

September 27, 2022  
Pacifica City Council Special Meeting

# **Public Comments**

## **Study Session – Building Code Update / Reach Codes**

Written Comments Received By 12pm on 9/27/2022



*September 27, 2022*

*City Council Special Meeting*

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**From:** Tom Kabat [REDACTED]  
**Sent:** Tuesday, September 27, 2022 8:45 AM  
**To:** Public Comment  
**Cc:** Murdock, Christian  
**Subject:** Comments on Council 9/27/2022 Study Session

[CAUTION: External Email]

I'm writing in support of Pacifica's forward progress on climate preservation via improved Reach Codes.

Through my volunteer activities with various cities I see the need for climate policy progress in the buildings sector that cities are best positioned to influence.

The new federal inflation reduction act (IRA) sets out 10 years of incentives that make electrification economic. But to overcome inertia, city policy is needed. Together, the stack of incentives and the leadership provided by new city policies will be what it takes to set the pace to preserve the best future possible.

I also see various cities' leaders looking to see if the other cities will be right there with them when they step forward. I think we all need to be taking the boldest steps possible, then the others will follow promptly.

Pacifica's actions will have a multiplier effect to bring along other cities.

Please take the bold action needed.

Best regards,

Tom Kabat  
Board member, Carbon Free Silicon Valley

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**From:** Mark Hubbell [REDACTED]  
**Sent:** Tuesday, September 27, 2022 10:49 AM  
**To:** Public Comment  
**Cc:** Bier, Mary; Bigstycck, Tygarjas; Woodhouse, Kevin; O'Neill, Mike; Vaterlaus, Sue; Beckmeyer, Sue  
**Subject:** Reach Codes

**[CAUTION: External Email]**

Good day, Council Members.

Please consider this: Pacifica needs to go on record as a community doing everything possible to combat this existential threat. This should be our City's top priority to meet these new standards. We cannot in good conscious expect the rest of this nation, other than us, and the rest of this world, other than us, to save our Pacifica from overwhelming sea level rise, unless we are on the top of the list for doing the right thing.

So, do the right thing and adopt these new standards described in this link: <https://docs.google.com/document/d/1lqetzV0gW9PZ4LulzcUTjB6tY4zLsZIKzrdDKQDt0LI/edit?usp=sharing>.

Thank you,

Mark

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Mark Hubbell — phone: [REDACTED] — email: [REDACTED]

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**From:** Gary Latshaw [REDACTED]  
**Sent:** Tuesday, September 27, 2022 11:44 AM  
**To:** Public Comment  
**Cc:** Murdock, Christian  
**Subject:** Meeting (9/27/22) and Agenda Item (Study Session), Gary Latshaw  
**Attachments:** Simply End the Gas Flow of Natural Gas.pdf

**[CAUTION: External Email]**

I have attached a detailed analysis of the imperative of ending the use of natural gas. The first paragraphs in the report are:

Natural Gas, which is primarily (98%+) methane gas, is the **most important fossil fuel to discontinue**. Scientists now recognize that the leakage of this gas is causing warming comparable to carbon dioxide emissions. The important advantage of eliminating this leakage is that it will result in major reduction in atmospheric heating within a decade. The effects of reducing carbon dioxide take nearly a century to be impactful.

The combustion of natural gas causes the formation of poisonous gases: carbon monoxide, nitrogen dioxide, formaldehyde, and particulate matter. This increases respiratory diseases such as asthma.

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Fight for Renewable Energies! Save the global ecology; create jobs; eliminate dependence on foreign oil; reduce military requirements

Gary Latshaw, Ph.D.  
[REDACTED]

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# The Imperative of “End of Gas Flow” for All Users of Natural Gas

