

Frequently Asked Questions

Regarding Proposed Reach Codes

Piedmont Amendments to the California Building & Energy Codes

The FAQs are sectioned into the following categories. To jump directly to a section, click on section title.

[General Questions](#)

[New Housing Units](#)

[General Alterations](#)

[Roofing and Solar Panels](#)

[Furnace and Space Heating Systems](#)

[Kitchen and Bathroom Remodels](#)

[Landscape Improvements](#)

General Questions

Q-1: What is this Climate Action Plan 2.0? Where did the emissions reduction goals come from?

A: Piedmont's original Climate Action Plan was adopted in 2010 and set a GHG emissions reduction goal for the year 2020. The City developed and adopted its second version of its Climate Action Plan (CAP) in 2018, which City Council adopted unanimously. The CAP 2.0 states that "climate change is a human-induced global crisis that is currently causing environmental and social misfortune. Ever mindful of the consequences this crisis poses for future generations, the residents of Piedmont recognize that we must all take action to reduce greenhouse gas (GHG) emissions through electrifying homes, driving gasoline cars less, purchasing goods and services responsibly and more. By acting locally, our small city can make a contribution to a worldwide effort." The purpose of the CAP 2.0 is to support current statewide climate efforts, by providing a pathway for Piedmont to reduce annual in-territory GHG emissions 40% below 2005 levels by 2030 and 80% below 2005 levels by 2050. In 2018, Piedmont's in-territory emissions totaled 34,340 metric tons of CO₂ equivalent, a 26% reduction relative to 2005 levels; however, as of now the community has achieved most of the emission reduction through "low hanging fruit" such as warmer winters and the 2018 switch to 100% renewable energy. The community will have to take significant action, such as amending the City's building codes, to meet the CAP 2.0's 2050 emissions reduction goal.

Q-2: How much public engagement for the proposed reach codes did city staff provide before bringing them to the City Council?

A: On January 29, 2020, staff hosted a town hall style "Reach Code Forum" at Community Hall to present the initial Reach Code concepts and receive community comments and recommendations. In February, staff held four follow up "focus group" style public engagement meetings with residents, business owners and contractors to continue discussing possible code ideas and get more detailed feedback. Staff also consulted with the firm FM3 to create a survey to evaluate residents' opinions on potential Reach Codes. The survey was publicly available to be completed from early February to mid-March. The survey was sent out to multiple City email lists, posted on social media, and uploaded to the city website. 186

people participated. The public comments and responses gained through the forum, focus groups and survey were quite informative and led to a revised set of reach codes that were publicized in June 2020. In order to determine if Council and the public could have confidence that the proposed Reach Codes are the right choice for the community, staff engaged opinion research firm FM3 to carry out a random-sample public survey in June to assess the community's opinions on the proposed reach codes along with other climate action topics and measures. That survey of approximately 400 Piedmont voters found that 72% of Piedmonters believe that immediate action is necessary to respond to climate change and that two-thirds (66%) support revising the City's building codes to reduce natural gas use.

Q-3: Is it true that I am more vulnerable during power outages if my home has all electric rather than natural gas appliances?

A: No. You are virtually in the same circumstance during a power outage having either of the two types of appliances. Many natural gas appliances also require electricity to run fans, motors and electronic ignitions. For this reason, most natural gas appliances will not work properly in a power outage. Some gas appliances can light with matches, but it is important to remember that gas lines can also be cut off entirely during an emergency.

The City partners with East Bay Community Energy (EBCE) to offer residents a fully renewable energy portfolio. The group also offers consultations to determine if a backup solar or battery system would be the right decision for residential customers.

Q-4: Why is the City focusing on changes in residential areas instead of businesses or larger utilities?

A: The City is pursuing a change in the building code in order to meet the Climate Action Plan goals passed in 2018. Piedmont uses a method of Greenhouse Gas inventory that focuses on emissions coming from within the city limits. Although focusing on utilities and businesses is tempting, they don't produce a large percentage of GHG within the city. One of Piedmont's largest sources of GHG emissions is natural gas stemming from homes. The City decided to initiate its efforts to reduce emissions from buildings by focusing on residential buildings as they make up a much larger percentage of community emissions. The next step is to develop regulations for the reduction of emissions from commercial and civic buildings.

