



DATE: January 13, 2025
TO: Council Sustainability Committee
FROM: Director of Public Works
SUBJECT Existing Building Electrification Roadmap – Review and Comment

RECOMMENDATION

That the Council Sustainability Committee (CSC) reviews and comments on this report.

SUMMARY

This report provides an update on the preparation of the Existing Building Electrification Roadmap and the use of \$97,040 in formula-based grant funds received through the U.S. Department of Energy’s (DOE) Energy Efficiency and Conservation Block Grant (EECBG) technical assistance voucher program. The report also highlights outreach efforts performed by the Local Clean Energy Alliance (LCEA) and California State University East Bay (CSUEB) students to engage with Spanish-speaking residents on existing building electrification. Staff is seeking the CSC’s input regarding the proposed next steps as well as future community engagement efforts during preparation of the Roadmap.

BACKGROUND

Hayward’s Climate Action Plan (CAP), adopted by Council on January 30, 2024¹, identifies specific programs and actions necessary to put Hayward on a path to carbon neutrality by 2045 and achieve the City’s 2030 greenhouse gas (GHG) reduction target in alignment with Senate Bill 32. Building energy is the second-largest emitting sector and accounts for over a quarter of Hayward’s annual GHG emissions. The CAP outlines 53 actions related to reducing building energy emissions, including:

- Action BE-2.5: Develop a single-family residential building electrification feasibility study with a detailed existing building analysis and electrification cost analysis to understand cost implications, identify potential equity concerns/impacts, and

¹ <https://hayward.legistar.com/LegislationDetail.aspx?ID=6497833&GUID=90E54932-8B3F-46FA-8B79-47F2DD47560D&Options=&Search=>

develop strategies to electrify existing buildings such that natural gas usage in single-family residential buildings is reduced by 10% by 2030.

- Action BE-2.8: Conduct engagement efforts for the general public and targeted to low-income communities of color during development of the electrification strategy to understand the community's concerns around electrification.
- Action BE-2.10: Identify and partner with local community-based organizations with connections to low-income communities of color to assist in development of the electrification strategy.

To implement CAP programs related to equitably electrifying existing buildings, staff is preparing the Existing Building Electrification Roadmap which will cover the following:

- Equitable electrification in Hayward
- Benefits of electrification
- Community concerns
- Cost & technical analysis
- Education, incentives and potential requirements
- Recommended actions for residents

On March 13, 2023², Staff presented to the CSC options for spending the \$197,040 the City will receive through the EECBG program. The CSC recommended that the funds be used to help prepare the Existing Building Electrification Roadmap and to convert streetlights to energy efficient LEDs. Of the \$197,040, \$97,040 will be allocated to technical assistance for the Existing Building Electrification Roadmap.

In December 2023, Staff partnered with the LCEA and CSUEB to conduct outreach to Spanish-speaking residents on existing building electrification. The partnership addresses CAP Actions BE-2.8 and 2.10 and assisted with the outreach portion of the electrification roadmap. Surveys conducted by the CSUEB students revealed that many community members are interested in learning more about building electrification and how the City can assist in the process. Community members also expressed concerns about the impact of building electrification on their homes, such as the potential for increases in rent and energy bills due to the transition to electric appliances.

The LCEA is a non-profit organization focused on promoting clean energy and environmental justice and was a key organizing entity during the formation of East Bay Community Energy, now Ava Community Energy. The LCEA also supported City staff with community engagement during preparation of the updated CAP in 2022 and 2023.

DISCUSSION

The DOE recently designated the National Renewable Energy Laboratory (NREL) to provide technical assistance for development of Hayward's Existing Building Electrification

² <https://hayward.legistar.com/LegislationDetail.aspx?ID=6058174&GUID=DA9115BB-9DE5-4351-BFEE-23BFF314E514&Options=&Search=>

Roadmap. NREL will assist staff with the analysis called for in CAP Action BE-2.5 and inform the Cost and Technical Analysis portion of the Existing Building Electrification Roadmap. The cost analysis and case studies will also assist in educating the public regarding building electrification and addressing the public's concerns regarding potential cost increases to their utility bills. NREL provided staff with a draft scope of work (Attachment II) including several projects and indicated they can complete two to three projects with the \$97,040 budget. The options included holding a community workshop, which staff can do without NREL assistance, and organizing a bulk purchase of electric appliances, which staff feels would be more appropriate at a county or regional scale. Staff is recommending the following three projects:

1. Replacement Cost Differences: Working with a local community organization, NREL will validate the average upfront cost of installing electric versus natural gas appliances. This will be done through a variety of scenarios. For example, a simple replacement compared to a replacement that would require an electric panel upgrade.
2. Operating Cost Differences: Working with a local community organization, NREL will validate the average operating cost difference between electric and natural gas appliances across various scenarios. For example, daily usage, weekly usage, or appliances used by different occupants.
3. Case Study Flyer or Video: NREL can assist in creating case studies from existing homes that have already installed electric appliances. The study will examine energy costs before and after the installation of electric appliances, along with a follow-up interview with the owner. The studies will focus on homes within Hayward or those comparable to homes in Hayward. The studies will include various types of homes, such as different sizes, occupancy types, and demographic characteristics.

Staff met with NREL on December 13, 2024, and emphasized the need for accurate equipment and operating costs, especially in light of escalating electricity rates. LCEA and CSUEB are both interested in partnering with the City to continue community outreach on home electrification. Staff intends to include the cost information and case studies prepared by NREL in outreach materials that may be disseminated by LCEA and CSUEB students. Staff is seeking the CSC's comments on the above scope of work.