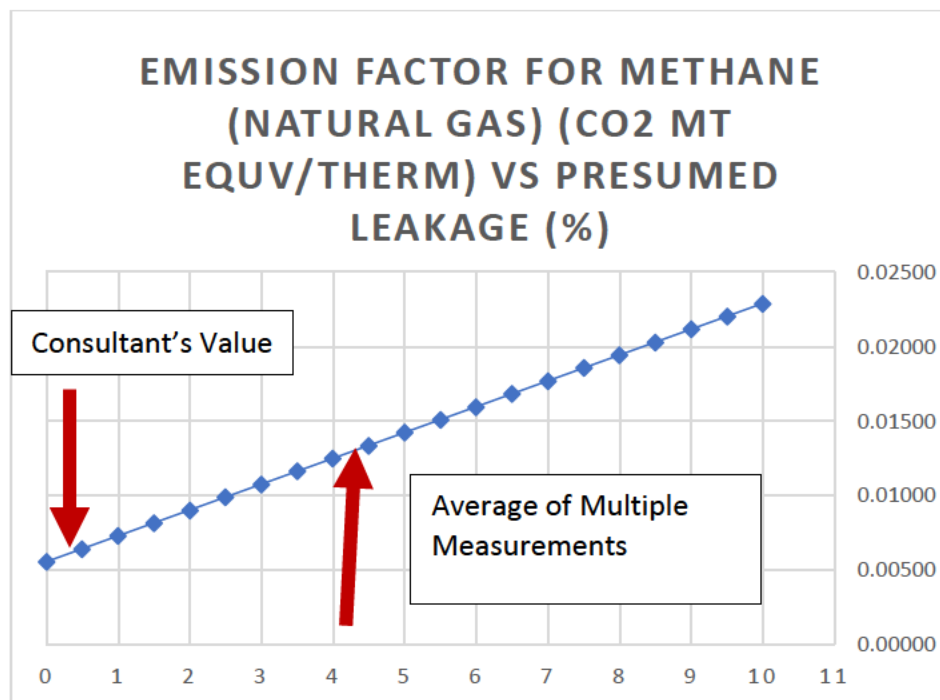
Gary Latshaw, Ph.D., September 2022

Natural Gas, which is primarily (98%+) methane gas, is the **most important fossil fuel to discontinue**. Scientist now recognize that the leakage of this gas is causing warming comparable to carbon dioxide emissions. The important advantage of eliminating this leakage is that it will result in major reduction in atmospheric heating within a decade. The effects of reducing carbon dioxide take nearly a century to be impactful.

The combustion of natural gas causes the formation of poisonous gases: carbon monoxide, nitrogen dioxide, formaldehyde, and particulate matter. This increases respiratory diseases such as asthma.

## Impact of Leakage

The primary warming effects from natural gas use is that the system extracting, processing, delivering, and combusting it leaks considerably. The leakage associated with the use of natural gas strongly effects the emission factor as shown in this diagram:



The highly regarded science writer Bill McKibben has put it succinctly: “**Going slowly is losing.**”

## Understanding the Calculation of the Emission Factor

The simplest emission factor to understand is that from combustion of pure carbon. The combustion of pure carbon results in each carbon atom combining with oxygen to form a molecule carbon dioxide. The molecular weight of carbon is 12. Each molecule of carbon

# The Imperative of “End of Gas Flow” for All Users of Natural Gas

## Gary Latshaw, Ph.D., September 2022

dioxide has a molecular weight of 44. This is derived from the weight of the carbon (12) plus two oxygen atoms (each having a molecular weight of 16). The result of combusting a ton of carbon is to produce 3.67 (= 44/12) tons of carbon dioxide. So, the emission factor for carbon is 3.67 MT of CO<sub>2</sub>equ/MT of carbon.

This analysis assumed that incidental generation of greenhouse gases, such as nitrogen oxides, does not significantly affect the greenhouse gas emissions from the combustion.

### Emission Factor for Natural Gas

We shall now examine the emission factor for natural gas. Natural gas is primarily composed of methane, and it is primarily methane that is combusted and provides the heat for water, air, and cooking in facilities. For simplicity, I shall that assume all the natural gas is methane. The amount of natural gas is given in therms. Therms is a measure of the energy from combustion and not a direct measurement of the weight or mass involved. So, the challenge is to convert therms to a mass measurement of the mass of the natural gas.