Q-5: Why doesn't the City offer tax incentives or lower permit fees instead of this proposed code?

A: The City relies on taxes in order to offer services and infrastructure that Piedmonters enjoy every day. Lowering taxes could encourage some people to make the necessary changes, but it would also remove City services that residents rely on. These changes must happen if Piedmont is going to reach its climate goals, and the proposed method is designed to bring about the necessary changes without unnecessarily burdening households or reducing City services.

Q-6: How much is this proposed change going to cost me?

A: As with so many things, the answer depends! The proposed code will only come into effect if a renovation project costs over \$25,000. Only 22% of projects currently exceed this threshold. The requirements are designed to offer residents a range of options to meet all budgets. The options include installing attic insulation, replacing all incandescent bulbs with LED bulbs, or completing a home energy audit or home energy score and implementing at least one recommendation from the resulting report. These options are not expected to significantly add to a projects up front cost, while still offering sustained savings over the longer term.

Q-7: Isn't electricity more expensive than natural gas? Is this going to make my monthly electricity bill increase drastically?

A: Comparing electricity and natural gas rates is difficult, especially when the future of gas is far from certain. However, the energy savings brought about by a switch to electricity is typically assumed to bring about long term savings, something that natural gas is unlikely to provide. Additionally, natural gas prices are predicted to increase in the near future, something that a switch to electric will protect CA homeowners from.

The expected change in price due to more electrical appliances is expected to be small and should not have a noticeable effect on monthly electric bills. For an in-depth guide to [new](#) residential building construction and the expected cost-effectiveness of electrification, [here is a 2019 PG&E report](#).

Q-8: I thought natural gas was a “clean fuel”? Why is Piedmont moving away from it?

A: Natural gas has long been considered a cleaner fuel as compared to other fossil fuels, such as coal and oil. Compared to those fuels, natural gas emits less airborne particle pollution. However, natural gas is made up primarily of methane, a greenhouse gas that captures over 30 times as much heat as an equivalent amount of carbon dioxide (CO₂) molecules. Gas lines can leak, explode, and can lead to fires. Additionally, natural gas escapes from water heaters and stoves when used. Burning natural gas releases carbon monoxide, formaldehyde and other undesirable emissions into homes. City staff is proposing the reach code ordinance in order for the City to meet its greenhouse gas reduction goals, but moving away from gas stoves and other gas appliances can also result in a healthier home.

Q-9: This reach code goes beyond what California state law requires! Is that allowed? Why is Piedmont doing this?

A: Yes, it is allowed. Reach codes “reach” beyond the state minimum requirements provided in the California Building Standards Code. Both the state of California and the city of Piedmont have adopted climate action plans and strategies to reduce greenhouse gas emissions. One of Piedmont’s solutions is the proposed reach codes. Without the proposed reach codes, it is going to be next to impossible to reach the Piedmont community’s emissions reduction targets.

The requirements for “reach codes” include:

- Being at least as stringent as the state code
- Being cost effective
- Approved by the California Energy Commission
- Must be reapproved with each Energy Code Update

Q-10: I have heard the energy upgrades and efficiency improvements in the proposed Reach Code Ordinances are “Cost Effective.” Does that mean they will save me money on my utility bill?

A: Yes. Most of the measures in the Reach Code Ordinance will save you money on your utility bill. There is a wide variety of homes and families in Piedmont, so it is hard to quantify the specific savings for each situation, but staff estimate the cost savings on your utility bill will likely pay back the cost of the improvement fully within about ten years, after which they will continue paying back cost savings. Other FAQ’s and information provided in Attachment 5 on pages 25 and 26 of the [*Draft agenda Report for the 2nd Reading of Ords.750 &751 N.S.*](#) detail estimated energy and cost savings of many of the upgrades and improvements, based on an average Piedmont home.

Staff also had statewide cost-effectiveness analysts conduct official studies on the proposed all-electric new construction, solar panel installation, and renovation insulation/electrification Reach Codes. Like staff, these analysts found that all-electric new buildings, solar panel installation on existing buildings, and improving building insulation will all save homeowners money over a thirty year period.

Additionally, the proposed insulation and energy efficiency improvements are not going to significantly add to your electric bill in the long term. Electrification improvements will likely add to the bill initially, but insulation and efficiency upgrades will reduce the amount of energy your home needs.

