

City of Alameda

Multi-Family Residential Buildings Summary Survey



October 2022



Summary of Results

The City of Alameda conducted a survey in July 2022 to better understand barriers and opportunities for electrification and decarbonization of multi-family residential buildings in Alameda and the building characteristics as it relates to electrifying multifamily housing. This understanding will allow the City to provide better support for multi-family building owners and ease the process of electrification. The survey was sent to all building owners and managers in Alameda registered through the Alameda Rent Program. A total of 41 owners and managers responded to the survey and their answers and responses are summarized below. *Note: Not all respondents answered each question so total responses per question may vary.*

A brief overview of the data and findings of the study is summarized below and further details and charts for each question can be found on the following pages of this document.

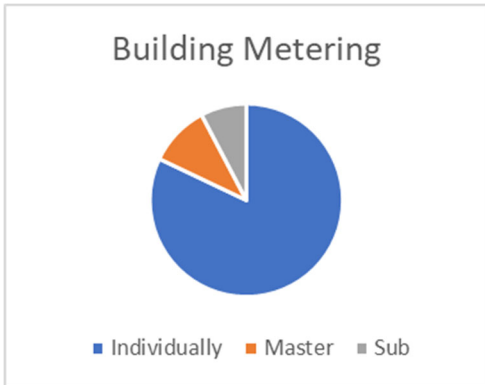
- The majority of the buildings surveyed were built before 1950 and only two have been built since 2000.
- The median age of the buildings in this survey is 1919 with 13 built before 1900.
- Over 80 percent of buildings surveyed are individually metered and the most common panel size is 100-amps.
- The majority of appliances in the surveyed buildings are gas-fueled. Nearly 75 percent of stoves, over 90 percent of water heaters, just under 90 percent of heating systems, and 60 percent of clothes dryers were reported as being gas fueled. Similarly, when owners/managers purchase new replacement appliances, they are often turning to gas options rather than electric – the only exception being clothes dryers, however this may change as new technology becomes more familiar, financial incentives becomes available, and new laws come into effect.
- Most appliances in these buildings are approaching the end of their lifespan. Heating systems and water heaters in particular appear to be appliances that are most likely to be soon replaced.
- Many owners/managers have already made energy efficiency and weatherization improvements to their properties, primarily with LED light bulbs, dual pane windows, wall and attic insulation, and weather-stripping doors and windows. Less than 10 percent of respondents already have solar panels on their buildings although another 50 percent said their building's roof can accommodate a future solar panel installation.
- The greatest barrier for converting to an all-electric household is the cost of the project, according to the survey. Concerns about electrical panel and electrical service capacity, physical space constraints, and concerns about power outages were also cited as major barriers. Further education can support these owners in feeling more comfortable and knowledgeable about making the switch to electric appliances.
- Owners/managers said that further financial assistance would be the greatest support for converting more appliances to electric, along with measures such as technical assistance for landlords, more information on the benefits of converting, and access to a database of trained, certified contractors.
- In addition to financial assistance, many respondents asked for technical assistance with the entire process, further training on the benefits of all-electric appliances, workshops and case studies on electrification in multi-family housing, and educational sessions for their own tenants.

Housing Stock and Ownership

30 respondents own or manage one building, nine respondents own two, one respondent owns three, and one respondent owns six. The square footage of the buildings varied from 350 to over 10,000 and the number of units owned/managed ranged from one to 52.

The buildings were constructed between 1875 and 2007, with a median age of 1919. Of the 36 responses that listed their building's age, 26 were built before 1950 and only two were built since 2000.