Building Performance Standards

Staff intends to complete the Existing Building Electrification Roadmap such that it will only apply to single-family and smaller multi-family homes. Commercial larger multi-family and buildings will likely be addressed through a Building Performance Standard (BPS) program. At the CSC meeting March 11, 2024³, staff presented a Department of Energy (DOE) grant application co-led by the City and County of San Francisco and City of Berkeley. The DOE grant was successful, and staff intends to work with San Francisco, Berkeley and other Bay

³ <https://hayward.legistar.com/LegislationDetail.aspx?ID=6569389&GUID=81BCA5CD-E26F-49F3-AD66-AED51B08A211&Options=&Search=>

Area jurisdictions to explore a possible program that could require GHG emissions reductions over time for multi-family and commercial buildings. In addition, the California Energy Commission (CEC) is developing a statewide Building Energy Performance Strategy Report, as required by Senate Bill 48⁴. The report will “develop a strategy for using the benchmarking data to track and manage the energy usage and emissions of greenhouse gases of covered buildings in order to achieve the state’s goals, targets, and standards related to energy usage and emissions of greenhouse gases of covered buildings.” The Building Energy Performance Strategy report is scheduled to be completed by summer 2026.

ECONOMIC IMPACT

More information on economic impacts will be provided after NREL completes the cost analysis and case studies for existing building electrification.

FISCAL IMPACT

This project will not impact the City’s General Fund. The CSUEB students who conducted outreach in the spring of 2024 were provided stipends by LCEA with grant funds. The grant funds also allowed the students to provide gift cards to survey participants. Staff will use \$97,040 from the federal Energy Efficiency and Conservation Block Grant program to support completion of the Existing Building Electrification Roadmap.

STRATEGIC ROADMAP

This agenda item supports the Strategic Priority to *Confront Climate Crisis & Champion Environmental Justice*, and specifically relates to implementation of the following Project under that heading:

Reduce Greenhouse Gases and Dependency on Fossil Fuels:

Project C1: Implement Year 1 Programs from the adopted GHG Roadmap (Climate Action Plan).

SUSTAINABILITY FEATURES

GHG emissions from natural gas appliances account for more than a quarter of the City’s emissions. Switching appliances from gas to electric will reduce emissions and is critical to achieving the City’s long term GHG reduction goals.

PUBLIC CONTACT

Building electrification outreach and education were performed by six bilingual students from CSUEB that were selected from the Department of Public Health for a paid internship to survey Spanish-speaking residents on building electrification. From December 2023 to

⁴ [Senate Bill No. 48](#)

April 2024, CSUEB interns were introduced to building electrification and how to conduct community surveys. In February, students began surveying at bus stops, BART stations, churches, and other community spaces. The students reported that participants were generally eager to talk with them about electrification. Students approached Spanish speakers in Spanish and positioned themselves as students collecting information on behalf of the City.

By April of 2024, the students had collected 395 responses from participants concerning prior knowledge of home electrification, use of gas-powered appliances in their homes, whether they rent or own their homes, and what the City can do to help residents electrify. Following these questions, participants were given a \$5 gift card and asked if they would be interested in participating in a focus group. Most participants (88.3%) were renters and 10.4% of participants were homeowners. Of the participants who rent, the majority rent apartments. Fewer than 10 participants had non-gas appliances in their homes and more than 60 participants had never heard of electrification. Of the participants that had heard of electrification, they learned about it through their jobs as construction workers, or as homeowners being solicited by solar companies to purchase solar panels.

The largest concern expressed by participants is the financial burden of electrification. Specifically, respondents said that landlords would increase rent because of home electrification investments. The second-largest concern is that electricity bills will increase, which is compounded by rising electricity rates. Tenant protections arose as a potential safeguard to keep landlords from passing costs of electrification onto renters and reduce financial burden.

There were also questions about the efficiency and practicality of electric appliances. Participants noted that despite efforts to lower energy usage by purchasing ENERGY STAR electric appliances, their monthly electricity bill continues to increase. Although higher electricity bills are due to rate increases and not necessarily due to increased electricity use, this correlation has led to hesitation and distrust in certain electric appliances such as water heaters and stovetops.

Despite community concerns, the willingness to participate and interest in learning more about electrification was high. As public health majors at CSUEB, the students discussed with participants the health impacts to indoor air quality and asthma that are associated with gas appliances. Participants widely reported that they would like to limit their carbon footprint, help the environment, and increase home health. They were also interested in learning more and expressed interest in attending a focus group.

The students, LCEA, and City staff hosted two focus group meetings on April 26 and 27, 2024. To reach a wider range of participants, one focus group was hosted at Hayward City Hall, and one was held at the Weekes branch library in South Hayward. The two meetings were conducted almost entirely in Spanish and had a total of five participants who were all renters. The most prevalent concerns were: 1) lack of support from landlords or property management concerning maintenance and repairs; and 2) frustration regarding landlords'

reluctance to address repairs promptly or their restrictions on tenant-initiated improvements.

NEXT STEPS

Staff will work with NREL to prepare cost analyses and case studies for the Existing Building Electrification Roadmap. Past surveys have shown strong public interest in receiving more information and resources on electrification. Staff will continue partnering with LCEA and CSUEB to explore best practices and provide ongoing outreach on existing building electrification to the community in Spanish and other languages. The outreach will target individuals who live in and/or own single-family homes and town homes.

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