Hyperlinks to the cost effectiveness studies underlying the proposed Reach Codes can be found in the Attachments section on page 15 of the [*Agenda Report for the 1st reading of Ords. 750 & 751 N.S*](#) which can be accessed on the City website (under documents).

Q-11: If I switch from natural gas to electric appliances, the amount of electricity I use will increase and that additional electricity will be priced at the costlier tiers. How can I go all-electric without paying for electricity at the higher rates?

A: Electrifying your home will use more electricity, but this increase should be largely offset by the reduction in gas usage. This can depend on household and existing energy improvements, but electrification is more energy efficient, and higher tiers of energy use should not drastically change your bill. Additionally, adding solar panels can help offset any increase in electricity use.

[Return to Top](#)

NEW HOUSING UNITS

Q-12: Why is it important for new housing units to be all-electric, with no natural gas supplied to the home?

A: In 2018, natural gas appliances in Piedmont buildings emitted 14,043 tons of CO₂e. This is approximately 40.89% of Piedmont's annual in-territory emissions and has remained essentially unchanged year-to-year since 2005. The City Council set a total in-territory emissions target of 9,336 tons of CO₂e for the year 2050 to mirror the goal set by the State of California. Even if we miraculously eliminated all emissions from all other sources in Piedmont, including vehicles, solid waste, and water transportation and treatment, we would still need to reduce emissions from natural gas appliances in buildings by 4,707 tons of CO₂e, a reduction of 33.52%, something we have been unable to achieve during the past fifteen years. If Piedmonters are serious about reducing emissions from our building stock, there is an argument to be made that we should reduce emissions whenever possible and avoid adding any new sources of natural gas emissions, including those from buildings, so that the Piedmont community has means to achieve its Climate Action Plan emissions reduction goals.

Q-13: I am planning on building a detached accessory dwelling unit (ADU) in our backyard. My mother is planning on living there. She is a great cook and loves her gas stove. Is it true that we can't install a gas stove in the ADU?

A: Yes. All **new** homes constructed in Piedmont, including new detached ADUs, will be prohibited from having natural gas supplied to them. All the appliances, including the stove, will need to be electric. Many Piedmont residents have switched to induction (electric) stoves and many report great satisfaction with the performance of the appliances. Other cities in Northern California are requiring new buildings to be "all-electric," including Mountain View, Santa Rosa, Palo Alto, Windsor, Los Gatos, Brisbane, Healdsburg, Hayward, San Jose, Menlo Park, San Mateo, Berkeley, Arcata and San Luis Obispo. The intent is for the City to take every reasonable step to reduce emissions related to natural gas use. Otherwise, the Piedmont community will never be able to attain its 2050 emissions target as noted in the answer directly above.

Building a new, all-electric ADU is expected to be less expensive than one with gas. Installing a new gas line can cost thousands of dollars, which an all-electric ADU doesn't require.

Q-14: Do prefabricated homes or ADU's need to comply with the ordinance?

A: Yes, any new low-rise residential building or detached ADU will need to comply with the ordinance whether the building is built on site or at a factory.

[Back to the top](#)

GENERAL ALTERATIONS

Q-15: We are a couple in our 90s who are currently living in assisted living with 24 hr/day care who require a major bathroom modification and upgrade and various other small improvements to make our home habitable and safe so that we are able to move back into it. It is likely that our expenses would exceed the \$25,000 limit. Tagging additional expenses on top of all we are currently paying would be a hardship. How will this work for us?

A: If either of you have a physical disability and the bathroom or other alterations are necessary to accommodate the disability, you can submit a request for Reasonable Accommodation, which provides disabled persons flexibility in the application of land use and zoning regulations and procedures, or even waiving certain requirements, when necessary to eliminate barriers to housing opportunities.