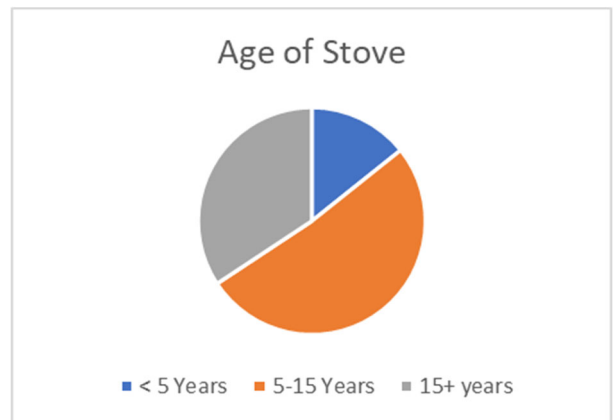
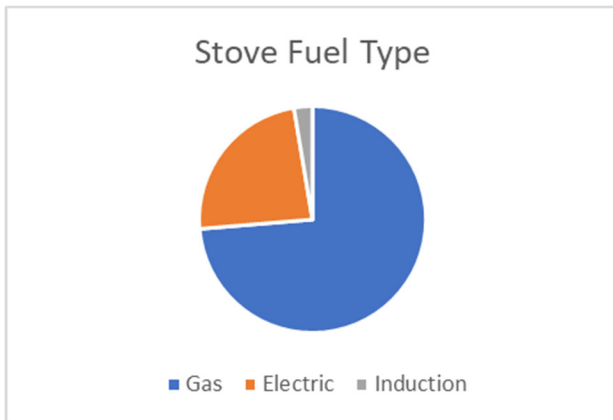
Electric Panel Metering



The majority of surveyed buildings are individually metered (82 percent), meaning most tenants pay their own electric bills and will be the direct beneficiary of energy savings. 39 percent of owners/managers do not know their panel specifications, however, the most common reported panel size is 100-amps. The three buildings with master meters have panel sizes of 100-amps, 200-amps, and one respondent selected “This building has one centralized panel”. Most respondents (43 percent) do not know the size of the electrical service going into the building, which presents opportunities for education on the subject. The remaining 57 percent reported single-phase 240V service.

Kitchen Stoves

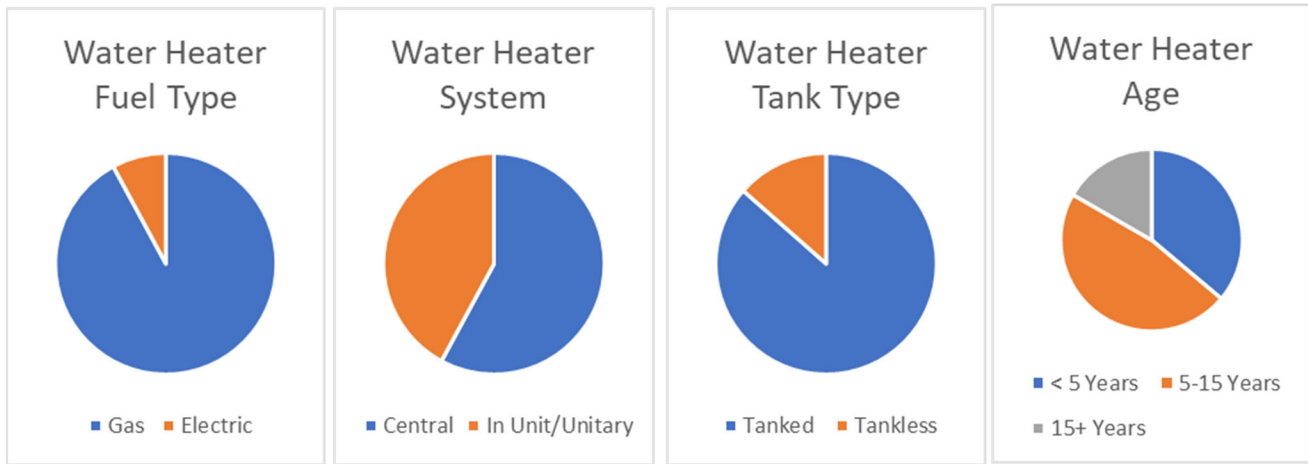
Nearly 75 percent of buildings surveyed have gas-fueled stoves and many are over 15 years old and nearing the end of their life. Half of the stoves surveyed are between five and 15 years old, 33 percent are over 15 years old and are likely approaching the end of their lifespan, and 17 percent of buildings have stoves less than five years old. Notably, five of the six newer stoves in this category are gas-fueled, implying owners/managers are not trending towards converting from gas to electric stoves when making new purchases. Education on rebates and other health benefits of induction electric benefits is needed to encourage replacing old stoves with induction as stoves need replacement.



