



CITY OF GLENDALE, CALIFORNIA REPORT TO THE CITY COUNCIL

AGENDA ITEM

Report: Building Electrification Reach Code Replacement Options

Motion: City Council direct staff to prepare an alternative reach code to replace Section 4.1(b), subsection 4.106.5 and Section 5.106.13 of the local amendments to the California Energy Code.

COUNCIL ACTION

Item Type: Action Item

Approved for July 30, 2024 **calendar**

EXECUTIVE SUMMARY

In 2022, the City of Glendale engaged Rincon Consultants to draft building electrification, photovoltaic (PV), and electric vehicle (EV) charging Reach Codes, later adopted as amendments to the 2022 California Building and Energy Code. Key requirements included:

1. Building Electrification: Mandated all new constructions to be all-electric, with exemptions and infeasibility waivers.
2. PV Infrastructure: Required non-residential and multifamily buildings to install PV systems covering at least 50% of rooftop space or offset 100% of projected electricity use.
3. EV Charging Infrastructure: Required new residential and non-residential constructions to include EV charging infrastructure, with certain exemptions and waivers.

In 2024, following the 9th Circuit Court's decision rejecting Berkeley's natural gas ban, Glendale suspended enforcement of the all-electric requirement but continued with other provisions, which were not affected by the court decision. Staff asked Rincon Consultants to prepare a memorandum on alternate approaches to reduce greenhouse gas emissions and air pollution from buildings that the City may pursue now that enforcement of the all-electric requirement has been suspended. Rincon identified three alternative approaches:

1. Gas Ban Through Local Amendment (Glendale's existing approach)
2. Air Quality Ordinance
3. Single Margin Source Energy Code Amendment

Staff recommend the City pursue the third approach.

RECOMMENDATION

Recommend staff to prepare a Single Margin Source Energy reach code to replace Section 4.1(b), subsection 4.106.5 and Section 5.106.13 of the local amendments to the California Energy Code.

ANALYSIS

In 2022, the City of Glendale hired Rincon Consultants to develop building electrification, photovoltaic (PV), and electric vehicle (EV) charging Reach Codes, which were adopted through a local amendment to the 2022 California Building and Energy Code.

The reach codes required the following:

1. Building Electrification: All new construction (including standalone accessory dwelling units (ADUs)) must be all-electric with limited exemptions and subject to an infeasibility waiver.
2. PV Infrastructure: Require non-residential and multifamily PV systems to be installed on all new buildings to offset 100 percent of projected electricity use or cover at least 50 percent of rooftop space and include an infeasibility waiver for projects unable to meet the requirement due to shading or other technical constraints.
3. EV Charging Infrastructure: Require EV charging infrastructure for new single- and multifamily dwellings, townhouses with attached private garages, multifamily dwellings with residential parking facilities, and new non-residential construction, with limited exceptions and subject to an infeasibility waiver.

At the November 1, 2022, City Council meeting, the ordinance was introduced (Exhibit 1) with modifications to specific definitions and the EV infeasibility waiver process; the Reach Code ordinance was subsequently adopted on November 15, 2022.

In 2019, the California Restaurant Association (CRA) sued the City of Berkeley regarding their ordinance banning fuel gas piping in new buildings. A three-judge panel of the federal appeals court struck down Berkeley's ordinance in April 2023, agreeing with the CRA that the city overstepped the federal Energy and Policy Conservation Act when it passed the ban in 2019. Berkeley had the option to seek rehearing either by the three-judge panel that heard the case or en-banc rehearing by 11 Ninth Circuit judges.

In 2024, the 9th Circuit declined to reconsider the decision rejecting the Berkeley, California, natural gas ban. As a result of this decision, several Cities that had natural gas bans or ordinances for new construction either halted the enforcement of the ordinance, considered alternatives, or continued with enforcement.

In response to the 9th Circuit's decision, on June 4, 2024, the City Council directed staff to suspend enforcement of those portions of Ordinance No. 5999 that require all newly constructed buildings in Glendale to be "All-Electric." All other provisions of Ordinance No. 5999, including but not limited to those pertaining to photovoltaic requirements and EV charging, as well as all requirements in the California Building Code and/or the California Energy Code regarding electric readiness, continue to be enforced.

As a result of the ruling, the City of Glendale asked Rincon Consultants to prepare a memorandum (Exhibit 2) outlining alternative options that the City may pursue to achieve its goals of cost effectively reducing air pollution and greenhouse gas emissions from new buildings.

Approach Options

Now that enforcement of the existing all-electric component of the Ordinance No. 5999 has been suspended, Rincon has identified three possible approaches that the City may consider. All approaches will further the City's goals of offering a cost-effective method to assist in decarbonizing the built environment, and help developers and building owners reduce emissions, use efficient technologies, and improve air quality.

The three possible approaches Rincon identified are summarized below from the Rincon Memorandum - Building Electrification Post Berkeley.

1. Gas Ban Through a Local Amendment to the Building Code

The City of Glendale may continue implementing the building electrification ordinance. Implementing this code, especially in the short term, would limit new gas infrastructure, but doing so carries the risk of potential legal challenges. In light of recommendations from the Glendale City Attorney and the subsequent decisions by the Glendale City Council to suspend the "All-Electric" provisions of Ordinance No. 5999, staff recommend this option not be pursued at this time.