If you don't have a physical disability, you would only need to select one insulation, LED light, or heater electrification improvement from a list of improvement options that could be reasonably included in the scope and cost of your project. Even without the Reach Codes, the current California Building Code requires that building alterations like those you describe include most of the energy efficiency improvements on the Reach Codes list. Furthermore, all the insulation options listed in the proposed renovation Reach Code, as well as the LED light option, are expected to save residents money on energy bills. Savings on utility bills will pay back the upfront cost of the improvement in one to ten years, after which the homeowner will continue to save more money on utility costs. In addition, the insulation and building sealing improvements will make the home more comfortable. They will also reduce your exposure to dangerous pollutants natural gas appliances emit, such as carbon monoxide and fine particulate matter. See the question Q-7 and answer on page 3 for more information on cost effectiveness.

Q-16: I have seen heat pump water heaters (HPWH) range in cost from \$3,000 - \$7,000, depending if they require an electric service upgrade for installation. Are there any rebates available for Piedmonters to help pay for these upgrades?

A: As of June 2020, residents of Piedmont may qualify for up to \$5,000 in energy efficiency upgrades from different sources when bundled together.

- The Bay Area Regional Energy Network (BayREN) offers a \$1,000 Home+ incentive, as well as other local and federal rebates and credits. Learn more on the BayREN website: <https://www.bayrenresidential.org/get-rebates>.
- East Bay Community Energy (EBCE) offers a \$1,000 HPWH incentive. Learn more on the EBCE website: <https://ebce.org/clean-power-appliances/>.
- PG&E provides a \$300 rebate per unit as part of their Save Energy and Money Program. Learn more on their website: https://www.pge.com/en_US/residential/save-energy-money/savings-solutions-and-rebates/rebates-by-product/rebates-by-product.page.

Q-17: Are the heat pump AC units noisy? Is the City doing anything to make it easier to locate the units on our smaller lots?

A: The outdoor condenser units are subject to the same requirements as all outdoor equipment in Piedmont, 50 db maximum measured at the nearest property line. As a part of the Reach code process, City staff contracted with Charles Salter and Associates (CSA), a well-known acoustical engineering firm, to give us advice on noise issues with the AC units. They surveyed noise ordinances in other Bay Area communities. They found that while Piedmont's 50 db limit was at the low end of the range of the survey, it is a reasonable limit. Their conclusion is that the 50 db limit is a good balance between allowing the installation of available equipment and impacts on neighbors. CSA noted that in response to sound ordinances around the country, HVAC manufacturers are working on quieter models.

The current Planning and Building ordinances related to the location and installation of outdoor HVAC equipment have been in place for several years. If the location is more than five feet from the side or rear property line or more than 20 ft from the front property line (outside the setbacks), only a Building Permit is required. The Piedmont Building Code governs the sound requirement. If the location is inside the setbacks, approval is required by the Planning Department. Working the City Staff, Residents have been able to find a location on their property for an HVAC unit that meets the planning guidelines as well as the Building Code requirements. Some residents have decided not to pursue the installation of an HVAC unit because the location that would allow them to meet the sound requirement otherwise compromised the use of their yards. As more and more homes in Piedmont become electrified, City Staff will continue working with contractors, residents and neighbors to facilitate the installation of the exterior equipment.

Q-18: Why does the Ordinance direct many of its provisions at the alteration of existing homes?

A: Houses in Piedmont tend to be well maintained, even those that are more than 100-years-old. So unlike property owners in other jurisdictions, Piedmont homeowners have mostly chosen to retain and modify an existing house rather than tear down the old house and build a new one. Therefore energy efficiency provisions that apply only to the construction of new housing units will have a limited effect on the housing stock in Piedmont. Existing homes must be modified to be more energy efficient and use less natural gas if the City has any chance of meeting our Climate action goals of reducing Green House Gas emissions by 80% by 2050.

Q-19: We have lived in our home since 1974. We live on a fixed income. We have saved up to do a few alterations to our home so we can continue to live here safely, but we're concerned about the extra costs of energy efficiency improvements to our tight budget. Would it be possible to defer the improvements to the next buyer as a part of the sale?

A: If your project has a value of less than \$25,000 your project would not be subject to the Reach Code ordinance. Depending upon the nature of your project it is a good time to discuss with your contractor or architect things you could do as a part of the project that fits into your

budget to increase the energy efficiency of your house. It could save you money on your utility bills and make your home more comfortable to live in. If your project has an estimated value of \$25,000 or more there are several inexpensive options that may be included as part of your project and that have been shown to save energy costs. These low-cost improvements include replacing incandescent light bulbs with LED light bulbs, or weather stripping doors and windows. See the answers to question Q-10 on page 4 and Q-15 on page 6 for more information.

