

From: Lisa Taner [REDACTED]
Sent: Thursday, July 7, 2022 2:09 PM
To: Sustainability & Infrastructure Commission
Subject: Discussion - All Electric for Existing Homes

Dear S & I Commissioners,

Efforts to become more green are admirable and San Mateo can take pride in what it has required for new development in this regard. San Mateo also takes pride in its efforts toward equity for its varied residents. However, the push to include existing households into the all-electric equation fails on the equity front. The financial hardships to convert existing appliances from gas to electric are frankly incalculable if you consider the meager rebate opportunities, coupled with costs atop the electric appliances to essentially retrofit a kitchen and other areas where the original appliances existed.

Where do our underemployed find the means to pay for such? Or our elderly who are on fixed incomes, struggling to pay for medications, let alone finding a money bucket for major changes to the home? Or first time home buyers who have scraped together a down payment and now have a mortgage to keep up with? Families who see increases to regular expenses like gas, groceries, trash, etc., will be challenged to comply should you continue to entertain this idea. Not to mention the increased taxes we have seen and will continue to see. And more fixes that once were the responsibility of the City have instead fallen on the shoulders of property owners (sewer laterals, sidewalks, trees, etc.) Our general population is getting crushed by the weight of countless financial burdens. Please do not add to these burdens. Carbon footprints can be reduced in so many other ways that result in greater benefit without such a high cost to the average citizen.

Let's not forget to consider the draw on our electric grid - which PG&E is already struggling with. How will residents be impacted with this proposed change when the infrastructure can not support the current demand?

I ask that you consider all these ramifications as you contemplate your next steps.

Respectfully,
Lisa Taner
San Mateo Resident

From: Dave Clark [REDACTED]
Sent: Friday, July 8, 2022 7:14 AM
To: Sustainability & Infrastructure Commission
Cc: Rick Bonilla; Joe Goethals
Subject: What is community solar? | Canary Media

Canary is an excellent source of sustainable power papers. I have been following the hydrogen storage which Los Angeles has invested in.

In San Mateo County, focusing on installations larger than residential means that operational costs are distributed. management of a larger site is more efficient too.

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Community solar refers to moderately large solar projects — usually up to 5 megawatts — that a number of customers, which can include individuals, organizations and companies, subscribe to or jointly own.

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<https://www.canarymedia.com/articles/guides-and-how-tos/what-is-community-solar-and-how-can-you-sign-up>

From: Mary Rose LeBaron [REDACTED]
Sent: Saturday, July 9, 2022 12:10 PM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: REACH CODES FOR ELECTRIFYING EXISTING BUILDINGS
Attachments: Roadmap to success.pdf

Dear Sustainability and Infrastructure Committee & City Council,

I am very glad to know that you are considering implementation of important REACH codes. I am writing to you to remind you that we must do better and not implement weak codes. The REACH codes need to be stronger. I would like to see your willingness to take more powerful action to lower CO2 and methane emissions in the built environment of our city, and to do it as quickly as possible. We are all in a climate emergency and the IPCC report is very, very clear about reducing use of fossil fuels rapidly over the next 6-7 years in order to avoid worsening the disaster. We do not have time for weak sauce when it comes to what a city government must do. All levels of government, industry, institutions, and individuals must do their part to reduce fossil fuel use. Please do not turn your back on this great responsibility you have and great power you can use to bring about change for our buildings, and our chances at a livable world.

Please adopt stronger reach codes like those proposed by the San Mateo Climate Action Committee. Attached is a copy of the road map to success. We know that electrification of our buildings will improve the health of families, stimulate the green economy and assist in the rapid transition away from fossil fuels giving us a better chance at keeping a livable world intact for our children.

Respectfully yours,
Mary Rose LeBaron

2022: Adopt A Two Prong Ordinance
Electrify New Construction: Effective 1/1/2023
Electrify New Installations in Existing Buildings:
Effective 1/1/2026

Road Map to Success

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Provide One Stop Shop



Find Funding

Update with electric at replacement



Workforce development –
workers and savvy contractors

Make a purchase decision now!



Decarbonization of buildings
and infrastructure by 2030

[REDACTED]

From: James Higbie [REDACTED]
Sent: Saturday, July 9, 2022 8:44 PM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: reach codes

Dear Sustainability and Infrastructure Commission Members,

Thank you for your work on reach codes for our city--this is very important work, especially in this time when federal action on climate change is mired in gridlock. As you know, the climate has already changed in ways that will take decades or centuries to reverse. The apocalyptic fires, drought, and flooding that we've seen in the past couple of years, however, are merely the smallest taste of what we have prepared for ourselves if we allow complacency to reign and refuse to confront our fossil-fuel problem squarely and rapidly. We need to act decisively now, not in some vaguely distant future. Small as San Mateo is, its relative wealth and high levels of education and awareness allow it to be a leader and to punch well above its weight.

I ask you to please reconsider the most recent staff proposal on codes for existing buildings, and to make changes to the code that are commensurate with the scale of the problem we face. The current proposal does not go anywhere near far enough to achieve the city's own stated climate goals, which require full electrification of buildings, not locking in decades of damaging fossil-fuel infrastructure by allowing replacement of gas furnaces, water heaters, and stoves in current buildings. I also urge you to consider much greater investment in educating the public about the damaging health and environmental effects of methane combustion in homes.

Thank you very much for your consideration,
--James

From: Robert Whitehair [REDACTED]
Sent: Sunday, July 10, 2022 12:25 PM
To: Sustainability & Infrastructure Commission
Subject: Reach Code amendments

The San Mateo Climate Action Team thanks the City of San Mateo Sustainability and Infrastructure Commission and staff for proposing sustainability related amendments to the 2022 building code. We continue to recommend a strong reach code for new construction, effective January 1, 2023.

We believe that the City's proposed amendment for electrifying new construction has some promising elements.

However, we also believe that the proposed amendments to the 2022 building code for existing buildings is weak. We are specifically requesting a much stronger reach code for existing buildings, as described below.

NEW CONSTRUCTION – ALL ELECTRIC REACH CODES

1) For electrifying new construction, we believe that the staff report attached to the July 13, 2022 SIC agenda demonstrates that the City of San Mateo is on the right track for electrifying new single family homes. We were pleased to learn that building permits for 449 new all-electric dwelling units have been issued.

2) Exceptions. We were also pleased to learn that in the coming code cycle, staff is not proposing exceptions for bio-tech commercial buildings, as staff cited the experience of the City of San Carlos. We understand that the City of South San Francisco has had a similar experience, that bio-tech new construction is now all electric. We respectfully request City staff investigate this further and provide background information to the SIC and City Council.

We urge caution when granting exceptions that would allow installation of fuel gas commercial heat-processing equipment. Blanket exceptions for food processing, and other commercial uses are not necessary. The marketplace is rapidly bringing better electric stoves and other food processing equipment, as well as many other types of all-electric solutions.

3) Commercial laundry machines. Regarding commercial laundries, our organization has researched the availability of commercial clothes dryers that use electricity-generated heat, rather than fuel gas. Unfortunately, these units do not exist for sale in the United States. As the letter attached to the staff report indicates, electrifying public commercial laundromats, hotel laundries, and dryers in dry cleaning stores will be difficult for some time. However, we propose that the City convene a group of laundromat and laundry owners to lobby for better equipment. Jointly applying for demonstration grants might also be in order.

4) EV charging. Regarding Electric Vehicle Charging, we applaud the SIC for wanting to require every charging station to be Level 2. This requirement could be overreach, for these reasons:

A) Not all charging spaces will be used at the same time. In single family homes and in multifamily properties, it is very rare for all parked electric vehicles to be charging at the same time. Automated Load Management Software (ALMS) is an approach that reduces capacity requirements and saves costs. We ask City staff to investigate this further.

B) Load Balancing. In new construction, a different type of panel, a "Smart Service Panel" is now available. See this article on smart panels: <https://www.rewiringamerica.org/circuit-breakers-the-grid>. Such panels balance the load not only for EV charging but also for all the other electrical uses in the home. And if a service panel is being replaced in an existing building, this might also be an efficient way to avoid extra operating and installation costs.

