



CITY OF SAN MATEO

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Agenda Report

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TO: City Council
FROM: Alex Khojikian, City Manager
PREPARED BY: City Manager's Office
MEETING DATE: October 7, 2024
SUBJECT:
New Construction Reach Codes for the 2022 Code Cycle

RECOMMENDATION:
Provide feedback and direction on potential new construction reach codes for the 2022 Code Cycle.

BACKGROUND:
Jurisdictions may adopt local building code amendments that exceed State requirements, often referred to as “reach codes,” to require more sustainable building design and construction. The adoption of reach codes is an important strategy for meeting the City’s Climate Action Plan goals and reducing greenhouse gas emissions from buildings and transportation. On October 17, 2022, City Council introduced an ordinance approving local amendments to require enhanced electric vehicle charging infrastructure beyond state requirements, require all-electric new construction, and require electric-readiness and electric appliances during residential building remodels for the 2022 Code Cycle (January 1, 2023 – December 31, 2025). The ordinance was adopted on November 7, 2022, with an effective date of January 1, 2023. This report focuses on the City’s all-electric reach code for new construction for which enforcement is currently suspended due to a federal court decision. This report provides background on the federal court decision, presents a replacement reach code option, and discusses the advantages and disadvantages of implementing a reach code for the remaining 2022 Code Cycle that will end on December 31, 2025.

All-Electric New Construction Reach Code Background

The City of San Mateo has a strong history of adopting reach codes to meet climate goals. In 2020, the City’s first all-electric reach code for new buildings went into effect. All-electric buildings have electric appliances for space and water heating, clothes drying and cooking. By avoiding the use of natural gas, an all-electric building has a smaller carbon footprint.

In the last five years, more than 70 cities have adopted local regulations requiring new construction to be all electric. The City of Berkeley was notably one of the first to adopt such a requirement in August 2019. On April 17, 2023, the Ninth Circuit Court of Appeals in *California Restaurant Association v. City of Berkeley* determined that a local ordinance that generally prohibited the installation of natural gas infrastructure was preempted by federal law, namely the Energy and Conservation Act (EPCA). Berkeley sought rehearing from a larger *en banc* panel of Ninth Circuit judges. On January 2, 2024, the Ninth Circuit denied the request for the rehearing. The decision of the three-judge Ninth Circuit panel was reissued with minor amendments that do not change the substance or reasoning of the opinion. Due to this federal court decision, the City’s current reach code requiring all-electric construction of new buildings cannot be enforced and is currently suspended.

Energy Performance Reach Code for New Construction

Staff identified increasing building energy performance requirements through local amendments to the California Energy

Code (Energy Code) as an alternative approach to conform to the EPCA-preemption standards set by the court. Peninsula Clean Energy (PCE) led the development of an Energy Performance Reach Code model ordinance to support cities in adoption. Across the state, cities have adopted an Energy Performance Reach Code for the 2022 Code Cycle, including Palo Alto, Brisbane, San Jose, East Palo Alto and Santa Cruz.

The 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 design elements. The Energy Code includes both prescriptive and performance pathways for each building type. The Energy Performance Reach Code primarily amends the performance pathway of the Energy Code and does not regulate cooking equipment, laundry dryers, or other energy uses not addressed by the performance pathway of the Energy Code.

The Energy Code relies on multiple metrics. For single family residences, there is Energy Design Rating (EDR). For multifamily and commercial buildings, there is Time Dependent Valuation (TDV), a standard that combines the value and cost of energy consumed at different times of the day and year and Source Energy, a metric that acts as a proxy for carbon emissions.

The Energy Performance Reach Code would increase the required EDR1 score for single family residential buildings and the required Source Energy scores for all other buildings. By increasing these requirements, the result is a decrease in emissions from newly constructed buildings. The Energy Performance Reach Code would adopt the following performance metrics:

| Building Type | Compliance Margin |
|---|--|
| Single Family Residential Buildings | Exceed the standard EDR1 requirement by at least 9 |
| Multi-Family Residential (Low-rise, ≤ 3 stories) | Exceed the standard Source Energy requirement by 10% |
| Multi-Family Residential (High-rise, ≥ 4 stories) | Exceed the standard Source Energy requirement by 4% |
| Non-Residential | Exceed the standard Source Energy requirement by 7% |

To meet the higher standards proposed in the Reach Code, new buildings could include only electric appliances and systems or gas and electric systems. For mixed-fuel buildings, additional energy efficiency measures, solar photovoltaic (PV) systems, and/or a battery would be necessary to meet the Source Energy compliance margin. 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.

For buildings that include natural gas in their design, the proposed reach code also includes electric-readiness requirements. Note, nearly all of the reach code’s electric-readiness requirements are also included in the 2025 Energy Code as a mandatory requirement. Installing the electrical infrastructure during initial construction is far less costly than retrofitting buildings later to support electric equipment. Electric-readiness helps prepare building owners for the Bay Area Air Quality Management District (BAAQMD) regulations requiring zero-NOx water heating and space heating equipment by 2027 and 2029, respectively.

Cost Effectiveness

The California Energy Commission (CEC) requires any local amendments to the Energy Code that affect energy use in regulated buildings to be cost effective and to use less energy than the standard requirements. 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 following studies:

- [2022 Cost-Effectiveness Study: Single Family New Construction Study](#);
- [2022 Cost-Effectiveness Study: Multifamily New Construction Study](#); and
- [2022 Cost-Effectiveness Study: Non-residential New Construction Reach Code Cost-effectiveness Study](#).

These studies are highly detailed and support the findings required for CEC approval. The studies include a calculated benefit-to-cost ratio for a wide variety of 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.” These studies are the basis for staff’s cost effectiveness findings and are sufficient to illustrate compliance with the requirements set forth under California Administrative Regulations, Building Energy Efficiency Standards, Section 10-106.