The impetus for the new Reach Codes is to help meet the Climate Action Plan goal to reduce the greenhouse gas emissions of Piedmont homes by 2050 or sooner. Deferring the improvements delays the actions needed to reach the goals. As homes are renovated it is a good time to incorporate energy efficiency improvements into the scope of work. Homes generally aren't renovated more than a few times in a 30 year period, so there won't be that many opportunities to incorporate energy efficiency improvements as a part of a project before 2050.

If the project has a value between \$25,000 and \$100,000 only one improvement needs to be included in the project. Two energy efficiency improvements are required if the project is over \$100,000.

Q-20: Why isn't the City requiring these energy efficiency and electrification improvements when a home is sold to a new owner?

A: The proposed Reach Codes and other amendments to the building codes in the Ordinance apply only when a building permit is issued for a construction project of a specified scope or cost. Normally, there are no building permits issued at the time of sale. The Ordinance does require a Home Energy Score Report or Home Energy Audit Report at the time of sale. Those reports will provide the new owner valuable information on the condition of the home as well as a roadmap for increasing the energy efficiency of the home when they are planning renovations.

Q-21: I am doing a \$10,000 alteration to my home, and I can't afford to significantly increase project costs. Will the Ordinance require an expensive additional expense?

A: No. Under the proposed Ordinance, a home renovation of less than \$25,000 would not be required to include an energy efficiency improvement. If the \$10,000 renovation involves replacing the electrical panel, the Ordinance would require the electrical panel to include space for future electrification (upfront cost \$400). If the renovation included a kitchen or laundry area remodel, the Ordinance would require electrical outlets to be installed in the kitchen/laundry area (upfront cost \$200). These are the only additional requirements for home renovations of less than \$25,000.

Q-22: I have been very diligent about improving the energy efficiency and comfort of my home over the years. I have insulated my attic, had a high efficiency furnace installed and the ducts sealed. We don't have crawlspaces. During the drought we installed low flow fixtures and toilets everywhere and put in a tankless water heater. I have switched all the light bulbs to LED. I would now like to do one last improvement so I can "age in place." I

am going to be bumping out a little space on the ground floor bathroom to put in a shower for \$78,000. Do I have to tear out my fairly new furnace or water heater to put in heat pump units? Do I have to put in solar panels?

A: No. Your addition is less than 30% of the existing roof area, so you do not have to install solar panels. Since you have been so diligent about upgrading your home over the years, all the “low hanging fruit” of energy efficiency improvements have already been implemented. Replacing your water heater or furnace is well beyond the scope of work of your project. There is a section in the Building Code that allows the Building Official to take note of the circumstances of your project and grant modifications for individual cases when the strict letter of the code is impractical and the modification is in compliance with the intent and purpose of the code and the modification does not lessen health and safety requirements.

Q-23: I am upgrading my main electrical service panel from the current 100 amp service to 200 amp service. What do I have to do to meet the requirements of the amended electrical code?

A: Your electrician will perform electrical load calculation to make sure the service panel is adequate for you needs. Under this requirement the electrician will have to include the loads for future electrical appliances such as stoves, furnaces and water heaters. The intent is to make sure your home is ready for electrification. It is fairly simple at this point to include that capacity so you can upgrade your appliances at a future date without having to also upgrade your service panel again.

Q-24: What sort of improvements to increase a home’s energy efficiency are generated when a Home Energy Score or Home Energy Audit are completed?

A: According to Advanced Home Energy, there are several different major energy loss areas that happen in a home. All of these can be improved after home energy audits and visualizing a home’s score. A few examples include duct leakage and insulation, which can all be replaced to dramatically improve in-home air quality amongst other things. Another example is attic insulation, which can be added where none exists or replaced if the home has outdated ineffective insulation. This can keep your home warmer on colder nights and cooler on hot summer days. One last example is energy loss through windows, which can be improved through the installation of weather stripping (a low-cost option), or the replacement of window. There are several other things that can be pointed out during an energy audit, including, but not limited to: energy loss from wall insulation, air leakage, and floor leakage and insulation. More information can be found here: <http://advancedhomeenergy.com/>.