Water Heaters

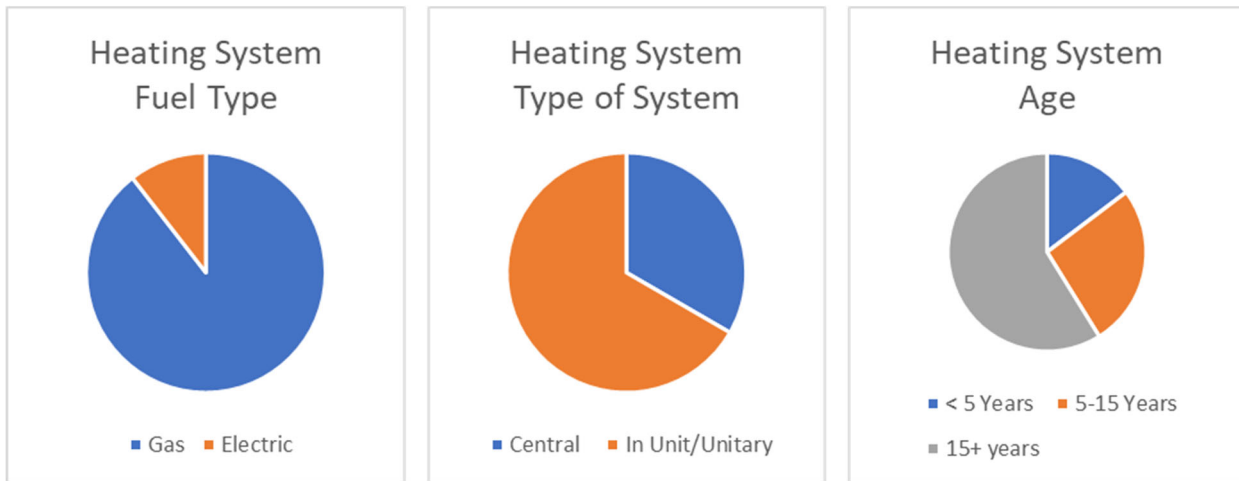
92 percent of buildings surveyed have gas-fueled water heaters. Similar to stoves, when water heaters are failing, owners/managers are opting to purchase gas models instead of electric as 12 of the 13 water heaters in the survey less than five years old are gas-fueled.

For residential customers, AMP provides a \$1,500 rebate for the installation of an Energy Star electric heat pump water heater. For commercial customers, AMP provides \$4,000 in cash rebates for an 80 to 120 gallon heat pump water or up to \$1,500 for a 50 to 80 gallon unit and state and federal incentives may also soon be available. Due to the relatively shorter lifespan of water heaters (8-12 years) compared to some other appliances, proactive efforts should be made in the short term to educate building owners/managers about the benefits and rebates for switching from gas to electric water heaters. Additionally, the City could examine the prospect of a temporary water heater loaner program to address the needs of the tenants during an unplanned outage while providing owners/managers time to make the necessary work for an electric transition. The State of California has banned the sale of gas-fired residential water heater systems after 2030 and owners/managers will need support in making the switch to electric ones, even before 2030. The City and AMP can provide additional education about heat pump alternatives and preparing the necessary electric wiring. In many cases, with smart planning, a panel upgrade can be avoided.



Heating and Cooling Systems

Just under 90 percent of surveyed buildings have gas-powered heating systems. 54 percent of these systems are 15 years or older and likely approaching the end of their lifespan. 31 percent are central heating systems. More than 90 percent of buildings surveyed do not have air conditioning, however heat pump HVAC systems also provide cooling, offering an opportunity to make many apartments more comfortable during increasing high heat days.