EXISTING BUILDINGS – ELECTRIFICATION REACH CODE OPTIONS

1) Electric-readiness (panel capacity) at time of electrical panel upgrade – Residential. We agree with the general approach of upgrading an electrical panel for future needs. However, we are concerned with the phrase "reservation of breaker space" when the phrase should probably be "reservation of breaker capacity." Breaker space can be added in an electrical panel, by merely changing breakers to a smaller physical size. But capacity may still be lacking in an older panel.

We request that staff clarify its intent, speak to capacity not space, and be more specific about increases in panel capacity.

2) Electric-readiness (outlets installed) at time of kitchen or laundry room renovations – Single Family Residential. Any appliance, gas or electric, has a service life of 15-20 years or more. Why would we want to allow additional fuel gas equipment?

3) Heat pump air conditioning – Single Family Residential and Duplexes. We generally agree with staff's information that the cost of installation and operation of heat pumps for heating and cooling is similar to that of fuel gas alternatives. We also concur with staff's statement that space heating accounts for 36% of fossil gas use in a typical household in San Mateo's climate zone.

Because the costs for gas and electric units are similar, and because there is an opportunity to eliminate fuel gas equipment, it is time to eliminate gas furnaces and air conditioning units when they fail, to be replaced with heat pump heating and cooling.

4) Electric/solar pool heating or prohibition of extension of fuel gas infrastructure backyard – Residential
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A) Electric/solar pool heating – Residential. Although it will have a relatively low impact on reducing use of fossil fuels (only 5 new pools per year), this is a step in the right direction. But we respectfully request a very robust set of amendments to the building code. Limiting the amendments to a few items such as pools is insufficient.

B) Prohibition of (new and extended) fuel gas infrastructure in backyard – Residential. Although there are only 10 permits for new construction of this type each year, this item is a step in the right direction. However, the code language should be expanded to include all replacements. All fuel gas equipment, appliances and infrastructure need to be replaced.

5) Heat pump water heating – Single Family Residential

The proposal by staff to NOT replace fuel gas water heaters at the time of replacements is the most troubling part of the proposed building code amendments. At the April 13, 2022 Sustainability and Infrastructure Commission meeting we were disappointed by statements that heat pumps are "not ready for prime time."

In our detailed May 2, 2022 report to the SIC and City Council, we offered observations which we repeat here:

A) Confusing statement: "Heat Pump Water Heaters are not ready for prime time. One of the SIC commissioners made a statement, and other members seemed to concur without any evidence, that "Heat pump water heaters are not ready for prime time."

We offer this information:

"Sales of heat pump water heaters have more than tripled since 2010. This is due in part to a significant new outreach by the New Buildings Institute (NBI) – the Advanced Water Heating Initiative (AWHI): <https://www.advancedwaterheatinginitiative.org/> In April 2021, the collaborative of AWHI participants, and NBI, along with its key partners (BPA, NEEA, SMUD) and critical support from the U.S.

Department of Energy (DOE) and ENERGY STAR, launched AWHI as a national program. Its goal: 100% market share for residential water heating by 2030 (emphasis added) and 90% of the multifamily new construction market for central HPWH by 2026 (emphasis added).

A member of the California Energy Commission, Andrew McAllister, said this:

"With the number of wildfires and serious storms growing every year, we cannot afford to wait. AWHI lands at a critical juncture of our climate change and economic recovery challenges. Not only can we help decarbonize buildings with heat pump water heaters, but we will also help develop a U.S. workforce to manufacture and install these products, creating good paying jobs to get it done."

Sales of heat pumps in the United States, accounted for a market of **\$67 Billion in 2021**, of which residential heat pumps accounted for 75% of that total. Around the world, almost 180 million heat pumps were used for space heating in 2020, as the global stock has been increasing nearly 10% per year over the past 5 years. Growth has been seen in all markets – North America, Europe, and Northern Asia:<https://www.iea.org/reports/heat-pumps> .

Not only are heat pump water heaters and heat pumps for heating and cooling ready for prime time, **they are prime time.**

California is falling behind the rest of the country. Our state remains behind many others in terms of the total percentage of all-electric buildings. As Figure 2, below, illustrates, California currently has 26% all-electric buildings compared to Florida (92%), Alabama (66%), Texas (61%). Moreover, it seems a safe bet that these Southern states have opted for all-electric buildings primarily for reasons other than sustainability - i.e., the technology is solid and cost effective.

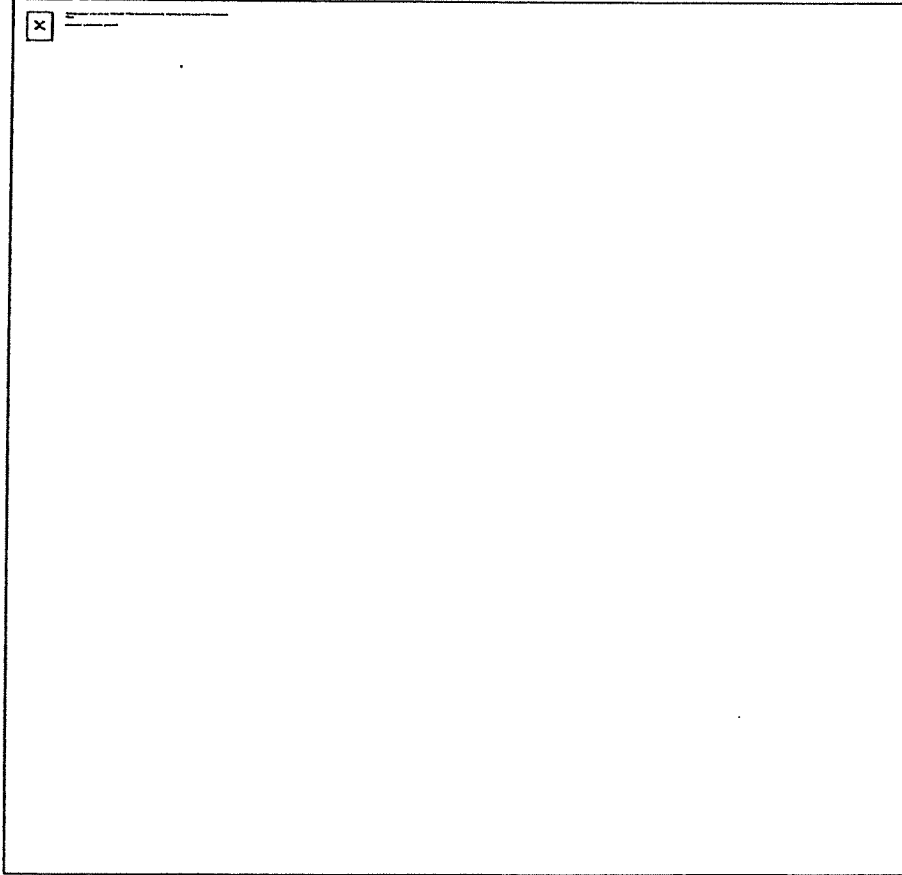


Figure 2. Other States Have More All-Electric Buildings

B) Claim that hot water will not be available for days due to inability to hire an electrician. One argument that we continue to hear is that when a fuel gas water heater fails, the homeowner will have no hot

water for days. In fact, a homeowner or business owner does not need to find an electrician to perform rewiring of electrical circuits for heat pump water heaters. The California State Contractors License Board, by letter on February 16, 2022, stated that **HVAC contractors and Plumbing Contractors can self-perform electrical work** for installation of Heat Pump Water Heaters, as they already do for other installations. There is no delay.

C) Cost of Electrification and Sources of Funding. At least one Commissioner expressed significant concern over the cost of building electrification, but no Commissioner or City Staff member presented any data on the actual cost of building electrification or spoke to the fact that many sources of funding are currently available or will be available soon.