Q-25: Why did the City choose \$25,000 as the trigger point for the Energy Improvement list? Doesn’t that discourage people from getting permits for renovating their homes? Shouldn’t it be \$50,000?

A: To determine the break off points for the improvement categories under Section D of the Ordinance, Staff reviewed the breakdown of the stated Construction Values for projects issued a building permit in recent years. The breakdown is that about 80% of the projects are under \$25,000. 10% are between \$25,000 and \$50,000. 5% have a project cost between \$50,000 and \$100,000. The remaining 5% of projects are above \$100,000.

The \$25,000 value excludes most repair type projects such as roof replacements, furnace replacements, simple bathroom renovations and electrical rewiring, while requiring the largest 20% of renovation projects per year to incorporate a home energy efficiency measures. This is approximately the percentage of renovation projects that must reduce energy use in order for the Piedmont community to make significant progress towards Piedmont's Climate Action Plan 2.0 greenhouse gas emissions reduction goals. Raising the exclusion level to \$50,000 would reduce the number of projects affected by the Ordinance in half, to just 11% of renovation projects. Thus, a \$50,000 threshold would make it unlikely that Piedmont would achieve its emissions reduction goals.

2019 Building Permits:	Percentage of total permits
737 – less than \$25,000 Construction Value	78%
101 – \$25,000 to \$50,000 Construction Value	11%
57 – \$50,000 to \$100,000 Construction Value	6%
<u>48</u> – more than \$100,000 Construction Value	5%
943	

Q-26: I am going to do an extensive renovation of my 1920's home. We are renovating the kitchen, moving the laundry upstairs, creating a playroom in the basement and renovating the bathrooms. Do I have to take out all my gas appliances and go "all electric?"

A: No. Although it would certainly be a great opportunity to reduce your greenhouse gas emissions by upgrading all your appliances to electric models and purchasing 100% carbon free electricity from East Bay Community Energy, the new Ordinance does not require you to do so. The Ordinance does have provisions that make your home ready for conversion to electric appliances. If you upgrade the electric service panel, it must be sized to accommodate new electric appliances. Also your renovated kitchen and laundry room must have electrical outlets installed for a future electric dryer and stove.

[Back to the top](#)

ROOFING AND SOLAR PANELS

Q-27: Are there any exceptions to solar photovoltaic installation requirements?

A: Yes. Under the Ordinance the only renovation projects that are required to install solar panels are projects that add a second story to the house or that increase a house's total roof area 30% or more. However, if your roof installer can provide a document that states that solar access is less than 80 square feet due to shading of existing natural or manmade barriers, PV will not be required. Other exceptions are listed in Attachment 3, page 21, of the *Draft Agenda Report for the 2nd Reading of Ordinances 750 & 751 N.S.* on the [City Website](#).

Q-28: Will the city provide financial incentives for solar panels?

A: Currently the Building Permit Fees for solar systems are a flat \$300 rather than based on the project value as are the fees for other projects. That program will remain in place. The City of Piedmont will continue to participate in the SunShares Program which provides

group discounts on solar energy systems and electric vehicles for residents of the greater Bay Area.

Additionally, EBCE now has a solar & storage program for residential customers in its service area, including Piedmont. You may qualify for preferential pricing with the vendor, SunRun, and an additional \$1,000 incentive if you include a battery. For more information go to the EBCE website: <https://ebce.org/resilient-home/>.

Q-29: Why is the City encouraging the installation of Solar Panels?

A: In 2006 the California Energy Commission was tasked by the Governor to create a regulatory pathway for all new homes to be Zero Net Energy (ZNE) by 2020: to reduce energy use and generate energy with a photovoltaic (PV) system, so the homes generate as much energy as they use. More generally, the state of California has embraced roof top PV systems as a means to increase the amount of renewable energy generated in California and, when paired with batteries, to provide backup power in case of a power outage. Batteries are currently expensive, but both the state and regional agencies such as the Bay Area Regional Energy Network (BayREN) and East Bay Community Energy (EBCE) are developing programs to decrease battery costs.

The 2019 California Energy Code (CEC) moves towards ZNE construction by requiring that all new Low Rise Residential Structures be powered by photovoltaic systems – in most cases, solar systems on residential rooftops. The idea is that as homes are built anew or are torn down and replaced, the newly constructed homes will be built with solar panels. In this way, over time, solar panels will be installed on a large portion of all rooftops in California.