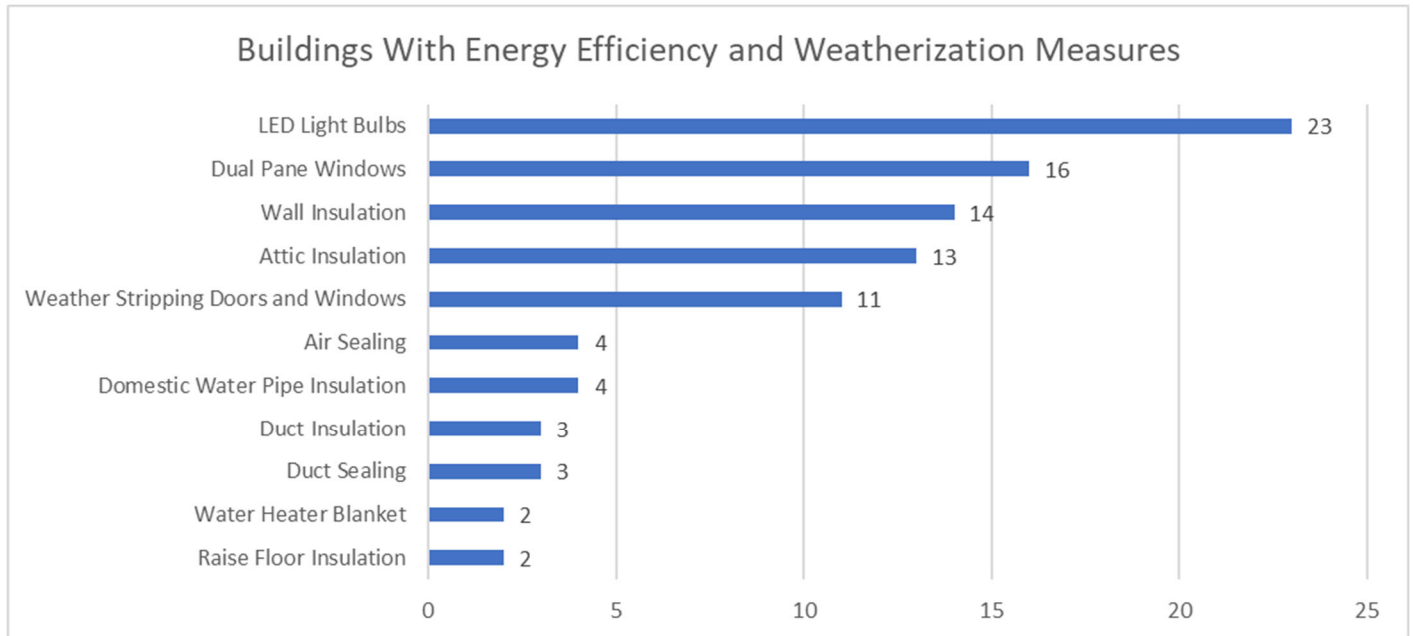
The State of California has also banned the sale of gas-fired HVAC systems after 2030 and owners/managers will need support in making the switch to electric ones, even before 2030. AMP currently offers a \$1,500 rebate for electric heat pumps as well as other appliances, and federal tax credits will also soon be available. Heating systems are the most complex and costly appliance to transition from gas to electric so providing additional support to owners/managers in this area may be vital. Additional rebates and tax credits through the Inflation Reduction Act will also make these transitions more affordable in coming years. The City and AMP can provide additional education about heat pump alternatives and preparing the necessary electric wiring. In many cases, with smart planning, a panel upgrade can be avoided.

Clothes Dryers

Clothes dryers are an area where a complete conversion to electric options is feasible in the near term. 84 percent (32 of 38) of buildings have dryers on property and electric dryers are more prevalent in buildings than any other appliance addressed in this survey (41 percent). Electric dryers are often less expensive to purchase than gas dryers, especially given AMP’s \$100 rebate for electric models, and installation does not necessarily require a technician as gas models might in order to prevent gas leaks. As most dryers are in unit (66 percent) and most units are individually metered, building owners/managers are unlikely to incur further additional charges for transitioning from gas to electric post-installation. In addition, renters may also be supportive of the transition for both environmental and health reasons, particularly eliminating the potential for carbon monoxide leaks from a gas dryer.

Energy Efficiency and Weatherization Measures

The following chart displays what measures building owners and managers have taken in their own buildings to improve energy efficiency and weatherization. In total, 33 respondents answered this question.



LED light bulbs are the most common energy efficiency upgrade as over two-thirds of building owners/managers have implemented them in their respective units. This is unsurprising given the affordability, longevity, and energy savings associated with LED bulbs. Dual pane windows are also a common improvement given their heat, cooling,

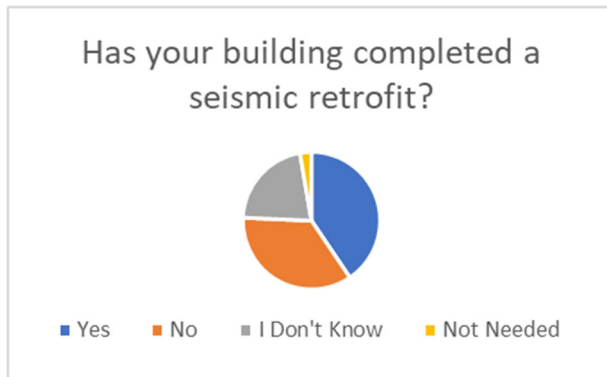
and noise insulating properties that are both beneficial to the owner/manager and tenant. At least one-third of respondents have also implemented wall and attic insulation as well as weather stripping on doors and windows.