2. Air Quality Ordinance

In this approach, Glendale would adopt standards for one or more air pollutants. The Federal Clean Air Act and the California Clean Air Act establish air quality targets for cities and counties to help achieve regional standards for regulated air pollutants. Under the California Clean Air Act, cities and counties can implement local control measures to improve air quality in their region. As the South Coast Air Quality Management District (SCAQMD) noted, "Local governments have the flexibility to address air quality issues through ordinances, local circulation systems, transportation services, and land use. No other level of government has

that authority, including the AQMD.” Several cities in California have adopted air quality standards that address NOx (Nitrogen Oxide) emissions, including Los Altos Hills, which has adopted a zero NOx requirement for space and water heating. This is ahead of the Bay Area Air Quality Management District Rules 9-6 and 9-4, which will also set a zero NOx standard beginning in 2027 for water heaters and 2029 for space heating.

Glendale could similarly establish a NOx emissions standard, which would greatly reduce gas combustion and pollution emissions from new construction. It is not clear whether new local air quality regulations of this type would be subject to legal challenge on the ground that they are preempted by state or federal law. However, California can request waivers from the federal Clean Air Act to enforce its standards. For example, the U.S. Court of Appeals for the DC Circuit, in *Ohio v EPA*, recently (April 2024) upheld California's Clean Air Act waiver, allowing California to set zero-emission vehicle sales requirements.

The Sustainability Commission, at their June 17, 2024, meeting, recommended that the City Council direct staff to research an emission standards ordinance as a future policy approach for the council to consider. Staff support the commission’s recommendation to investigate this approach for possible future adoption but recommend that the City instead pursue the following approach at the present time.

3. Single Margin Source Energy Code Amendment

Staff recommend that the city pursue this third option, as the most effective and timely approach to replace the current all-electric component of the ordinance.

Cities in California can adopt local amendments to the California Energy Code (Title 24) within certain limits. One of the areas where cities can adopt more stringent requirements than the state code is under the source energy rating (EDR1 for single-family), which is an energy performance metric. In this approach, a single energy efficiency margin, or metric, is established for all energy types. This approach does not specify one kind of energy (gas vs. electric) and is considered compliant with the federal Energy and Policy Conservation Act. Because all-electric buildings meet a much lower source energy rating than mixed fuel buildings, buildings that include gas combustion may need to complete additional energy efficiency actions such as larger solar arrays, battery storage, insulation, and other design strategies in order to achieve the same source energy rating.

The 2022 California Energy Code provides baseline efficiency and building performance standards that a project must meet prior to receiving a building permit. The code provides two pathways: a prescriptive pathway in which developers follow a check list of requirements, and a performance pathway in which developers model energy usage and must stay within a set energy budget. The performance method offers maximum flexibility to trade off the energy performance of different building components to achieve compliance. The efficiency margin is expressed slightly differently for different building types Source Energy Design Rating (EDR1) for single family residential and Total Compliance Margin for multi-family and non-residential.

The standard efficiency model includes water heating, space heating, space cooling, indoor air quality (IAQ) fan energy, and solar generation.

Cost Effectiveness

One of the requirements for California Energy Commission approval of a reach code is that it be cost-effective. To be cost effective, the money saved from the reduced energy costs needs to be enough to cover the initial cost within a reasonable period of time. City staff connected with the Statewide Reach Code Program to develop cost effectiveness studies for the City of Glendale (Exhibits 3-5).

Practical Implementation

San Luis Obispo has adopted a similar performance reach code and provided an explanation of how the reach code would work, which is described below:

"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 5 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 that is 5 EDR1 points better than the code minimum and would be 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 5 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 5 or more EDR1 points better than the code minimum, it is consistent with the reach code.

This example is similar to those for the other building types, where the compliance margins could be achieved by either installing electric heat pump HVAC equipment or installing a package of additional solar capacity and efficiency measures.”

Existing Buildings

The report primarily addresses the replacement of the all-electric reach code requirement in new construction. However, the Rincon report also includes information about potential options for the City to consider in relation to existing buildings, such as equipment replacement, energy savings checklists, electric readiness, and other relevant measures.

Staff recommend further discussion of these options after the adoption of a new Single Margin Source Energy reach code, such as incorporating them into the City’s Climate Action and Adaptation Plan.

STAKEHOLDERS/OUTREACH

At their June 17, 2024, meeting the Sustainability Commission received a presentation on the options to replace the existing building electrification ordinance. The Commissioners provided comments recommending that City Council pursue the single margin source energy code amendment and direct staff to undertake research on an emission standard ordinance prior to the next update of the California Energy Code in 2025.

FISCAL IMPACT

There is no fiscal impact associated with this report.

ENVIRONMENTAL REVIEW (CEQA/NEPA)

Not Applicable.

CAMPAIGN DISCLOSURE

This item is exempt from campaign disclosure requirements.

ALTERNATIVES TO STAFF RECOMMENDATION

Alternate: City Council may direct staff continue suspension of the all-electric provision of ordinance 5999 and not prepare an alternate option.

Alternate 2: City Council may direct staff to pursue an air quality ordinance.
Alternate 3: City Council may consider any other alternative not proposed by staff.

ADMINISTRATIVE ACTION

Submitted by:

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Approved by:

Roubik R. Golanian, P.E., City Manager

EXHIBITS/ATTACHMENTS

Exhibit 1: Report: Introduction of an Ordinance of the City of Glendale, California, Amending the Glendale Building and Safety Code Volume IX to Adopt Local Amendments to the 2022 Edition of the California Building and Energy Code Pertaining to Building Electrification, Solar Photovoltaic and Electric Vehicle Charging Installations.

Exhibit 2: Rincon Memorandum - Building Electrification Post Berkeley.

Exhibit 3: Custom Cost Effectiveness Analysis: City of Glendale.

Exhibit 4: Custom Cost Effectiveness Analysis: City of Glendale - Multifamily New Construction.

Exhibit 5: Custom Cost Effectiveness Analysis: City of Glendale – Nonresidential.