

# Agenda Report

June 13, 2022

**TO:** Honorable Mayor and City Council

**THROUGH:** Environmental Advisory Commission (May 10, 2022)

**FROM:** Department of Planning & Community Development Department

**SUBJECT: PREPARATION OF AN ORDINANCE AMENDING CHAPTER 8 OF THE PASADENA MUNICIPAL CODE REQUIRING THE ELECTRIFICATION OF BUILDINGS IN CERTAIN SPECIFIC CATEGORIES**

## **STAFF RECOMMENDATION:**

It is recommended that the City Council:

1. Adopt the Environmental Determination that the proposed project is exempt from environmental review pursuant to the guidelines of the California Environmental Quality Act (Public Resources Code §21080(b)(9); Administrative Code, Title 14, Chapter 3, §15308, Class 8, Actions by Regulations for the Protection of the Environment); and,
2. Direct the City Attorney to prepare an ordinance and return within 60 days amending the Pasadena Municipal Code by amending Title 8, Health and Safety Code requiring the electrification of buildings in certain specific categories.
3. Consider the proposed electrification requirements as recommended by staff in this report and direct staff to return to City Council within one-year of the effective date of an ordinance to review implementation and consider broadening the scope to include single family residences, accessory dwelling units, and junior dwelling units.

## **ENVIRONMENTAL ADVISORY COMMISSION (EAC) RECOMMENDATION:**

The proposed building electrification requirements were presented to the Environmental Advisory Commission (EAC) on May 10, 2022. The EAC supports the proposed ordinance, although they did recommend broadening the scope to include newly constructed single-family residences, accessory dwelling units (ADU) and junior accessory dwelling units (JADU).

As noted, the EAC is recommending that the requirements be expanded to include single-family and ADU's. This is not the staff recommendation at this time based on a few reasons. First, staff recognizes that multi-family and commercial projects are most often designed and constructed by industry professionals who are prepared for code changes such as these and have experience in designing and permitting to new code requirements. Staff would like to establish and monitor the process with this segment of projects before extending this to single-family and ADU projects that are most often permitted by a non-professional homeowner. Second, the City of Pasadena received a grant from the Southern California Association of Governments (SCAG) to assess the City's ADU permitting processes to remove barriers and to identify where improvements can be made to accelerate ADU production. To avoid any conflicts with this program, ADUs should be exempt from additional regulations until completion of the project which is anticipated to wrap up in the Fall of 2022. Lastly, in January 2023 the State Building Code will be amended to require that single-family construction be "electric ready" meaning it is constructed so that it can be converted to all-electric should this be a choice of the homeowner. This would set-up future single-family residences to be prepared for and designed as all-electric when the City's requirements go into place rather than requiring homeowners to redesign their projects in advance of these changes at a substantial cost and time delay.

#### **PROPOSED ELECTRIFICATION REQUIREMENTS:**

The City proposes to exercise its police powers to amend Title 8, Health and Safety Code of the Pasadena Municipal Code with a proposed ordinance that would require electrification in lieu of natural gas in certain specific categories of new construction.

Specifically the following:

- New multi-family residential buildings greater than 3 units;
- New mixed-use buildings;
- New non-restaurant commercial buildings; and
- Additions to existing commercial buildings where the addition adds 50 percent or more to the existing floor area. In such cases, the entire building must convert to electrification.

The proposed amendments and exemptions are fully outlined in Attachment A. Staff proposes an implementation date of 60 days after second reading of the ordinance to allow the public time to anticipate a project that must incorporate an all-electric design. Staff recommends requiring building electrification for the specified categories based on a planning entitlement deemed complete before the implementation date or, if no entitlement is required, that a building permit application is received before the implementation date.

## **BACKGROUND:**

Proposals for building electrification were first presented to the City Council on April 4, 2022, after staff had solicited public input from various stakeholder groups and feedback from the Municipal Services Committee (MSC). The City Council directed staff to solicit additional input on the proposed electrification requirements from the Environmental Advisory Commission (EAC), and then return to the City Council with EAC's input as well as a report from the City of Pasadena Department of Water & Power (PWP) addressing various questions on utility capacity, and quantifying the construction and operational costs of electrification. The report from PWP is included as Attachment B.

## **DISCUSSION:**

At the April 4, 2022 City Council meeting, City Council asked staff to monitor the building electrification program and return to Council within a year with proposals to expand the program to include electrification requirements for newly constructed single-family homes and accessory dwelling units.