Q-30: What are the benefits to having solar panels other than meeting Piedmont's Climate action goals?

A: Besides helping green the California energy grid and (when paired with a battery) providing backup power in the case of an outage, solar panels also save the owner money over time. Generating your own electricity means that you will be using less from the utility supplier. This will immediately translate to savings on your energy bill. The energy savings generally pay back the upfront costs within 7 to 10 years. After that, solar systems continue to provide monetary savings at no additional cost to the homeowner. Although the upfront cost can be expensive, battery backup systems are also easy to add to a solar system to provide electrical energy during nighttime hours and resilience against Public Safety Power Shutoffs and other outages.

Q-31: I am going to replace the roof material of my home. Will I need to prepare my roof to be solar ready or install solar panels at that time?

A: No, under the Ordinance the only renovation projects that are required to install solar panels are projects that add a second story to the house or have an addition to the house with 30% more roof area.

Q-32: I am going to be replacing the composition shingle roof on my home. The contractor says it is going to cost \$18,000. Do I have to install solar panels on my roof?

A: No. Under the Ordinance the only renovation projects that are required to install solar panels are projects that add an entire new upper level to the house or that increase the house's total roof area by 30% or more.

Q-33: I am going to be taking the Spanish tiles off of my roof, installing new underlayment and reinstalling the tiles. The contractor has given me an estimate of \$87,000. Do I have to install solar panels on my roof?

A: No. Under the Ordinance the only renovation projects that are required to install solar panels are projects that add an entire new upper level to the house or that increase the house's total roof area by 30% or more. Since your project value is more than \$25,000, you will have to do one of the improvements on the list of items in the Energy Upgrade section of the Ordinance.

Q-34: I am adding a second story master suite. I have some wonderful redwood trees that shade my home and make it impractical to put solar panels on the roof. What are my options?

A: The new Ordinance incorporates the existing section of the California Energy Code for solar panels on new homes. That section has an exemption for shading from trees, neighboring buildings, etc. If you submit information from a licensed solar contractor indicating there is too much shade to make the solar system practical, you will be exempted from the solar panel requirement by the Building Official.

Q-35: Now that we are all working and schooling from home, we need more space! I am planning on adding an 800 square foot family room/home office onto the rear of our home. The current roof area of our two story home is about 1500 square feet. Will we need to install solar panels?

A: Yes. The Ordinance requires that projects which increase the home's total roof area by 30% or more also install solar panels. The Ordinance extends the provisions of the California Energy Code requiring solar panels on new homes to larger additions. There is a formula in the code for sizing the system.

[Back to the top](#)

FURNACE AND SPACE HEATING SYSTEMS

Q-36: Can the ordinance require that a homeowner replacing their old natural gas furnace with a new natural gas furnace install a more energy efficient natural gas furnace than required by state codes?

A: No. The U.S. Department of Energy (DOE) sets minimum efficiency standards for equipment and appliances including heating, cooling, and water heating equipment. State and

local governments are prohibited from adopting higher minimum efficiencies than the federal standards.

Q-37: My old natural gas furnace stopped working last night. I have a contractor coming to install a new one next week. Do I have to install an electric heat pump furnace?

A: No. Most furnace replacements are less than \$10,000. If your furnace replacement project is less than \$25,000 it would be exempt from the energy upgrade requirements of the Ordinance. If your furnace replacement happened to be for a cost greater than \$25,000, there are several other options on the list in the Energy Upgrade section of the Ordinance other than installing a heat pump furnace.

Q-38: My 100-year-old house is heated by a boiler/circulating hot water system that is powered by natural gas. Do I have to install an electric heat pump furnace if I have a renovation that costs more than \$25,000?

A: No. The ordinance has several options for energy efficiency improvements in addition to installing a heat pump furnace that apply to projects with a value of \$25,000 or more. When you have decided on the type and scope of your project, you and/or your design professional can have a discussion with the Planning and Building Department staff regarding which of the options would work best for your home.