Beginning in 2023, the federal government will begin offering tax credits for efficiency upgrades through the Inflation Reduction Act, including insulation and dual pane windows, in addition to several other incentives. These rebates will be in addition to local and state incentives to encourage further upgrades in rental properties.

Seismic Retrofitting

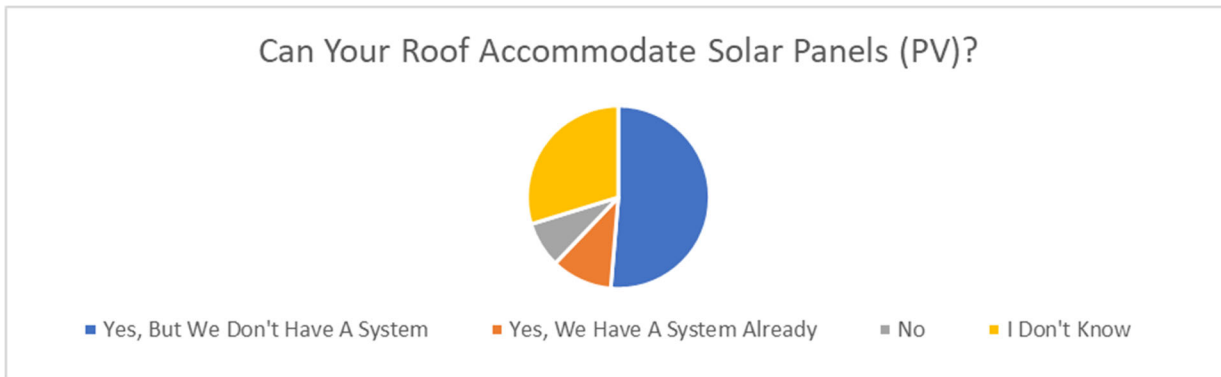
15 of 37 respondents said their building had completed a seismic retrofit, 13 said their building had not completed a retrofit, eight responded they did not know, and one respondent said it was not needed.

For those who had not completed a seismic retrofit, the most common reason was cost. Seismic retrofitting is important to not only protect housing availability and tenants' safety, but to protect owners' investments in their property. The City should work with owners to address seismic deficiencies to support energy efficiency and electrification.



Solar Panels (PV)

11 percent of buildings surveyed currently have solar systems installed. Over half (19) of the surveyed buildings do not have solar but believe their roof could support solar panels. Over a quarter of building owners/managers (11 of 37) are unsure if their building could support solar panels on their roof.



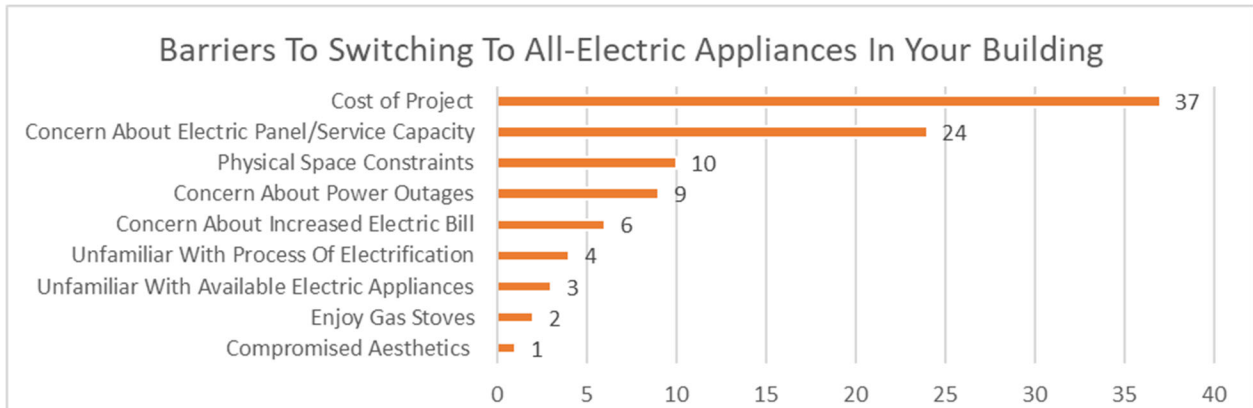
The City of Alameda is streamlining the solar permitting process and will begin issuing instant permits for certain solar systems. The federal government currently has tax incentives to promote the installation of solar panels and AMP also provides a credit to solar panel owners for any excess energy they provide for the grid.