City Council members also raised four questions regarding the proposed electrification requirements. Responses to questions 1 through 3, related to greenhouse gas emission impacts, electrical power generation capacity and utility cost, were provided by PWP via a memo to the City Manager (Attachment B) and such information was included in the City Manager Weekly Newsletter of May 5, 2022. A response to the fourth question, related to construction cost implications for all-electric construction, was provided by the Planning & Community Development Department. The responses to all four questions are summarized below:

### ***Question 1: What would be the rate impact for a family of four if the Building Electrification Ordinance is adopted?***

While appliance efficiencies vary based on a number of factors, all-electric appliances using heat pump technologies are more efficient and have the potential to match the total annual operating costs of natural gas appliances. Refer to Attachment B for a more detailed response by PWP.

### ***Question 2: What is the grid impact to the Power System of the Building Electrification Ordinance?***

Overlaying building electrification's anticipated contribution to the Power Delivery Master Plan (Plan) peak load projection shows that the contribution of building electrification is nominal and can easily be accommodated by PWP power system without modification to the Plan. Refer to Attachment B for a more detailed response by PWP.

***Question 3: What will be the change in Greenhouse Gas Emissions (GHG) if we adopt this Ordinance? Is there a risk we could be swapping natural gas usage for electricity generated by natural gas with little or no benefit?***

Adoption of a building electrification Ordinance requiring all-electric appliances and equipment will have immediate benefit in the reduction of GHG emissions. Figure 3 in Attachment B illustrates the total emission of carbon dioxide from both grid generation sources and appliance usage. As PWP moves to cleaner power generation sources, the reduction of carbon dioxide output in metric tons, together with forecasting usage of all-electric appliances will allow significant reduction of GHG emissions.

***Question 4: What are the construction cost implications for all-electric construction?***

Various local developers have indicated that construction costs/cost savings vary from project-to-project and, from a predevelopment perspective, there is a cost-savings related to a smaller scope of work for a dry utility consultant. From a land development perspective, there are cost-savings associated with less trenching and the installation of the actual gas line within the streets (and associated cost such as fees, street replacement, traffic control, etc.). From a building construction perspective, there are cost savings associated with not needing to install gas lines within the home and lack of delays associated with obtaining gas meters. And there are also potentially significant rebates from local electric utilities for building all electric homes. Where required, the installation of a larger utility electrical transformer will increase costs, reducing net savings, although all-electric construction is still expected to be less expensive on average. Some local developers already choose to construct all-electric homes without natural gas.

The City of Oakland, California found that the cost of all-electric buildings are actually similarly favorable to dual-supplied buildings. And modern electric appliances are significantly more efficient than gas appliances, using fewer units of energy for the same work. Electric heat pump water heaters are up to five times more efficient than gas water heaters. Moreover, electric energy costs can be offset through local renewable generation such as rooftop solar, while gas must be purchased from an outside source.

Also, according to a 2019 report prepared by consultant Redwood Energy Group for the City of Menlo Park, California: "In California developers save an average of \$3,300/unit of construction costs by avoiding gas use, or more than \$20,000 per 8-plex for gas distribution, laterals, interior piping, appliances, and venting. In the downtown of a city like Los Angeles, just trenching and piping gas to an apartment building in a busy street can cost \$140,000". Lastly, according to a 2019 report by E3, an energy consulting firm "...an all-electric new construction home was estimated to have a capital cost advantage ranging from \$3,000 to more than \$10,000 over a mixed-fuel home".

Pasadena Water and Power (PWP) has several offerings to help alleviate the cost of electrifying new and existing buildings. Qualifying all-electric appliances/equipment purchased and installed directly by PWP residents and small businesses may also be eligible for rebates; including several Energy Star rated products. In addition, PWP also

has rebate incentives to assist qualifying builders/developers who plan to construct new, all-electric and affordable multifamily properties for income-qualified customers.

**STAFF RECOMMENDATION:**

Staff recommends City Council consider an ordinance requiring building electrification in certain categories of newly constructed buildings, and exceptions for specific categories as outlined in Attachment A. Staff also recommends analyzing the effects and benefits of building electrification on reducing the City's carbon footprint and return to City Council within a year with this analysis. The recommendation will also include staff's proposal for expanding electrification requirements to newly constructed single-family homes and accessory dwelling units at that time.

**COUNCIL POLICY CONSIDERATION:**

The recommended action furthers the City Council's strategic plan goal to support and promote quality of life by adopting the most currently available codes for all types of construction in the City. The staff recommendation also supports the City's commitment to increase conservation and sustainability.

**FISCAL IMPACT:**


There are no negative fiscal impacts anticipated with the adoption of this proposed ordinance. An ordinance would result in additional electric sales to PWP customers. The additional revenue would help fund PWP's fixed costs, thereby lowering average electric rates for all customers. It would also increase the revenue basis for determining the General Fund transfer from the Light and Power Fund.

Respectfully submitted,



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Attachments (2):

Attachment A: Building Electrification Requirements & Exceptions

Attachment B: City Manager Newsletter from PWP