



Item No. 1

Town of Atherton

CITY COUNCIL STAFF REPORT – PRESENTATION

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: GEORGE RODERICKS, CITY MANAGER

DATE: FEBRUARY 26, 2024

SUBJECT: PROVIDE FEEDBACK ON REACH CODE APPROACHES TO REDUCE GREENHOUSE GAS EMISSIONS FROM BUILDINGS

RECOMMENDATION

It is recommended that the Council consider various options in support of energy reach codes and provide feedback and direction to staff for the next steps.

BACKGROUND

The Town first established a strategic framework for reducing greenhouse gas emissions through the 2016 Climate Action Plan (CAP). The CAP outlined various strategies to reduce energy consumption from residential buildings, one of the Town's largest contributors to greenhouse gas emissions. In implementing the CAP, the Council adopted Ordinance 656 in November 2022, amending Chapter 15.19 of the Atherton Municipal Code through the adoption of the 2022 California Green Building Code amended with a local reach, with exceptions, standard requiring new buildings to be all-electric. On April 17, 2023, a three-judge panel of the Ninth Circuit Court of Appeals ruled in *California Restaurant Association v. City of Berkeley*, that a Berkeley ordinance requiring all-electric new buildings was pre-empted by the federal Energy Policy and Conservation Act of 1975 (EPCA) and was therefore invalid. In May 2023, due to the Ninth Circuit Court's ruling, the Town suspended enforcement of the all-electric building requirement for new buildings. On January 2, 2024, the Ninth Circuit Court of Appeals declined to have the case re-heard by the full panel of Ninth Circuit Court judges.

Staff have continued monitoring the situation and observed a lack of timely resolution in the Berkeley case and a lack of imminent statewide resolution (e.g., the California Energy Commission updates the California Energy Code on a triennial basis, and any future updates made by the California Energy Commission to the statewide code that might be more favorable for low-emissions buildings would have to wait until the effective date of the 2025 California Energy Code, which wouldn't be enforceable until January 1, 2026). Going forward, the City of Berkeley's only option is petitioning the United States Supreme Court to overturn the Ninth Circuit decision from April 2023. Should a subsequent ruling be issued overturning or otherwise vacating the Ninth Circuit Court of Appeals decision, enforcement of Ordinance 656 amending Chapter 15.19 would resume. As this is unlikely, Staff recommends amending Ordinance 656 to remove electrification

requirements to provide clarity to developers and bring the Ordinance in line with the Ninth Circuit ruling.

With enforcement paused, the Council adopted the 2023 update to the Climate Action Plan and committed to exploring policy levers to encourage electrification. Based on the lack of resolution in the Berkeley case and the targets set by the updated Climate Action Plan, staff recommends exploring interim solutions to reduce emissions from buildings to continue forward motion on the Town's Climate Action Plan requirements. Staff identified local amendments to the California Energy Code (also known as a "reach code") to reduce greenhouse gas emissions in new buildings as the preferred alternative approach. These local amendments were first placed on the City Council's January 17, 2024 Regular Meeting agenda. To provide more time for discussion, the item was postponed for a Special Meeting to be held on February 26, 2024.

ANALYSIS

The California Restaurant Association v. City of Berkeley ruling limits how the City can reduce emissions from new buildings. Staff is providing a menu of reach code measures that seek to move building electrification, electric readiness, and energy efficiency forward in a manner that does not pre-empt EPCA. This analysis will describe each measure in the context of the California Energy Code. The California Energy Code establishes whole-building efficiency requirements, which account for a building's water heater, HVAC (heating, ventilation, and air conditioning) system, solar generating system, and insulation, among other things. However, it does not account for cooking equipment, laundry dryers, pools, or other unregulated energy uses. As such, the proposed reach code measures do not regulate cooking equipment, laundry dryers, or other energy uses not addressed by the California Energy Code.

California Energy Code Energy Evaluation Metrics

The 2022 California Energy Code provides baseline efficiency and building performance standards that a project must meet before receiving a building permit. The California Energy Code provides different metrics for different types of buildings and is organized. The metrics for single-family residential buildings are as follows:

A new single-family residential building must meet or exceed "Energy Design Rating" (EDR) scores. There are three EDR score categories:

- 1) EDR1 (Source Energy) – EDR1 is a score representing a building's energy efficiency expressed in terms that serve as a proxy for greenhouse gas emissions.
- 2) EDR2 (Efficiency) – EDR2 is a score representing a building's energy efficiency expressed in terms of the value and cost of energy consumed at different times of the day and year.
- 3) EDR Total (Total Energy Design Rating) is a score representing the building's total energy expressed in terms of the value and cost of energy consumed at different times of the day and year while also factoring in solar and energy demand flexibility.