Building Upgrades

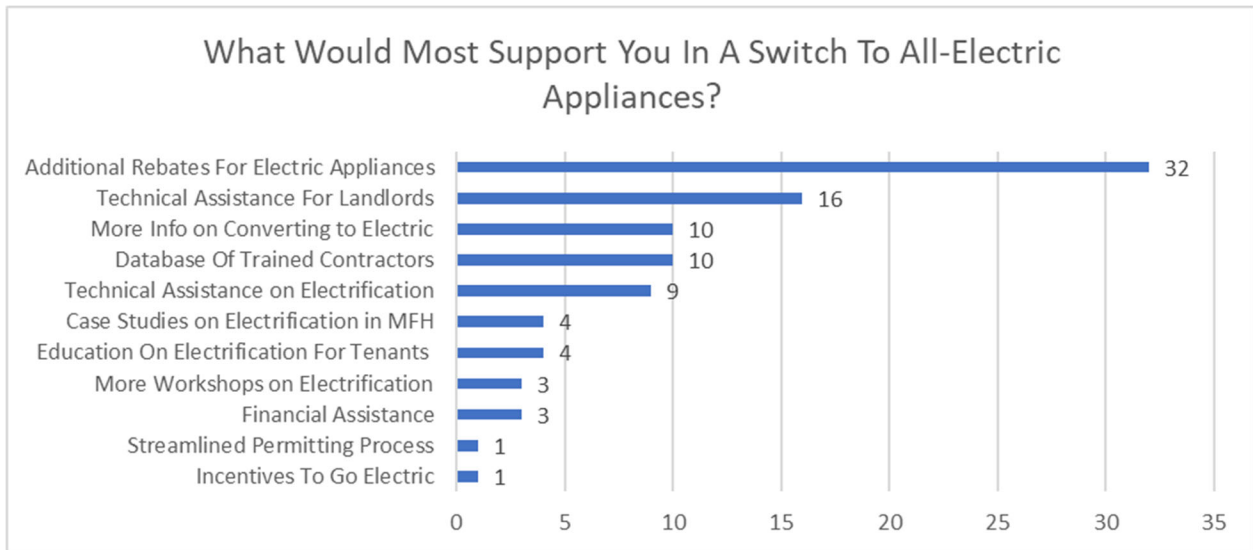
The majority of respondents (59 percent) said they are not planning to make any major upgrades (seismic, electrical, mechanical, etc.) to their building in the next five years. 19 percent (7 of 37) are planning to make upgrades, and the remainder are unsure. Of those who are planning upgrades, roofing and general upgrades were the most commonly noted improvements.



Owners indicated that the biggest barrier to switching to electric appliances is the cost and concerns about electric panel and or service capacity. Physical space constraints, concerns about power outages and increased utility bills were also significant concerns. Future education and outreach should specifically focus on these issues for owners.



Respondents reported that additional rebates and technical assistance would most support them in switching to electric appliances. More information generally about electric appliances and a list of trained contractors would also be of significant support.



Additional Comments

The final question of the survey asked “What else can the City/AMP do to support your home electrification journey?” Virtually all of the responses were related to cost or compensation in regards to the project. Some owners/managers would like the City to help with a portion of the project cost while others would like the City to pay the entire cost of conversion. Other respondents asked for financial assistance in the form of expanded and more accessible rebates, tax relief for converting, or ability to increase rents to subsidize cost. One response noted that if tenants are paying the entire utility bill, there is little incentive for landlords to front the money to switch to electric appliances.