We are aware that certain interests that are opposed to building electrification (e.g., fossil fuel companies) often spread misinformation about the cost of building electrification to dissuade the public from supporting building electrification policies. Accordingly, we feel it is important for our City's leaders to be educated on, and clear in their communication regarding, the true cost of building electrification, as well the sources of funding for building electrification.

The fact is that the cost of electrification can vary widely depending on the property in question, and the property owner's personal preferences. To provide some idea of cost, however, a study cited in the City of San Jose's report, "Healthy Homes, Healthy Air: A Framework for Existing Building Electrification Centered on Community Priorities", found that the cost of a full electrification retrofit for the average single family home in San Jose is \$3,000-\$4,000 higher than a retrofit to new gas equipment, when a panel upgrade was included. Moreover, these costs do **not** include savings from rebates and incentives. See Mahone, Amber, Charles Li, Zack Subin, Michael Sontag, Gabe Mantegna, Alexis Karolides, Alea German, and Peter Morris. "Residential Building Electrification in California Consumer Economics, Greenhouse Gases and Grid Impacts." San Francisco, CA: Energy and Environmental Economics, Inc. (E3), April 2019.

Much more can be said about the existing building electrification, and the San Mateo Climate Action Team would welcome the opportunity to provide further information to City Staff and the SIC on this subject.

Thank you

From: Terry Nagel [REDACTED]
Sent: Monday, July 11, 2022 5:54 PM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: Reach Code update to 2022 Building Code

Dear City Council Members and Commissioners,

It is admirable that the City of San Mateo's Sustainability and Infrastructure Commission is considering an update to your 2022 Building Code regarding electrification of new construction and existing buildings. I'm sure you are aware that this is one of the fastest ways to reduce carbon emission and address climate change.

I commend the amendments proposed for new construction and urge you to strengthen the proposal for existing buildings so that it aligns with the policy that the City Council adopted earlier this year to decarbonize existing buildings and eliminate methane gas use by 2030. (Natural gas is 70% to 90% methane.)

We're all well aware of the safety issues with natural gas, as demonstrated by the San Bruno pipeline explosion in 2010, and you probably know that electric cooktops, heating and appliances are cleaner and much more energy efficient.

But are you aware of the growing evidence that gas leaks in buildings are dangerous even when appliances aren't on? Here are a couple of articles:

Stanford News, January 27, 2022

"Stanford scientists find the climate and health impacts of natural gas stoves are greater than previously thought"

A new Stanford-led study reveals that the methane leaking from natural-gas burning stoves inside U.S. homes reveals that the methane leaking from natural gas-burning stoves inside U.S. homes has a climate impact comparable to the carbon dioxide emissions from about 500,000 gasoline-powered cars.

The New York Times, June 28, 2022

Gas Piped Into Homes Contains Benzene and Other Risky Chemicals, Study Finds

While the concentrations are low, the chemicals are potentially dangerous and some are linked to cancer risk, the researchers found.

Your residents will thank you for taking action to protect them from these risks.

Best regards,

Terry

Terry Nagel
Chair, Sustainable San Mateo County

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From: Valerie Armento [REDACTED]
Sent: Monday, July 11, 2022 8:29 PM
To: Sustainability & Infrastructure Commission
Subject: July 13, 2022 Agenda, Item 4 -- Opposition to Expansion of REACH Codes

Members of the Sustainability and Infrastructure Commission

I understand you will be discussing potentially expanding the requirement for electric utilities beyond the state requirements at your July 13 meeting. The suggestion floated is that all homes, not solely new construction, be mandated to transition away from gas appliances.

As a resident since 1963, I oppose such a requirement.

Not only would a ban on the use of gas appliances in existing homes be prohibitively costly for many people, but it is completely unrealistic and possibly dangerous given the condition of the California electric power grid.

Numerous articles and news casts have pointed out the deficiencies of the California electric power grid. See for example these recent items (full articles at links):

<https://www.reuters.com/world/us/california-says-it-needs-more-power-keep-lights-2022-05-06/>

California energy officials on Friday issued a sober forecast for the state's electrical grid, saying it lacks sufficient capacity to keep the lights on this summer and beyond if heatwaves, wildfires or other extreme events take their toll.

<https://www.cbsnews.com/sanfrancisco/news/california-officials-warn-summer-power-shortages-blackouts/>

California likely will have an energy shortfall equivalent to what it takes to power about 1.3 million homes when use is at its peak during the hot and dry summer months, state officials said Friday.

The projected shortage could be up to 17 hundred megawatts which is equivalent to a major power plant.

<https://sfist.com/2022/05/07/get-ready-for-blackouts-this-summer-as-unprecedented-strain-could-affect-cas-power-grid/>

While it's not exactly a surprise nowadays, it's still wild to think that because California's out-of-date power grid is so incompetent, residents of the state expect scheduled power outages and random blackouts regularly — which, for this summer, might affect some 1.3 million homes.

<https://www.scientificamerican.com/article/california-faces-summer-blackouts-from-climate-extremes/>

For the next five summers, extreme heat and other climate change impacts will threaten the reliability of California's electrical grid, state officials said Friday. Available electricity supplies might not be able to keep up with demand if heat waves hit, droughts make hydropower less available or wildfires reduce electricity transmission, staff of the California Energy Commission (CEC) and California Public Utilities Commission advised agency leaders.

Given the foregoing, it makes no sense to eliminate alternative sources of power, even if they are not as environmentally friendly as one might like. Moreover, even the State of California recognizes the need to use fossil fuels.

<https://www.latimes.com/environment/newsletter/2022-06-30/california-passes-polarizing-energy-bill-that-could-help-rescue-gas-plants-boiling-point>

California lawmakers passed a sweeping, polarizing energy bill last night, making it easier for state officials to buy electricity from beachfront gas plants and diesel generators, and to approve solar and wind farms over the objections of local governments.

The Golden State has an energy crisis — not like the sudden, acute crisis two decades ago, when market manipulation prompted massive blackouts, but rather a slower, longer-lasting crisis in which California has had more and more trouble keeping the lights on. (Emphasis in original)

The legislation approved last night by state lawmakers — in a 27-8 vote by the Senate and a 57-13 vote by the Assembly — will direct billions of dollars toward emergency power supplies, some clean and some dirty, over the next few years, assuming Newsom signs it. (He will, possibly as soon as today.) The bill loosens California's strict environmental protections to get that done.

Idealism should not trump reality. We need multiple sources of energy so there are viable alternatives. To not recognize the importance of options is short-sighted and unacceptable.

Please reject the proposal to require retrofitting of existing homes.

Valerie Armento

San Mateo

From: L. Eberhart [REDACTED]
Sent: Tuesday, July 12, 2022 8:26 AM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: San Mateo Reach Codes for Existing Buildings
Attachments: Roadmap to success.pdf

Dear Commissioners,

I am a long time resident of San Mateo, and a local Architect who is deeply concerned about the climate crisis and its impact on our beautiful Bay area location and built environment.

Thank you for taking up consideration of "Reach Codes" that reach beyond the state's standard for limiting greenhouse gas emissions, and especially for considering measures that would affect **existing buildings**. Since existing buildings account for 42% of San Mateo's total greenhouse gas emissions (according to the City's Climate Action Plan), decarbonization of such existing buildings is imperative to achieve meaningful reductions in the City's greenhouse gas emissions. The Intergovernmental Panel on Climate Change (IPCC) has made it clear that we must achieve these meaningful reductions in greenhouse gas emissions without delay: we have **just seven** more years to emit greenhouse gasses at the current rate before the planet exceeds 1.5 degrees celsius of warming, at which point irreversible and catastrophic climate impacts will ensue.

As you evaluate staff's proposed amendments to the City's Reach Codes, please consider the following comments. Staff's proposal for electrifying **new construction** is excellent. However, the proposal for **existing buildings is insufficient**, as it would fail to decarbonize the City's existing building stock to any meaningful degree. Furthermore, the proposal for existing buildings does not meet the objectives that were unanimously adopted by City Council this year to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030".