Q-39: My house is constructed with a concrete foundation imbedded with copper piping providing warm floors for radiant heat throughout the house, fed by a natural gas boiler system that also provides hot water to the kitchen and bathrooms. If we want to add on a bedroom to the rear of the house, will we need to abandon the radiant heating and boiler and install an electric heat pump furnace and run vents throughout the house?

A: No. Your existing heating system does not lend itself to conversion to a heat pump. The ordinance has several options for energy efficiency upgrades other than the installation of a heat pump furnace that apply to projects with a value of \$100,000 or more. You and/or your design professional can have a discussion with the Planning and Building Department staff regarding which of the options would work best for your home. If your addition's roof area is adding more than 30% of the existing roof, you will need to install solar panels as a part of the project.

Q-40: We are going to be developing our basement/crawlspace area into a family room with a half bath at a cost greater than \$100,000. We will be relocating the furnace and water heater. Do we have to get a new electric heat pump water heater and furnace?

A: The Ordinance does not specifically require you to install a heat pump water heater (HPWH) or heat pump furnace. A project of that size will be required to incorporate two energy efficient improvements or electrification improvements into the project scope. There are other options in addition to HPWH and furnaces. Your type of project is a great time to consider upgrading to heat pump appliances, which over time could save you money. You can take advantage of the rebate programs for those products. In so doing, you will be able to enjoy the energy savings and increased comfort of your home in addition to the increased living area in your home.

Q-41: Why doesn't the City provide incentives for installing heat pump furnaces and water heaters and the other items in the Ordinance?

A: The main source of City revenue comes from homeowners in the form of property taxes and transfer taxes. Thus, the City doesn't have the financial resources to offer a significant financial incentive for the installation of heat pump furnaces or water heater or other items. However, there are many rebate and discount programs available from regional agencies. Currently there are rebate programs from East Bay Community Energy (EBCE) for heat pump water heaters and solar energy and battery systems. PG&E has rebates for appliances. The Bay Area Regional Energy Network (BayRen) and PG&E have rebate programs for Energy Home Score reports. PG&E's Energy Upgrade California rebates can save you up to \$6,500 or more on efficiency improvements. The City is a participant in the SunShares solar energy program that offers discounted solar systems. More information about rebates is provided in the answer to question Q-16.

[Back to the top](#)

KITCHEN AND BATHROOM REMODELS

Q-42: Does the ordinance make me get rid of my gas range and install an electric stove?

A: No. There is no requirement to remove an existing gas range in the Ordinance. That is an option left to the owner of an existing home to decide. However, if you are renovating your kitchen, the Ordinance does require the installation of an outlet near the stove, so you or future owners can easily install an electric induction stove. If you are building a new detached ADU or home, you will be required to install an electric stove.

Q-43: We just moved in to our new mid-20th Century home. Two of the bathrooms haven't been touched since 1953. They need an upgrade. The estimated work is about \$37,000. What energy efficiency improvements are required by the new Ordinance?

A: Since your project is more than \$25,000, you will have to incorporate at least one of the improvements from the list. Since you just bought your home, you should have a copy of the Energy Score or Home Audit from the point of sale. You can choose one of the recommendations from those reports to include in the scope of your project. Item C on the list, includes low flow plumbing fixtures and insulating hot water piping. Most of that work is already part of your project because it is required by the California Building and Energy Codes. The inclusion of new water efficient plumbing fixtures and insulating accessible piping in rooms other than these two bathrooms will fulfill the upgrade measures.

Q-44: We are planning on renovating our kitchen. The project is estimated to cost \$85,000. Will the new Ordinance apply to our renovation?

A: Yes. There are a couple of sections of the Ordinance that will apply to your project. If you are not installing an electric stove, you will be adding an electrical outlet near your stove for a future electric stove. Adding an additional outlet during a construction project, costs a few hundred dollars. Since the project has a value greater than \$25,000, you will incorporate one energy efficiency improvement into your project from a list of options. Several of the options should be easily added into your type of project.

[Back to the top](#)

LANDSCAPE IMPROVEMENTS

Q-45: We are going to be renovating the landscaping of my backyard, installing an outdoor kitchen and reconfiguring the swimming pool to add a spa. I have an estimate for the project of \$175,000. Do I have to insulate my attic, too?

A: No. Projects that do not involve alterations to the home (the building) are not subject to the Ordinance.

[Back to the top](#)