Proposed Energy Performance Enhancements for New Construction

Public Resources Code Section 25402.1(h)(2) and Section 10-106 of the Building Energy Efficiency Standards establish a process that allows local adoption of energy standards that are more stringent than the statewide standards. Under this process, the CEC requires any local amendments to the California Energy Code that affect energy use in regulated buildings to be cost-effective and use less energy than the standard requirements. Staff recommends that the Council explore cost-effective local amendments (reach codes) to the California Energy Code to increase the required EDR1 score for single-family residential buildings by at least 9 points. An EDR1 compliance margin of 9 reflects a cost-effective baseline achievable by an all-electric code minimum new construction with a market-baseline heat pump water heater, that is also technically feasible by a mixed-fuel building with appliances efficiencies at minimum federal requirements. Because of how the EDR1 and Source Energy scores are calculated in the 2022 California Energy Code, the higher standards proposed in the reach code would incentivize new buildings to include electric measures while allowing mixed-fuel buildings pathways to compliance using efficiency, photovoltaic (PV) solar, and battery measures. The enhanced performance requirements would apply equally to mixed fuel and all-electric buildings and are cost-effectively achievable through the energy code's performance pathway without requiring appliances that exceed federal efficiency standards.

Electric Ready Requirements for Renovations, Remodels, and Additions

The 2022 California Energy Code requires the construction of new mixed-fuel buildings to include “electric ready” components, including electric outlets near natural gas appliances, specifically, clothes dryers, cooktops, gas-fueled furnaces or gas-fueled water heaters, appropriate ventilation for future heat pump appliances, and reserved and labeled breakers in the electrical panel for a future electric appliance. However, the current code does not require electric-ready components for renovations, remodels, and additions. The Town could adopt a reach code requiring the installation of electric-ready components when appliances are being changed out, or specific spaces are being remodeled or added to the building. Opportunities for future-proofing homes that install gas equipment include:

- **Heating, Ventilation, and Air Conditioning:** The Town could require an outlet for a future electric heat pump for alterations and additions, including an HVAC system.
- **Water heating:** The Town could require an outlet for a future water heater heat pump for alterations and additions, including a water heating system.
- **Pool and Spas:** The Town could require an outlet for a future electric pool pump for alterations and additions that include pool or spa equipment.
- **Installing 240V outlet when renovating the** laundry room (an outlet for a future electric clothes dryer) and the kitchen (an outlet for a future electric oven/stove)
- **Panel**
 - When planning an electrical panel replacement and electrical panel upgrade, the Town could require the electrical panel to include panel capacity and breaker space for future electrification of building systems.
 - No electric readiness requirements for equipment replacements.

An exception could be offered, whereas, as a result of these requirements, an increase in capacity for an electrical panel, feeders, transformer, or electrical service (not part of the appliance upgrade scope) is required.

Practical Effect of the Reach Code

Because the Town is working within the confines of the California Energy Code, the description of the proposed approach above is inherently technical. This section illustrates the practical effect of the proposed approach by providing a simplified example of how a single-family home designer would comply with the reach code.

A building designer working on a single-family home built to the code minimum would likely include high-efficiency LED lighting, rooftop solar, an electric heat pump hot water heater, a natural gas furnace, insulated walls, an insulated attic, and efficient windows, among other things. The designer would load the building design into a computer model and estimate its energy performance. The energy modeling software would provide standard reporting metrics, including an EDR1 score. The designer would then compare the EDR1 score to a standard design building. In this case, the designed building's EDR1 score would be equal to the standard design building's EDR1 score and would comply with that part of the California Energy Code.

With the reach code in place, the designer would now need to achieve an EDR1 score that is 9 points better than the standard design building. If this building designer replaced the gas furnace with a commonly available heat pump HVAC system, the building would achieve a score of 9 EDR1 points better than the code minimum and consistent with the proposed reach code requirements. Alternatively, the building designer could keep the gas furnace and install a battery storage system, which would also result in an increase of more than 9 EDR1 points. The building designer also has the option to develop a package of efficiency and solar measures; so long as the measures lead to an increase of 9 or more EDR1 points better than the code minimum, it is consistent with the reach code.