Instead of staff's current proposal for existing buildings, **I urge you to support adoption of the Bay Area Reach Codes Group's model code for existing buildings**, which has been fully researched and vetted, and includes:

- Thoughtful standards for zero emission heating & appliances upon permitted replacements (with exemptions where necessary); and
- An "end of flow" date for gas. Please utilize a science-based date of 2030 per the IPCC, and as consistent with the City Council's objective to eliminate methane gas use by 2030.

I understand that electrification of existing buildings is not without challenges. That is why I support the San Mateo Climate Action Team's attached "Roadmap to Success", which charts a pathway for successful implementation of the Bay Area Reach Codes Group's model code for existing buildings. By following the Roadmap to Success, the City would have several years' lead time to educate residents about electrification and the health impacts of gas, provide residents with "one-stop shop assistance" for building electrification, help develop the workforce that performs electric installations, and secure funding sources and financing programs for residents in need of assistance. In short, with a little time and effort, the City can overcome any challenges associated with electrification of existing buildings and accomplish something truly meaningful for the climate.

The City of San Mateo is recognized as a climate leader. Earlier this year, San Mateo demonstrated its climate leadership once again when the City Council unanimously approved the objectives to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030." I can think of no better way for San Mateo to achieve those objectives, and to continue to lead on climate, than by adopting the Bay Area Reach Codes Group's strong model code for existing buildings. Therefore, I urge you to support the adoption of the full model code without delay. I thank you and future generations of San Mateans thank you.

Best Regards,
Leane Eberhart
San Mateo Resident + Architect

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Decarbonization of buildings
and infrastructure by 2030

From: Michelle Hudson
Sent: Tuesday, July 12, 2022 8:52 AM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: Comments on Proposed Reach Codes
Attachments: Roadmap to success.pdf

Dear Commissioners,

I am a long time resident of San Mateo, an attorney, and a mother of two who is deeply concerned about the climate crisis and its impact on my children and future generations.

Thank you for taking up consideration of "Reach Codes" that reach beyond the state's standard for limiting greenhouse gas emissions, and especially for considering measures that would affect **existing buildings**. Since existing buildings account for 42% of San Mateo's total greenhouse gas emissions (according to the City's Climate Action Plan), decarbonization of such existing buildings is imperative to achieve meaningful reductions in the City's greenhouse gas emissions. The Intergovernmental Panel on Climate Change (IPCC) has made it clear that we must achieve these meaningful reductions in greenhouse gas emissions without delay: we have just seven more years to emit greenhouse gasses at the current rate before the planet exceeds 1.5 degrees celsius of warming, at which point irreversible and catastrophic climate impacts will ensue.

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Instead of staff's current proposal for existing buildings, I **urge you to support adoption of the Bay Area Reach Codes Group's model code for existing buildings**, which has been fully researched and vetted, and includes:

- Thoughtful standards for zero emission space heating, water heating and cooking appliances upon permitted replacements (with exemptions where necessary); and
- An "end of flow" date for gas. Please utilize a science-based date of 2030 per the IPCC, and as consistent with the City Council's objective to eliminate methane gas use by 2030.

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Decarbonization of buildings
and infrastructure by 2030

From: Alan R. Mattlage
Sent: Tuesday, July 12, 2022 4:41 PM
To: Sustainability & Infrastructure Commission
Subject: Building Code Report

Dear Commissioners,

I would like to thank the City Staff for the report on a prospective reach code you will be considering tomorrow. It does an admirable job laying out many of the important issues we must consider in the course of adopting a meaningful reach code.

In reading through it, I notice that an important concern appears to be the "feasibility" of adopting an all-electric reach code for existing buildings. No doubt, a cost analysis is important to how we should assess the advisability of an all-electric code. Consequently, I must encourage you to look more deeply into the cost analysis in this report, lest we misunderstand the full cost of continuing the use of fossil gas in our buildings.

To assess the feasibility of an all-electric code for existing buildings, we must compare the cost of retrofitting our buildings against the cost of replacing old appliances with new fossil gas appliances. We must consider initial costs as well as the cost over the lifetime of the appliances. These are costs borne mainly by building owners and their occupants, but they are not the only costs to consider. We also must consider costs borne by the public at large — costs that economists refer to as "externalized costs."

In the context of climate change discussions, externalized costs are referred to as the "social cost of carbon." The social cost of carbon includes, for example, the costs the public bears from forest fires, floods, heatwaves, disaster recovery, etc. These are costs that the public must pay due to the emission of greenhouse gases from private sources.

Economists working for different agencies and governments have made several estimates of the social cost of carbon. The US Interagency Working Group estimates the social cost at \$51/ton of carbon emissions. This is low in comparison to the UK estimate of \$82/ton, the EU estimate of \$120/ton, and the German estimate of \$180/ton. A recent paper in the *Journal of Environmental Economics and Management*, reported the results of a survey of several hundred economists and found that the average estimate to be \$170/ton. (Note 1)

I am concerned that the report you are considering today bases its cost analyses on two reports that employ an unreasonably low estimate of the social cost of carbon, roughly \$26/ton (Note 2) and \$8/ton (Note 3). These are well below even the very low US estimate of \$51/ton. I am unaware if the PCE cost estimates employ a social cost of carbon at all.

If the Commission intends to base its recommendations, in any part, on a "feasibility" or a cost analysis, I encourage you to ask that the Staff review the role of the social cost of carbon in their report to ensure that you receive a full and accurate cost accounting. In particular, I hope you will ask them to run cost estimates based on the federally approved cost of \$51/ton and/or the cost of \$170/ton arrived at by the surveyed economists.

I believe we would be negligent were we to allow building owners to continue to push costs they are responsible for onto the public at large.

Note 1. Pindyck, Robert S., *Journal of Environmental Economics and Management*, 94, March 2019, pp. 140-160.

Note 2. https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf

Note 3. <https://frontierenergy.com/wp-content/uploads/2019-Cost-Effectiveness-Study-Existing-Single-Family-Residential-Building-Upgrades-report.pdf>

Sincerely,
Alan Mattlage

"It is a magnificent thing to be alive in a moment that matters so much."
-- Ayana Elizabeth Johnson

CONFIDENTIAL

From: Claire Shintani
Sent: Tuesday, July 12, 2022 3:37 PM
To: Sustainability & Infrastructure Commission
Cc: City Council (San Mateo)
Subject: Please support adoption of the Bay Area Reach Codes Group's model code for existing buildings

Dear Commissioners,

My name is Claire Shintani. I am seventeen years old, and have lived in San Mateo for the entirety of my life. I am deeply concerned about the climate crisis and its impact on my generation, as well as those to come.

Thank you for taking up consideration of "Reach Codes" that reach beyond the state's standard for limiting greenhouse gas emissions, and especially for considering measures that would affect **existing buildings**. Since existing buildings account for 42% of San Mateo's total greenhouse gas emissions (according to the City's Climate Action Plan), decarbonization of such existing buildings is imperative to achieve meaningful reductions in the City's greenhouse gas emissions. The Intergovernmental Panel on Climate Change (IPCC) has made it clear that we must achieve these meaningful reductions in greenhouse gas emissions without delay: we have just seven more years to emit greenhouse gasses at the current rate before the planet exceeds 1.5 degrees celsius of warming, at which point irreversible and catastrophic climate impacts will ensue.

As you evaluate staff's proposed amendments to the City's Reach Codes, please consider the following comments. Staff's proposal for electrifying **new construction** is excellent. However, the proposal for **existing buildings is insufficient**, as it would fail to decarbonize the City's existing building stock to any meaningful degree. Furthermore, the proposal for existing buildings does not meet the objectives that were unanimously adopted by City Council this year to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030".

Instead of staff's current proposal for existing buildings, **I urge you to support adoption of the Bay Area Reach Codes Group's model code for existing buildings**, which has been fully researched and vetted, and includes:

- Thoughtful standards for zero emission heating & appliances upon permitted replacements (with exemptions where necessary); and
- An "end of flow" date for gas. Please utilize a science-based date of 2030 per the IPCC, and as consistent with the City Council's objective to eliminate methane gas use by 2030.

