as deemed feasible by staff)



- 1. Single Margin - potentially optimal pathway**  
All new buildings must be designed to satisfy a higher performance margin
- 2. Zero NOx**  
Prohibiting the sale or installation of any appliances that emit Nitrous Oxides
- 3. Ultra-Low NOx**  
Permitting the sale and installation of Ultra-low NOx emitting appliances, and prohibiting the sale and installation of higher-emitting appliances
- 4. Flex Path**  
Requires new and certain existing buildings to include electrical infrastructure for future electrification

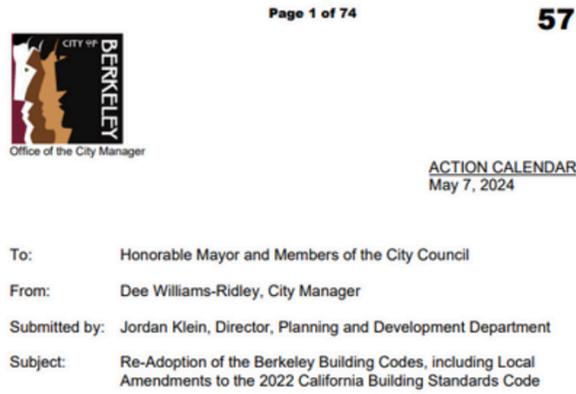
# Single Margin

- **Goal:** Require buildings to exceed California Energy Code standards by meeting a stricter source energy compliance margin.
- **Source Energy:** Measures the greenhouse gas impact of energy supplied to a building, factoring in delivery systems and time of use.
- **Flexibility:** Builders can meet targets through various methods—electrification, improved insulation, solar panels, batteries, or efficient gas systems.
- **Benefit:** Encourages lower emissions while allowing design flexibility across both all-electric and mixed-fuel buildings.



# Zero and Ultra Low NOx

In recent years, Zero and Ultra Low NOx have been considered in Berkeley



May 7, 2024

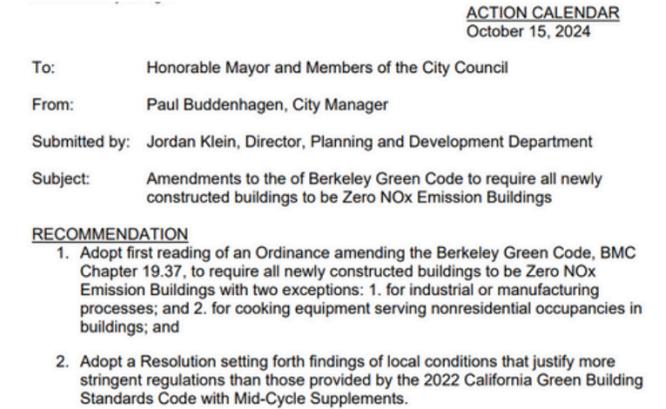
**Planning** proposes Local Amendments to the 2022 California Building Standards Code **including a Zero NOx Reach Code**

July 29, 2024

Health, Life Enrichment, Equity, & Community Policy Committee **Supports Zero NOx Reach Code with Commercial Kitchen Exception**

**Healthy New Buildings: Zero NOx Reach Code**

Health, Life Enrichment, Equity & Community Policy Committee  
July 29, 2024



October 15, 2024

**Item referred** for Staff Evaluations to allow staff to **further evaluate environmental organization recommendations**

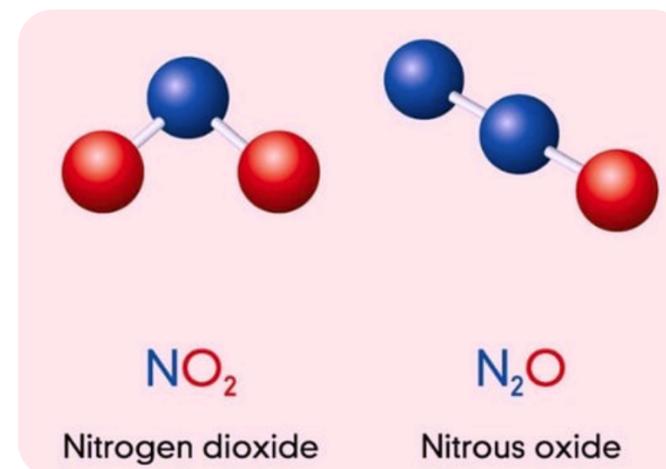
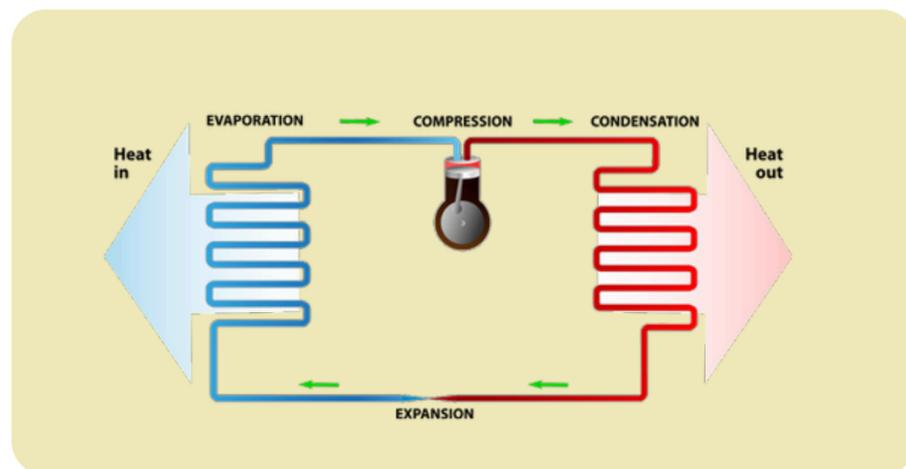
# Flex Path

- **Electric Readiness Reach Codes** (like Oakland's Flex Path) require new and some existing buildings to include wiring and infrastructure for future all-electric appliances and EV charging.
- **Goal:** Prepare buildings for electrification now to cut future greenhouse gas emissions at a lower cost.
- **Sample Key Features:** 240V circuits for heat pumps, cooktops, and dryers; EV charger pre-wiring; space in electrical panels for future upgrades.
- **Scope:** Applies mainly to new construction, remodels, or additions; similar goals are achieved in Berkeley through its Building Emissions Savings Ordinance.



# Recommendation

1. Refer to the City Manager amendments to the Berkeley Green Code, BMC Chapter 19.37, to require AC/Heater to Heat Pump conversions for certain existing residential buildings; and
2. Refer to the City Manager the adoption of a Single Margin Energy Reach Code or another Green Building standard for certain residential and mixed-use new construction.



# Questions?



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