

CITY OF SAN JOSE - REPLACE-ON-BURNOUT POLICY

FREQUENTLY ASKED QUESTIONS

1. What does a “Replace-on-Burnout” policy do?

A Replace-on-Burnout (RBO) policy requires natural gas appliances to be replaced with electric substitutes when the gas appliance is no longer operable. A Replace-on-Burnout (RBO) policy requires replacing natural gas appliances with electric substitutes at the time of system replacement. A natural gas system replacement is required when appliance is no longer operational or being upgraded. A RBO could be designed in many ways, such as being phased in over time, by sectors (e.g., residential, commercial), and/or by appliance type (gas stoves or water heaters). This policy would likely be implemented at the time of City permitting. The research, analysis, and community engagement conducted for the RBO policy focused on replacing gas water heaters and furnaces with heat pump water and space heating appliances. **There are no current policies nor appliance replacement requirements being proposed at this time.**

2. Why is the City exploring this policy?

Energy usage in buildings, primarily from natural gas, is the second largest source of community-wide greenhouse gas emissions in San José. The primary component of natural gas is methane, a greenhouse gas that is [20 times more potent](#) at trapping heat in our atmosphere than carbon dioxide. Residential buildings ranks in the top use [63 percent](#) of the natural gas use in the city, with space and water heating comprising approximately 90 percent of residential natural gas emissions. In order to address our local emissions, in 2019 the City mandated new residential construction to be all-electric and extended that to all building types in 2020. In 2022, Council adopted the [Pathway to Carbon Neutrality by 2030](#) which acknowledges building electrification as one of the four primary focuses to accelerate the City’s greenhouse gas reduction efforts.

3. Is San José proposing an RBO?

Currently, City staff are not proposing an RBO policy. In April 2022, Council directed City staff to conduct research, analysis, and community stakeholder engagement on the prospect of a [Replace-on-Burnout Ordinance](#) policy. City staff are currently scheduled to present these findings at the January 24, 2023, City Council meeting.

4. What did the City analyze related to an RBO?

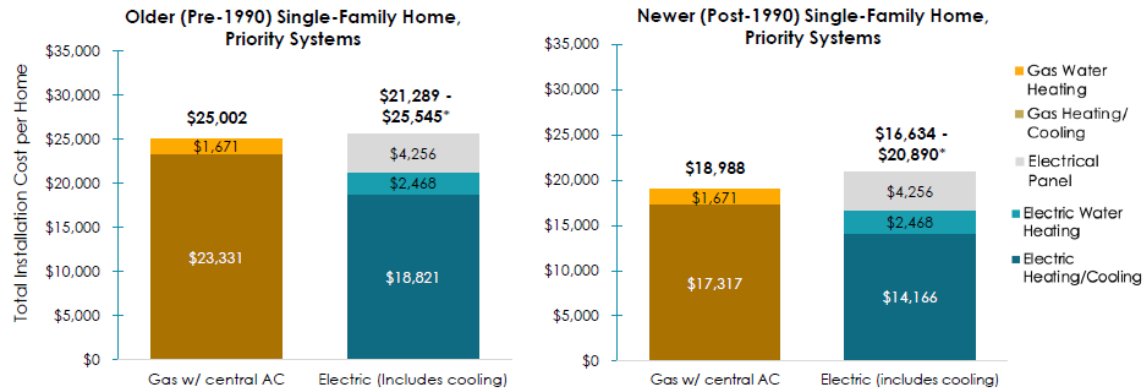
Based on the direction of Council, City staff analyzed the potential barriers and solutions for replacing gas water heaters and furnaces with electric systems. This includes replacing gas appliances with heat pump water heaters and heating, ventilation, and air conditioning (HVAC) appliances.

5. What can a resident expect to pay for space and water heating and cooling upgrades and any supplemental costs?

The Building Electrification Institute (BEI) completed a single-family and multi-family buildings cost analysis for the City during their work on the [Framework for Existing Building Electrification](#).

Installation Costs | Single-Family Homes with Central A/C

Assuming a single-family home installs central cooling, the installation cost for priority systems (HVAC and hot water) are comparable to a retrofit to new gas equipment plus central cooling.*