I understand that electrification of existing buildings is not without challenges. That is why I support the San Mateo Climate Action Team's attached "Roadmap to Success", which charts a pathway for successful implementation of the Bay Area Reach Codes Group's model code for existing buildings. By following the Roadmap to Success, the City would have several years' lead time to educate residents about electrification and the health impacts of gas, provide residents with "one-stop shop assistance" for building electrification, help develop the workforce that performs electric installations, and secure funding sources and financing programs for residents in need of assistance. In short, with a little time and effort, the City can overcome any challenges associated with electrification of existing buildings and accomplish something truly meaningful for the climate.

The City of San Mateo is recognized as a climate leader. Earlier this year, San Mateo demonstrated its climate leadership once again when the City Council unanimously approved the objectives to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030." I can think of no better way for San Mateo to achieve those objectives, and to continue to lead on climate, than by adopting the Bay Area Reach Codes Group's strong model code for existing buildings. Therefore, I urge you to support the adoption of the full model code without delay.

Thank you,
Claire Shintani

[REDACTED]

From: sue [REDACTED]
Sent: Tuesday, July 12, 2022 9:19 PM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: Comments about Reach Codes
Attachments: Roadmap to success.pdf

Dear Commissioners,

I have been a resident of San Mateo for almost 30 years, and a mother of two who is deeply concerned about the climate crisis and its impact on my children and future generations.

Thank you for taking up consideration of "Reach Codes" that reach beyond the state's standard for limiting greenhouse gas emissions, and especially for considering measures that would affect **existing buildings**. Since existing buildings account for 42% of San Mateo's total greenhouse gas emissions (according to the City's Climate Action Plan), decarbonization of such existing buildings is critical to achieve meaningful reductions in the City's greenhouse gas emissions. The Intergovernmental Panel on Climate Change (IPCC) has made it clear that we must achieve these meaningful reductions in greenhouse gas emissions without delay: we have just seven more years to emit greenhouse gasses at the current rate before the planet exceeds 1.5 degrees Celsius of warming, at which point irreversible and catastrophic climate impacts will ensue.

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I understand that electrification of existing buildings is not without challenges. That is why I support the San Mateo Climate Action Team's attached "Roadmap to Success", which charts a pathway for successful implementation of the Bay Area Reach Codes Group's model code for existing buildings. By following the Roadmap to Success, the City would have several years' lead time to educate residents about electrification and the health impacts of gas, provide residents with "one-stop shop assistance" for building electrification, help develop the workforce that performs electric installations, and secure funding sources and financing programs for residents in need of assistance. In short, with a little time and effort, the City can overcome any challenges associated with electrification of existing buildings and accomplish something truly meaningful for the climate.

The City of San Mateo is recognized as a climate leader. Earlier this year, San Mateo demonstrated its climate leadership once again when the City Council unanimously approved the objectives to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030." I can think of no better way for San Mateo to achieve those objectives, and to continue to lead on climate, than by adopting the Bay Area Reach Codes Group's strong model code for existing buildings. Therefore, I urge you to support the adoption of the full model code without delay.

Thank you,
Susan Blockstein

From: Kelly Petersen
Sent: Tuesday, July 12, 2022 9:25 PM
To: Sustainability & Infrastructure Commission
Cc: City Council (San Mateo); Kelly Petersen
Subject: Sustainability-Related Amendments to the 2022 Building Code

Hello Commission,

I am a 32 year resident of San Mateo with three children who attended SM public elementary, high school and community college and I also work locally in San Mateo and I am a climate science advocate and very concerned for the future of our planet. I would like to Provide feedback on potential amendments to the 2022 Building Code for new construction and existing buildings related to building electrification. Which is on the agenda for the July 13th meeting.

I am of the Jane Goodall thinking that every person can make a difference, and reducing fossil fuels can start at the community level, and there are many ways to do this. I would like the Commission to recall that the Intergovernmental Panel on Climate Change has determined that Earth has about 7 more years, until 2030, beyond which, damage to the planet will be irreversible.

Thank you for taking up consideration of "Reach Codes" that reach beyond the state's standard for limiting greenhouse gas emissions, and especially for considering measures that would affect existing buildings. Since existing buildings account for 42% of San Mateo's total greenhouse gas emissions (according to the City's Climate Action Plan), decarbonization of such existing buildings is imperative to achieve meaningful reductions in the City's greenhouse gas emissions. The Intergovernmental Panel on Climate Change (IPCC) has made it clear that we must achieve these meaningful reductions in greenhouse gas emissions without delay: we have just seven more years to emit greenhouse gasses at the current rate before the planet exceeds 1.5 degrees celsius of warming, at which point irreversible and catastrophic climate impacts will ensue.

As you evaluate staff's proposed amendments to the City's Reach Codes, please consider the following comments. Staff's proposal for electrifying new construction is excellent. However, the proposal for existing buildings is insufficient, as it would fail to decarbonize the City's existing building stock to any meaningful degree. Furthermore, the proposal for existing buildings does not meet the objectives that were unanimously adopted by City Council this year to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030".

Instead of staff's current proposal for existing buildings, I urge you to support adoption of the Bay Area Reach Codes Group's model code for existing buildings, which has been fully researched and vetted, and includes:


- Thoughtful standards for zero emission heating & appliances upon permitted replacements (with exemptions where necessary); and
- An "end of flow" date for gas. Please utilize a science-based date of 2030 per the IPCC, and as consistent with the City Council's objective to eliminate methane gas use by 2030.


I understand that electrification of existing buildings is not without challenges. That is why I support the San Mateo Climate Action Team's attached "Roadmap to Success", which charts a pathway for successful implementation of the Bay Area Reach Codes Group's model code for existing buildings. By following the Roadmap to Success, the City would have several years' lead time to educate residents about electrification and the health impacts of gas, provide residents with "one-stop shop assistance" for building electrification, help develop the workforce that performs electric installations, and secure funding sources and financing programs for residents in need of assistance. In short, with a little time and effort, the City can overcome any challenges associated with electrification of existing buildings and accomplish something truly meaningful for the climate.

The City of San Mateo is recognized as a climate leader. Earlier this year, San Mateo demonstrated its climate leadership once again when the City Council unanimously approved the objectives to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030." I can think of no better way for San Mateo to achieve those objectives, and to continue to lead on climate, than by adopting the Bay Area Reach Codes Group's strong model code for existing buildings. Therefore, I urge you to support the adoption of the full model code without delay.

Thank you,

Kelly Petersen



From: Diane Bailey 
Sent: Wednesday, July 13, 2022 12:18 AM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: Support for Holistic Reach Code including Bay Area Reach Codes Model Code for Existing Buildings to Meet City Climate Goals

Dear Commissioners,

Thank you for taking up "Reach Codes" to continue San Mateo's leadership requiring all-electric new construction, and especially for considering measures that would affect existing buildings. I'm writing to respectfully ask you to consider recommending the Bay Area Reach Code model code for existing buildings for San Mateo, because it contains a more holistic and thoughtful approach to phasing out fossil fuels in existing buildings.

I know that you are well aware of the urgent climate crisis that we're in and the importance of reducing fossil fuel use as rapidly as possible, including methane gas used in homes and buildings. The methane gas that we have been using to heat and cook with not only causes outsized climate impacts as a super pollutant with over 80 times more warming impact than CO₂, gas use is also severely detrimental to our health. Earlier this month a [new Harvard study](#) measuring the chemical makeup of gas in kitchen stoves found that consumer-grade natural gas contains varying levels of at least 21 different hazardous air pollutants, including benzene. They found that small gas leaks can be undetectable by smell. The pollutants the researchers found are known or suspected to cause cancer or other serious health effects, posing a serious risk to people in their homes.