Cost Effectiveness

The California Energy Commission requires any local amendments to the California Energy Code that affect energy use in regulated buildings to be cost-effective and to use less energy than the standard requirements. The CEC requires the local agency to adopt a determination that the energy standards are cost-effective at a public meeting. The determination must subsequently be filed with the Energy Commission. One way to illustrate cost-effectiveness is through the "Time-Dependent Valuation" or "TDV" metric. The TDV metric is what the California Energy Commission uses in evaluating cost-effectiveness for efficiency measures in the California Energy Code and includes the onsite costs and savings of the proposed energy measures, as well as the energy system costs and benefits of the energy measures. The metric is "time-dependent" because energy use has different costs and impacts depending on the day and season. For example, electricity saved during peak periods has a much higher value than electricity saved during off-peak periods. In support of reach code development, the California Energy Codes and Standards Statewide Utility Program, which includes the State's Investor-Owned Utilities (PG&E, SDG&E, and SCE, under the auspices of the California Public Utilities Commission), developed and published the 2022 Cost-Effectiveness Study: Single Family New Construction Study (Attachment 2) and the associated cost-effectiveness data. The studies and the associated cost-effectiveness data include a calculated benefit-to-cost ratio for various measures, building types, and climate zones. A benefit-cost value of "1" or greater illustrates that the measures save more than they cost and are therefore "cost-effective."

Based on these studies, staff find the proposed local amendments to the 2022 California Energy Code cost-effective and consume less energy than Title 24, Part 6. In short, using the California Energy Commission's TDV metric, the proposed amendments save more than they cost to implement.

Summary of Reach Code Policy Options

- Adopt Source Energy Compliance, giving builders a choice between mixed fuel or all-electric building.
 - Mixed fuel buildings will need additional energy measures to pass modeling including increased efficiency, solar, and battery storage.
 - All-electric buildings will pass modeling with code minimums for efficiency and solar (with a market-baseline heat pump water heater)
- Adopt Electric Readiness Requirements for New Construction (where readiness is not already required by the State code):
 - Pools
- Adopt Electric Readiness Requirements for Remodels, Additions, Renovations, and Equipment Replacements
 - Pools
 - Laundry Room
 - Kitchen
 - HVAC
 - Water Heating
 - Panel Capacity

While the measures in the menu are less effective at reducing greenhouse gas emissions than the all-electric new building requirements codified in Municipal Code Chapter 15.19, the options provide the best and most timely opportunity to continue pursuing the Council's adopted climate action goals within the existing legal framework. One or all measures may be further studied or presented for a first reading at a future City Council meeting.

FISCAL IMPACT

There is no fiscal impact.

GOAL ALIGNMENT

This Report and its contents are in alignment with the following Council Policy Goals:

- Goal Area F – Be Forward-Thinking, Well-Managed, and Well-Planned

POLICY FOCUS

The City Council adopted an update to the Climate Action Plan (CAP) at the October 4, 2023, Study Session, providing a strategic plan to reduce emissions in the Town by 49% by 2030 and 100% by 2045. The CAP's strategies include exploring policy pathways to encourage building electrification at the time of new construction and remodels, additions, and equipment changeout.

While the Town does not seek to require fuel type, reach codes are a policy lever that can be used to encourage electric buildings powered by on-site solar or by the County's official electricity provider, Peninsula Clean Energy, which provides 100% clean electricity. The Council's policy discussion should revolve around the adoption of a reach code to encourage electrification.

PUBLIC NOTICE

Public notification was achieved by posting the agenda, with this agenda item listed at least 72 hours before the meeting in print and electronically. Information about the project is also disseminated via the Town's electronic News Flash and Atherton Online. There are approximately 1,700 subscribers to the Town's electronic News Flash publications. Subscribers include residents as well as stakeholders –including, but not limited to, media outlets, school districts, Menlo Park Fire Protection District, service providers (water, power, and sewer), and elected officials.

COMMISSION/COMMITTEE FEEDBACK/REFERRAL

This item has not been before a Town Committee or Commission

ATTACHMENTS

1. 01172024 Council Meeting Presentation
2. Statewide Reach Code Resource, including Cost-Effectiveness Study for Single Family New Construction is linked here: <https://localenergycodes.com/content/reach-codes/electric-ready>