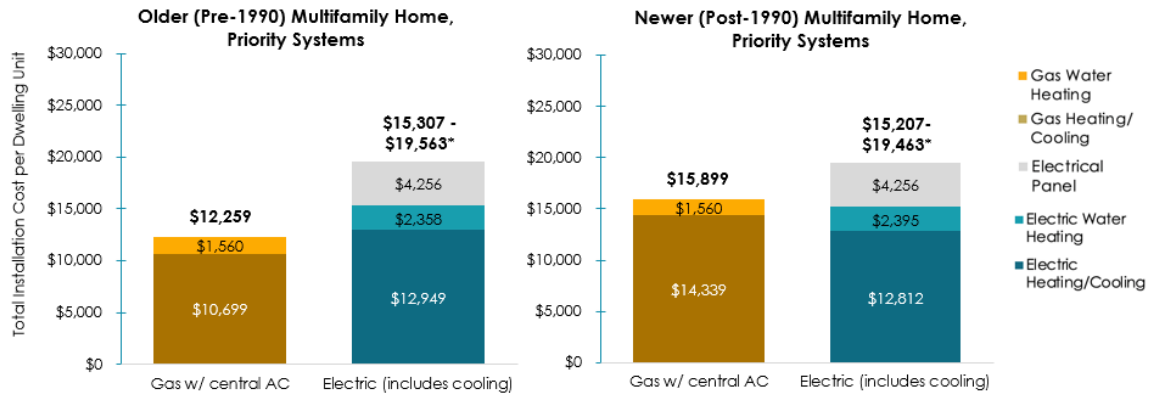


*Notes: HVAC and hot water systems make up the majority of both energy use and installation costs. The higher end of the range includes the cost of an electric panel upgrade, which is likely to be required in homes that currently use gas for both heating and hot water. However, this may not be necessary in all cases and should be determined with a licensed contractor.

For a single-family home, installing electric water heating technology can cost between \$2,500 and \$22,000 for both (water heating plus HVAC) per unit. This is about 14% - 17% less than installing a natural gas water heater or furnace with central air conditioning. A heat pump water heater can save a family of four an estimated [\\$470 per year](#) on their electricity bills. A heat pump HVAC system is estimated to save families [20-70%](#) on their annual heating and cooling bills.

Installation Costs | Low-rise Multifamily with Central A/C

The installation cost for priority systems (HVAC and hot water) in a multifamily home could roughly break even or cost up to \$7,000 higher than a retrofit to new gas equipment plus central cooling.



*Note: HVAC and hot water systems make up the majority of both energy use and installation costs. The higher end of the range includes the cost of an electric panel upgrade, which is likely to be required in homes that currently use gas for both heating and hot water. However, this may not be necessary in all cases and should be determined with a licensed contractor.

For multi-family homes, installing electric water heating technology can cost between \$2,400 and \$15,000 for both (water heating plus HVAC) per unit. This is about 17% - 35% less than installing a natural gas furnace with central air conditioning or a natural gas water heater. Using existing and upcoming [funding opportunities](#) can help to lower the cost of upgrades. Supplemental costs can vary based on the unique characteristics of buildings. For these reasons,

providing clear estimates for the upfront costs of upgrades, is difficult. We recommend reaching out to a local contractor to receive estimates for a specific building. [TECH Clean California](#) has a free tool for estimating heat pump water heater and HVAC projects for different housing types. Residents can also choose to meet with a BayREN, a [Home Energy Advisor](#), for a free consultation on the best approach to take to complete an upgrade project. For a more in-depth analysis of a home's energy system and cost estimates for upgrades, residents can have a home energy audit completed and receive a credit of up to \$150 through the Inflation Reduction Act.

6. What funding is available to help with the upfront and supplemental costs for these upgrades?

The City provides [up-to-date funding opportunities](#) on the Climate Smart website.

7. Does the City's permitting process ensure a quick turnaround time for the installation of these new electric appliances?

Save time and money by using the City's [online permit service and informational bulletin](#) which detail the requirements for installation. To provide a streamlined permitting process, the City will explore the creation of an electrification help desk with staff dedicated to assisting residents throughout the permit process.

8. How is grid reliability improved from electric appliance upgrades?

As buildings continue to electrify, there will likely be an increase in the demand for electricity. Meeting this new demand will require utilizing our existing supply more efficiently by incorporating additional energy-efficient behavioral measures and techniques in homes and buildings. Energy-efficient, electric appliances use less electricity and therefore place less stress on the grid. On average, heat pump water heaters are [7 times more efficient](#) than conventional gas water heaters. Heat pump HVAC can [reduce your energy use by 50%](#) more than a conventional furnace. When these energy efficient heat pump technologies are enrolled in Demand Response (DR) programs and are coupled with onsite solar and energy storage, less stress is placed on the grid. Through DR programs, customers can get paid to decrease their electricity use during high peak times or shift their usage to times of the day where renewable energy is more plentiful on the grid. There are two main types of DR programs:

- a) behavioral, where the customer changes their behavior in response to price signals or an event, such as a grid emergency, and
- b) automated, where their appliances or devices are automatically adjusted by a third party over Wi-fi or other remote connection, also in response to an event or price signals.

9. How clean is San José's electricity?

[San José Clean Energy](#) (SJCE) is the local electricity provider operated by the City of San José. SJCE sources the energy that PG&E delivers over its poles and wires to San José homes and businesses. San José residents receive carbon free energy that is not sourced from fossil fuels. When replacing your gas appliances with electric alternatives, power is drawn from clean sources eliminating the contribution to greenhouse gas emissions. SJCE is on track to meet San José's carbon neutrality by 2030 goal and offered 99% carbon-free energy in 2021. Customers

can choose to upgrade their electricity service to TotalGreen to power their home or business with 100% renewable and carbon-free energy. To meet customer demand for renewable energy, San José Clean Energy has invested more than \$1 Billion in new solar, wind, geothermal, and short and long-duration energy storage.