We have the policy tools and staff expertise to help home- and building owners phase out toxic and climate polluting gas for a healthier and more resilient community. The staff proposal for electrifying new construction is excellent. However, the proposal for existing buildings is insufficient, as it would fail to phase out fossil fuel use at a meaningful speed and scale. The proposal for existing buildings does not meet the objectives that were unanimously adopted by City Council this year to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030".

I urge you to support adoption of the Bay Area Reach Codes model code for existing buildings, which has been fully researched and vetted, and includes:

- Thoughtful standards for zero emission heating & appliances upon permitted replacements (with exemptions where necessary); and
- An "end of flow" date for gas. Please utilize a science-based date of 2030 per the IPCC, and as consistent with the City Council's objective to eliminate methane gas use by 2030.

Although electrification of existing buildings can be challenging, the model code from Bay Area Reach Codes contain ample flexibility so that anyone in need of an exemption can receive one. Where possible, the city should stop issuing permits for new fossil fuel devices in order to meet the City's electrification goals, as well as the scientific community's urgent calls for swift action to avert climate catastrophe. Fortunately we are served by PCE, which offers many support programs. A number of local nonprofits also stand ready to provide assistance. Let's work together to ensure a healthy, climate safe, and resilient future for our communities.

Polluting and unsafe fossil fuels have no place in our homes. I urge you to support the adoption of the full model code without delay.

Thank you for your consideration.

Sincerely,

Diane Bailey

Diane Bailey (she/her), Climate Change Professional (CC-P) | Executive Director
MENLO SPARK

Visit us: www.MenloSpark.org & www.FossilFreeBuildings.org

Find us on [Facebook](#)

Follow us on [Twitter](#)



Climate Neutral for a Healthy, Prosperous Menlo Park

EV, PV & Fossil Free: Guides for Electric Cars, solar & Fossil Free Homes at: <http://menlospark.org/what-we-do/>

"Every day that we delay our response to climate change, the situation gets more critical." - Marina Romanello, research director and lead author on The Lancet report

From: Zachary Meyer [REDACTED]
Sent: Wednesday, July 13, 2022 9:36 AM
To: Sustainability & Infrastructure Commission
Subject: Reach Codes

Dear Commissioners,

I have been a part of the San Mateo community my entire life. As a CSM student and a member of the climate generation (young people heavily affected by climate change), I am deeply concerned about the impact the climate crisis has on my future.

We thank the City for considering "Reach Codes" that reaches beyond the state's standard for limiting greenhouse gas emissions, and especially for considering measures that would affect existing buildings. Since existing buildings account for 42% of San Mateo's total greenhouse gas emissions (according to the City's Climate Action Plan), decarbonizing such buildings is imperative to achieve meaningful reductions in the City's greenhouse gas emissions. The Intergovernmental Panel on Climate Change (IPCC) has made it clear that we must accomplish these significant reductions in greenhouse gas emissions without delay: we have just seven more years (3 years to hit peak emissions) to emit greenhouse gasses at the current rate before the planet exceeds 1.5 degrees Celsius of warming. At this point, irreversible and catastrophic climate impacts will ensue.

Please consider the following comments as you evaluate the staff's proposed amendments to the City's Reach Codes. The staff's proposal to the SIC for electrifying new construction is excellent. However, the proposal for existing buildings is insufficient, as it would fail to decarbonize the City's existing building stock to any meaningful degree. Furthermore, the proposal for existing buildings does not meet the objectives that were unanimously adopted by City Council this year to

"Establish policies to decarbonize existing buildings and eliminate methane gas use by 2030."

Instead of the staff's current proposal for existing buildings, I urge you to support the adoption of the Bay Area Reach Codes Group's model code for existing buildings, which has been thoroughly researched and vetted and includes:

- Thoughtful standards for zero emission heating & appliances upon permitted replacements (with exemptions where necessary); and
- An "end of flow" date for gas. Please utilize a science-based date of 2030 per the IPCC, consistent with the City Council's objective to eliminate methane gas use by 2030.

I understand that electrification of existing buildings is not without challenges. I support the San Mateo Climate Action Team's attached "Roadmap to Success," which charts a pathway for successfully implementing the Bay Area Reach Codes Group's model code for existing buildings. By following the Roadmap to Success, the City would have several years' lead time to educate residents about electrification and the health impacts of gas, provide residents with "one-stop-shop assistance" for building electrification, help develop the workforce that performs electric installations, and secure funding sources and financing programs for residents in need of assistance. In short, with a bit of time and effort, the City can overcome any challenges associated with electrification of existing buildings and accomplish something significant for the climate.

The City of San Mateo is recognized as a climate leader. Earlier this year, San Mateo demonstrated its climate leadership again when the City Council unanimously approved the objectives to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030." I can think of no better way for San Mateo to achieve those objectives and to continue to lead on climate than by adopting the Bay Area Reach

Codes Group's robust model code for existing buildings. Therefore, I urge you to support adopting the complete model code without delay and exceptions because innovative policy change and collective action are the best ways to combat the climate crisis.

Thank you,

Zachary Meyer

From: [REDACTED]
Sent: Wednesday, July 13, 2022 10:10 AM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Cc: Patrice Olds
Subject: Support for Holistic Reach Code including Bay Area Reach Codes Model Code for Existing Buildings to Meet City Climate Goals

Dear Commissioners,

I ask that you recommend the Bay Area Reach Code model code for existing buildings for San Mateo, because it contains a more holistic and thoughtful approach to phasing out fossil fuels in existing buildings.

The climate crisis is urgent and we need to stop burning stuff.

Burning methane in kitchens (and elsewhere) is unhealthy (see the [new Harvard study](#)) and leads to dramatic GHG emissions.

I urge you to support adoption of the Bay Area Reach Codes model code for existing buildings.

Polluting and unsafe fossil fuels have no place in our homes. I urge you to support the adoption of the full model code without delay.

Sincerely,

Nicholas Carter, PhD
Owner, npc Solar
NABCEP Certified PV Installer since 2007

~~Phone: 650-592-8200~~

~~wwwnpcsolar.com~~

~~www.npcvibes.com~~

"Go Solar and Drive Electric!"

From: Teresa [REDACTED]
Sent: Wednesday, July 13, 2022 10:19 AM
To: Patrice Olds; Sustainability & Infrastructure Commission; City Council (San Mateo)
Subject: Support for Bay Area Reach Codes Model Code for Existing Buildings to Meet City Climate Goals

Dear Commissioners,

Thank you very much for taking up "Reach Codes" to continue San Mateo's leadership requiring all-electric new construction, especially for considering measures that would affect existing buildings. I think San Mateo is truly a leader in this regard.

I'm an intern at Acterra, a Bay Area non-profit, and I'm writing to respectfully ask you to consider recommending the Bay Area Reach Code model code for existing buildings for San Mateo - because it contains a more holistic, thoughtful approach to phasing out fossil fuels in existing buildings.

I know you are well aware of the urgent climate emergency that we're in and the importance of reducing fossil fuel use as quickly as possible, including methane gas used in homes and buildings. The methane gas we've used to heat and cook not only causes disproportionate climate impacts as a super pollutant with over 80 times as much warming impact than carbon dioxide, gas use is also severely detrimental to our health. Earlier this month a new Harvard study measuring the chemical makeup of gas in kitchen stoves found that consumer-grade natural gas contains varying levels of at least 21 different hazardous air pollutants, including benzene. They also found that small gas leaks can be undetectable by smell. The pollutants the researchers found are known or suspected to cause cancer or other serious health effects. I, for one, don't want to tolerate this health hazard any longer.

We have the policy tools and staff expertise to help home- and building owners phase out toxic and climate polluting gas for a healthier and more resilient community. The staff proposal for electrifying new construction is excellent. However, the proposal for existing buildings is insufficient, as it would fail to reduce fossil fuel use at a meaningful speed and scale. The proposal for existing buildings does not meet the objectives that were unanimously adopted by City Council this year to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030".

I urge you to support adoption of the Bay Area Reach Codes model code for existing buildings, which has been fully researched and vetted, and includes:

- Thoughtful standards for zero emission heating & appliances upon permitted replacements (with exemptions where necessary); and
- An "end of flow" date for gas. Please use a science-based date of 2030 per the IPCC, and as consistent with the City Council's objective to eliminate methane gas use by 2030.