Discussion

The City of San Mateo is known for being a leader in sustainability and for implementing strong reach codes to encourage sustainable construction. With the City’s all-electric new construction reach code currently suspended due to the federal court decision, this presented an opportunity for the City Council to evaluate a replacement reach code. The City has had experience adopting local amendments in the middle of a code cycle; however, it is important to acknowledge that a new reach code would require significant administrative work for a short-lived implementation time with the 2022 Code Cycle ending on December 31, 2025.

New construction accounts for a small number of projects in San Mateo but new construction is a priority since it is the most cost-effective time to encourage sustainable design. Staff tracked the following number permits issued for all-electric new construction projects as a result of the City’s previous reach codes:

| | Single Family Homes | Duplex | ADU | Multifamily | Non-residential |
|-------------|---------------------|--------|-----|------------------------------|-----------------------------|
| 2023 | 12 | 2 | 39 | 0 | 0 |
| 2022 | 4 | 1 | 25 | 0 | 1 (5-story office building) |
| 2021 | 1 | 4 | 23 | 1 (Kiku Crossing: 225 units) | 0 |
| 2020 | 0 | 0 | 6 | 1 (Waters Park: 190 units) | 0 |

Absent the City’s all-electric requirement, it is difficult to estimate how many buildings would be constructed with natural gas in 2024 and 2025. It is important to note that at the end of every code cycle, there tends to be an uptick of building permit applications so that applicants can lock in the current building code requirements. Thus, there might be a flurry of building permit applications next year in 2025.

For larger multifamily and non-residential development projects that have approved Planning Applications but do not yet have a building permit, according to applicants these projects are still planning to be built all-electric regardless of a reach code requirement. These projects require multiple years for design. It is much more difficult to understand trends for single-family and duplexes as these smaller projects are determined by each property owner.

Staff hosted a Developers Roundtable on September 26, 2024 via Zoom to get feedback on the Energy Performance Reach Code approach. There were six attendees including five developers and one real estate agent. The top concern brought up by attendees was related to the electric-readiness requirements of the reach code because of the added construction costs. One developer was concerned about the reliability of electric-powered space conditioning for buildings with life sciences/laboratories. Another developer said their building already plans to be all-electric, except for potential gas use in their retail space for a commercial kitchen which would be subject to the new electric-readiness requirements if adopted. At the end of the event, staff launched a Zoom poll to understand attendees’ support of the Energy Performance Reach Code, two answered unlikely to support, two answered neutral and two did not respond to the poll.

Defer Reach Codes until 2025 Code Cycle

The State of California updates the California Building Standards Code every three years, and the 2022 Code Cycle will end on December 31, 2025. The City can opt to defer exploration, adoption and implementation of new reach codes until the

2025 Code Cycle (January 1, 2026 – December 31, 2028). In Spring 2025, staff plans to begin analysis and stakeholder engagement on 2025 Code Cycle reach codes for new construction and existing buildings. One advantage of deferring discussion of reach codes to the 2025 Code Cycle is to maximize the amount of time a reach code is in place for ease of implementation. Deferring to the 2025 Code Cycle would also reduce the administrative work associated with reach code adoption, such as drafting and adopting the ordinance and filing the ordinance with the CEC and Building Standards Commission (BSC). Typically, staff aims for reach code ordinance adoption concurrent with the updated Building Code adoption which would occur Fall 2025. Thus, robust reach code analysis and engagement is a priority for Spring and Summer 2025.

Staff is currently monitoring potential reach code opportunities for the 2025 Code Cycle. Every triennial code cycle, the California Green Building Code (CalGreen) contains voluntary measures, essentially reach codes, that jurisdictions can adopt. The 2025 CalGreen draft language has a proposed voluntary measure that would require a new or replaced air conditioning system to be a heat pump system as a primary path. An alternate path to compliance is the installation of an air conditioner that is installed along with six other efficiency measures including duct insulation, air sealing, and ceiling insulation.

Next Steps

Staff seeks feedback on the Energy Performance Reach Code approach for new construction. Additionally, staff seeks direction on whether to bring the Energy Performance Reach Code ordinance to a future City Council meeting to replace the City's currently suspended new construction all-electric reach code for the 2022 Code Cycle, or to defer reach code exploration and adoption until next year for the 2025 Code Cycle. If the City Council directs staff to bring the Energy Performance Reach Code ordinance for adoption for the 2022 Code Cycle, staff would work swiftly to bring an ordinance to the City Council for consideration as soon as possible. If the City Council opts to defer until the 2025 Code Cycle, staff would begin reach code exploration and engagement in Spring 2025.

In alignment with the City's Climate Action Plan, staff already plans to explore reach codes for building electrification, electric vehicle readiness, and more for the 2025 Code Cycle. Additionally, staff looks forward to reengaging the City's consultant Rincon to finish the City's Sustainable Buildings Strategy.

BUDGET IMPACT:

There is no budget impact.

ENVIRONMENTAL DETERMINATION:

This informational report is not a project subject to CEQA, because it is an organizational or administrative activity that will not result in direct or indirect physical changes in the environment. (CEQA Guidelines Section 15378(b)(5).) In addition, the adoption of the reach code amendments is categorically exempt from CEQA review because it consists of an action, as authorized by state or local ordinance, intended to reduce greenhouse gas emissions for the protection of the environment and the regulatory process involves procedures for protection of the environment. (CEQA Guidelines Section 15308.)

NOTICE PROVIDED

All meeting noticing requirements were met. Staff maintains a list of developers active in San Mateo. Staff notified developers of the September 26th San Mateo Reach Code Developers Roundtable and of this City Council meeting via email.

ATTACHMENTS

None

STAFF CONTACT

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