Although electrification of existing buildings can be challenging, the model code from Bay Area Reach Codes contain significant flexibility so that anyone in need of an exemption can receive one. Where possible, the city should stop issuing permits for new fossil fuel devices in order to meet the City's electrification goals, as well as the scientific community's urgent calls for swift action to avert climate catastrophe. Fortunately we are served by PCE, which offers many support programs. A number of local nonprofits also stand ready to provide assistance. Let's please work together to ensure a healthy, climate safe, and resilient future for our communities.

Polluting and unsafe fossil fuels have no place in our homes. I urge you to support the adoption of the full model code without delay.

Thank you for your consideration.

Sincerely,

THE UNIVERSITY OF CHICAGO

وَأَمَّا الْفُلُ فَأُرْسِلَتْ بِرَحْمَةٍ مِنَّا لِيُبَيِّنَ مَا بَيْنَ أَيْمَانِهِ هَذِهِ وَأَيْمَانِ ذُو الْأُنْثَىٰ هَذِهِ ۚ فَيَقْبِضُوا عَلَىٰ الْأُصْبَافِ فَلِيَكْشِفَ مَا تَحْتَهُ وَلِيُنَظَّرَ فِي أَيِّ صَنِيعَةٍ كَانَ عَمَلُهُ خَفِيًّا ۖ ثُمَّ نُفِثْنَا بِهَا الْغَوَاةَ فَغَاوُوا ۚ وَلَئِن لَّمْ يَفْعَلْ لَمَ يَذْكُرُوا ۚ

[REDACTED]

From: Belinda Chlouber [REDACTED]
Sent: Wednesday, July 13, 2022 12:00 PM
To: Sustainability & Infrastructure Commission
Subject: Proposed Changes to reach code

Hi,

I was unhappy to hear that the City of San Mateo Sustainability and Infrastructure Commission is considering very weak amendments to the Building Code, covering electrification of existing buildings. The climate and environmental issues we face are challenging and difficult but we need to do all we can as soon as possible. According to the Intergovernmental Panel on Climate Change the Earth has about 7 more years, until 2030, beyond which, damage to the planet will be irreversible. For we have delayed for too long, and we no longer have that luxury.

We recently replaced both our furnace and our water heater with heat pumps. We live in a house that was built in 1940 and it worked out well. We love the AC heat pump and the water heat pump—we can't tell a difference. It all works really well. Actually, the AC heat pump is a blessing—we can control each room and don't have to leave all the AC/heat on. We have a mini-split system heat pump. I would really encourage you to soldier ahead and do all the city can to help people transition to clean energy. It would be really nice to be that shining beacon of light that paves the way to a new future. If any city can do it it would be San Mateo, I have always been impressed with how the city is run.

Thanks so much for all your work during these difficult times,

Belinda

Belinda Chlouber
[REDACTED]

From: bretandersen@carbonfreepaloalto.org
Sent: Wednesday, July 13, 2022 11:09 AM
To: Sustainability & Infrastructure Commission; City Council (San Mateo)
Cc: Patrice Olds
Subject: Thank you for adopting meaningful electrification policies

Dear Commissioners,

I am a resident of Palo Alto and member of Carbon Free Palo Alto who has been an advocate for meaningful carbon reduction policies and programs at area cities for over 10 years.

I applaud your comprehensive efforts on electrification of both new and existing buildings by way of Reach Codes in San Mateo. It is inspiring to see that your City Council has already adopted a science based goal of decarbonizing existing buildings and eliminating methane gas use by 2030. I am also joining other commenters on this topic to urge you to adopt the Bay Area Reach Codes model code for existing buildings which they had described and referenced.

Cities and utilities can work together to make it as easy and affordable for all building owners to participate in the electrification movement, especially when it comes to heat pump water heater and space heater retrofits. One of the conclusions from our analysis in collaboration with Palo Alto's municipal utility is that direct installation arranged by the utility with on-bill financing of most of the upfront costs and simplified permitting would remove the top barriers to adoption, namely, the complexity of the retrofit project and the up-front cost. I urge you to also engage with PCE to explore this idea as well as the other approaches they are introducing or evaluating that will accelerate adoption in San Mateo. Such programs include electrification planning and technical assistance, identifying and qualifying contractors, on-bill financing, helping cities streamline permitting and turn-key electrification of low income homes. All of these would contribute to make it easier for all building owners to fully engage in the complete clean energy upgrade we need for 2030.

Sincerely,

Bret Andersen, Carbon Free Palo Alto

From: Kristie Eglsaer [REDACTED]
Sent: Wednesday, July 13, 2022 12:48 PM
To: Sustainability & Infrastructure Commission
Cc: City Council (San Mateo); Rick Bonilla; Diane Papan; Eric Rodriguez; Amourence Lee; Joe Goethals
Subject: Public comment re proposed changes to building codes

Dear Sustainability & Infrastructure Commissioners,

I am writing to provide comments on tonight's agenda item to consider amendments to the Building Code covering electrification of new and existing buildings.

I am very much in favor of the switch from gas to electric. Thanks to S&IC and staff for the proposal for electrifying new construction; it is excellent. But the proposal for existing buildings, like where I live, is insufficient.

Last summer we had a gas leak at the duplex where we rent. Fortunately we just happened to open the door where the meters are and smelled it and the company came out right away.

And in the apartment complex where my mother lives she's had three gas leaks in the last year and been awoken by her carbon monoxide detector going off in the middle of the night.

Neither of us are able to make the choice to switch from gas to electric on our own since we rent.

I urge you to do all that you can to support the transition from gas to electric in existing buildings ASAP.

Please support adoption of the Bay Area Reach Codes Group's model code for existing buildings, which includes standards for zero emission heating and appliances upon replacement and an "end of flow" date for gas. Please set that date at 2030 in keeping with the City Council's objective to eliminate methane gas use by 2030.

To aid in this transition, please create a "one-stop shop assistance" for building electrification, help develop the workforce that performs electric installations, and secure funding sources and financing programs for residents in need of assistance.

Support Workforce Development

There is a skilled labor shortage. It would be great for the city to explore ways to support workforce development like supporting job training programs starting in high school or providing child care support for those in training or on the job. Also, the city could allow trainees to get hands-on on-the-job training during Public Works and other city projects. <https://www.dir.ca.gov/Public-Works/Apprentices.html>

Find Funding

San Mateo should also explore grants from state or federal entities to support electrification. The Bipartisan Infrastructure Bill includes funds to update the aging grid, install electric vehicle charging stations and support electrification. This may require a local match in order to be eligible to receive a grant.

Communicating what rebate programs exist that homeowners and building owners can tap into would also be very helpful.

Aging Electrical Grid, Reduce Demand and Retrofit

Palo Alto is facing the challenge of an aging electrical grid to meet their climate goals. <https://www.paloaltoonline.com/print/story/2022/03/11/can-citys-aged-electric-grid-handle-climate-change>

San Mateo might not have this issue, but even if it does, just because decarbonization needs a more modern grid does not mean it shouldn't happen or that the policy should get the blame for the need to update a half-century old grid.

In addition to investments for updating the grid, Palo Alto is considering switching to advanced metering infrastructure, or smart meters, to help reduce peak demand.

San Mateo could also explore encouraging things like retrofitting older buildings so they use less energy in general.

Strategic Objective

Earlier this year, San Mateo City Council approved the objectives to "establish policies to decarbonize existing buildings and eliminate methane gas use by 2030." Adopting the Bay Area Reach Codes Group's model code for existing buildings is the way to get there. <https://bayareareachcodes.org/#recommended> Please ask staff to incorporate the full model code for existing buildings into the proposal and take action on finding funding, developing workforce, reducing demand and communicating to the public.

Thank you for considering my comments!

Sincerely,

Kristie Eglsaer
San Mateo resident
Baywood neighborhood

From: Gary Trott 2 [REDACTED]
Sent: Wednesday, July 13, 2022 3:49 PM
To: Sustainability & Infrastructure Commission
Cc: 'Gary Trott 1'
Subject: SIC meeting July 13 item #4
Attachments: SIC_220713.pdf

Dear clerk of Sustainability & Infrastructure Commission

Re: Sustainability & Infrastructure Commission meeting
July 13, 2022
Item #4.

I will be attending by Zoom the SIC meeting tonight and would like to use these two slides as visual pointers for my Zoom public comment. Please distribute them to the commissioners, and/or show them when I make my comments.

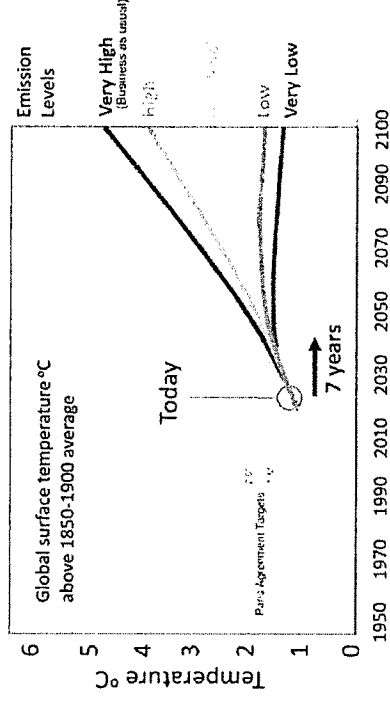
Warm Regards
Dr. Gary Trott

San Mateo City future reach codes

- 1) Make them stronger.
- 2) Provide help [Education, Grants, non-profit contractors etc.]

SIC meeting July 13, 2022 item #4, by Dr. Gary Trott

UN Secretary-General:
 “The climate crisis is a
Code Red for humanity
 and that urgent action is
 needed before it is too late”.
 Oct 26, 2021

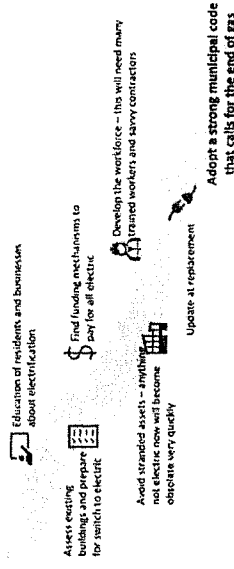


Seven years
 until 1.5° C.

Then climate changes
 start to become
 permanent.

Graph adapted from American Geophysical Union EOS
 FROM: https://www.earth.org/earth-science/earth-science-education/earth-science-education-101/

Roadmap to Success



➔ Make reach codes stronger
 Increase education.

See example next page

First Step *Education*

From San Mateo Climate
 Action Team (SMCAT)

Timeline ? ? ?

- create a plan
- implementation

- Time to 50% complete ? ? ?

Seven years [longer/shorter ? ?]

Education Example

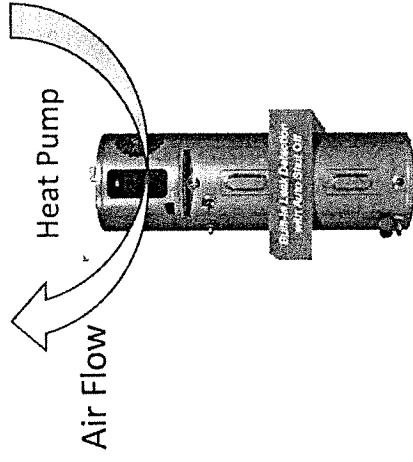
All hot water heaters are not equal and are *not* all heat pumps.

Agenda Report July 13, 2022

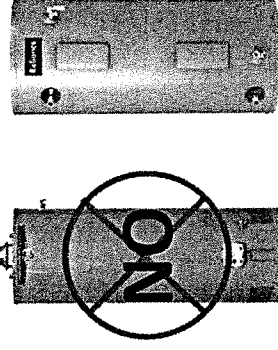
5) Heat pump water heating – Single Family Residential

A) Heat pump water heater at time of replacement – Single Family Residential . . . “Not Ready” => There is lack of complete information

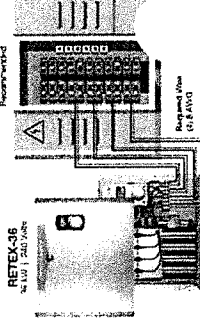
** At a minimum a wire, small or large, needs to be added



Standard hot water tanks
All Electric

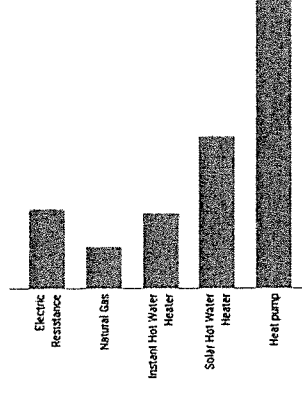


Tankless 13gal/min



+ Solar Hot Water (various)

Efficiency in hot water heaters



Pro	Most efficient x 3 = less power Smallest wire	Exact Fit: Same space	Smallest space
Cons	Slower reheat(opt + electric) Physically Larger, needs air	Less efficient	Biggest wire

Reach Code: 1)Eliminate gas water heaters ASAP, 2)Provide education for options BayREN, SwitchOn, SMCAT web etc.

From: Wendy Chou [REDACTED]
Sent: Wednesday, July 13, 2022 9:20 PM
To: Sustainability & Infrastructure Commission
Cc: City Council (San Mateo)
Subject: Reach Codes for Electrifying Existing Buildings

Dear Commissioners,

I attended the 7/13 meeting regarding the important topic of Reach Codes. I'm submitting the comments I intend to make during the comment period in case I am unable to stay on for the entire meeting.

Here are my intended remarks:

Good evening commissioners and thanks for taking my comment.

I appreciate the rich discussion and substantive learning today regarding the topic of building electrification — thank you, City leaders, for doing a good job addressing new construction and reducing emissions through all-electric reach codes.

I am a renter of a single-family home in San Mateo. There is a specific reach code recommendation for existing buildings (#5a) which was not supported by the city, that I want to address: Requiring installation of a fossil free water heater when the old appliance reaches end of life. I absolutely believe that we need to seize the opportunity and **require upgrading to all-electric when this happens.**

Climate change is a huge priority for me and my family. When our gas water boiler broke down just a few years ago, I unfortunately had to stand by and watch while a brand new gas water heater was put in. It was an extremely frustrating process that I had no power over. Landlords often make the easiest, least complicated decision especially driven by cost.

This is a problem because climate change demands big solutions - we need strong, clear policies and codes to wean our city's buildings off of gas. We no longer have time for individual home owners to try to figure out what to do.

It's clear it's not a question of if we have the technology. We have it and we know it works. An electric heat pump water heater is far more efficient and doesn't create indoor air quality hazards like a gas water heater.

In fact, the barriers are policy-related.

We should look into on-bill financing as mentioned by Commissioner Loraine. I really agree with the use of these innovative financial measures that will make it less costly to change out these appliances.

Many people have raised the question of upfront cost. I would argue, how do you quantify the cost/benefit analysis of increased longevity and lower rate of chronic illness because of cleaner air? What about the lost productivity from climate change impacts that force evacuations because of wildfire, or people staying home and indoors because of wildfire smoke in the air, which are conditions that are worsening from climate change?

As one final thought: Do people today complain that cars with enhanced safety features like seat belts and air bags are too expensive? These were policy measures that were undertaken decades ago to benefit public safety and health. We wouldn't give this a second thought now. The climate crisis is a safety crisis. Today's heat pumps are the same idea: making our devices and appliances safer and higher functioning. We need to take these measures now because we are running out of time to combat climate change.

As Andrea Chow cited in her report, a whopping 55% of natural gas use in San Mateo is for water heaters. This is a clear opportunity that we shouldn't lose — let's cut those emissions by passing strong reach codes.

Thank you.

Sincerely,
Wendy Chou