According to google, one therm of methane occupies 2.83 cubic meters of gas at STP. According to the perfect gas law, one mole of gas (at STP) occupies 22.4 liters (or 10<sup>-3</sup> m<sup>3</sup>)<sup>1</sup>. So, one therm has:

$2.83 \text{ m}^3 / (22.4 \times 10^{-3} \text{ m}^3) = 126$  moles of methane (or 2,016 grams as each mole has a mol wt of 16)

A mole of any substance is simply an amount that is equal to Avogadro’s number of molecules. The combustion of methane results in each methane molecule creating one molecule of carbon dioxide so it follows that one mole of methane produces one mole of carbon dioxide. A mole of methane has a molecular weight of 16 (= 12 for carbon atom) and 4 for each hydrogen atom). As discussed, carbon dioxide has a molecular weight of 44. Combusting a therm of methane results in

$126 * 44 = 5,550$  grams of 5.55x10<sup>3</sup> grams of CO<sub>2</sub> produced

Since the standard metric for emission factors is MT<sup>2</sup>/therm, we must convert the grams to MT:

$5.55 \times 10^3 \text{ grams/therm} = 0.00555 \text{ MT CO}_2\text{equ/therm}$

This value is very close to the consultant’s emission factor of 0.0053 MTCO<sub>2</sub>eq/therm.

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<sup>1</sup> This is the perfect gas law, which is applicable to methane.

<sup>2</sup> MT = metric ton = 1,000 kg = 1,000,000 grams.

# The Imperative of “End of Gas Flow” for All Users of Natural Gas

## Gary Latshaw, Ph.D., September 2022

The value I just derived does not include the massive leakage associated with using natural gas. The consultant assigned a very low number for the leakage – 0.3%, which is why the consultant’s value closely resembles my value for no leakage.

The effect of leakage can be calculated as follows. We first calculate the amount of material that is leaked. This is simply the fraction leaked times the amount consumed. Then the amount leaked is multiplied by its Global Warming Potential (GWP). GWP is a number that describes how much warming is caused by a given amount of mass relative to carbon dioxide. When considering a 20-year timeframe, the GWP for methane is 86. The warming associated with the leakage is calculated as (for one therm) where F=fraction leaked:

$$A \times F \times GWP$$

Where:

A = amount of methane (2,016 grams per above)

F= fraction of methane leaked

GWP = global warming potential (86 for 20-year period)

As described previously, the consultant assumed a very small value for the leakage, F. If we take the average value from the San Francisco Study of 4.52%, we arrive at a substantially different value for the emission factor. This is a table from a San Francisco study:

**TABLE 1: LITERATURE REVIEW ON METHANE LEAKS FROM NATURAL GAS SYSTEMS**

Study	Percent Leak	Min Leak	Max Leak	Production Type	Analysis Type	Year
EPA GHGI* <sup>i</sup>	1.37%	1.11%	1.78%	All production	Bottom-Up	2014
Brandt* <sup>ii</sup>	2.35%	1.96%	2.75%	All production	Top-Down	2014
Miller* <sup>iii</sup>	3.57%	2.74%	4.40%	All production	Top-Down	2013
Caulton et al <sup>iv</sup>	7.00%	2.30%	11.70%	All production	Lit Review	2014
Burnham <sup>v</sup>	2.75%	0.97%	5.47%	Conventional	Lit Review	2011
Howarth <sup>vi</sup>	3.80%	1.70%	6.00%	Conventional	Lit Review	2011
Burnham <sup>vii</sup>	2.01%	0.71%	5.23%	Shale	Lit Review	2011
Howarth <sup>viii</sup>	5.80%	3.60%	7.90%	Shale	Lit Review	2011
Howarth <sup>ix</sup>	12.00%	4.30%*	19.70%*	Shale	Lit Review	2015
<b>Averages</b>	<b>4.52%</b>	<b>2.15%</b>	<b>7.21%</b>			

\*Additional data points were estimated by the San Francisco Department of the Environment

# The Imperative of “End of Gas Flow” for All Users of Natural Gas

Gary Latshaw, Ph.D., September 2022

So using the average of 4.52%:

$2,016 \text{ grams} \times F \times \text{GWP of CH}_4 = 7840 \text{ grams of CO}_2 \text{ equivalent}$

This should be added to the actual CO<sub>2</sub> released at combustion. So, the total CO<sub>2</sub> equivalent is

$5,550 + 7840 = 13380$  or  $13380/5550 = 2.41$  (ratio of emission factor with leakage/emission factor without leakage)

Thus, under these assumptions the emission factor for natural gas should be:

0.0133 CO<sub>2</sub>equiv/therm of methane

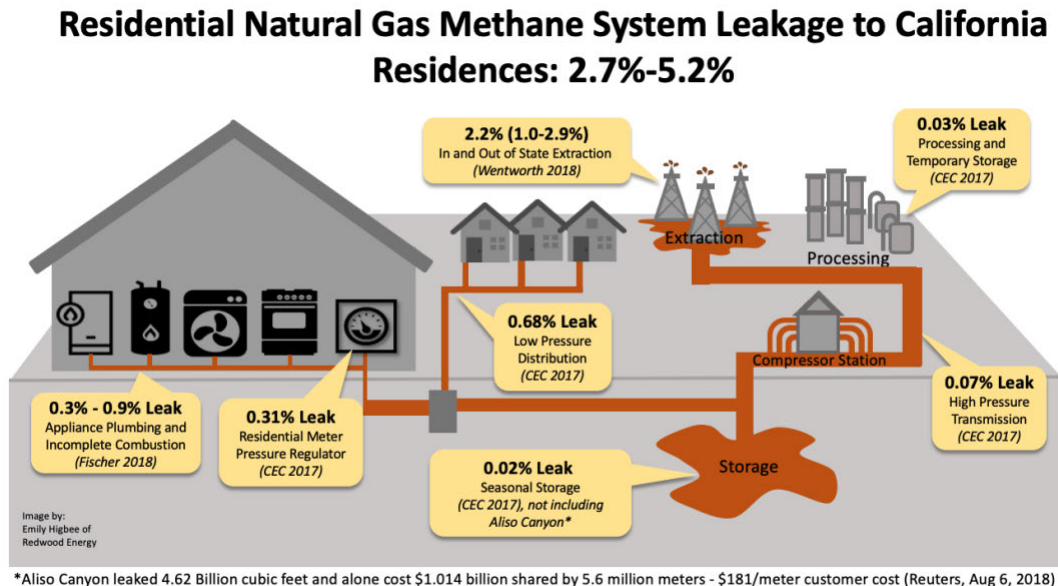


Figure – Diagram of leakage from various sources in a building and exterior to the building from the supply and processing infrastructure. <sup>3</sup> The origin of the values are from Navigant, Redwood Energy, CPUC, PG&E, CED, Wintworth, and CEC.

<sup>3</sup> Slides produced by Redwood Energy

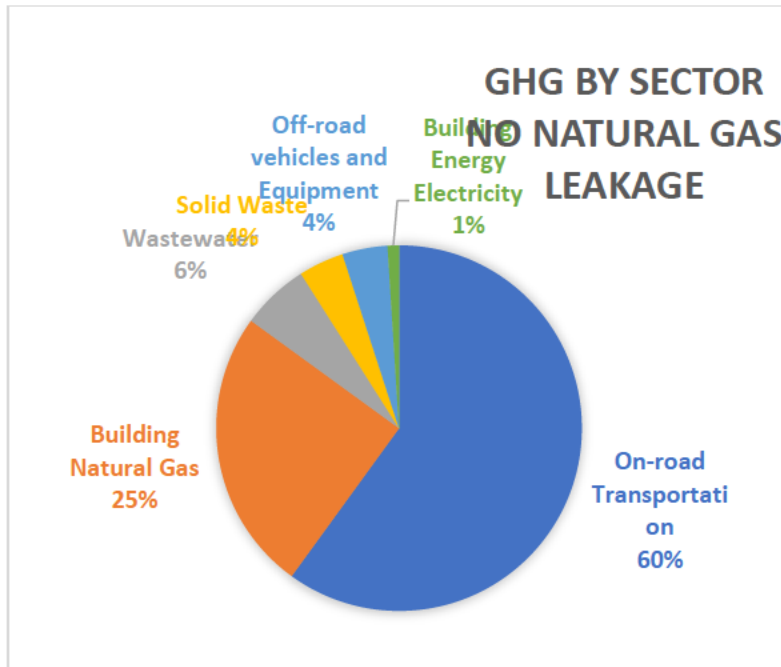


# The Imperative of “End of Gas Flow” for All Users of Natural Gas

Gary Latshaw, Ph.D., September 2022

## Implication for Calculations of Greenhouse Gas (GHG) Emissions

As following figures show, with this correction, that building-associated emissions for the City of Cupertino are essentially equal to that from transportation.



Reproduction of Figure ES 1 (different colors)

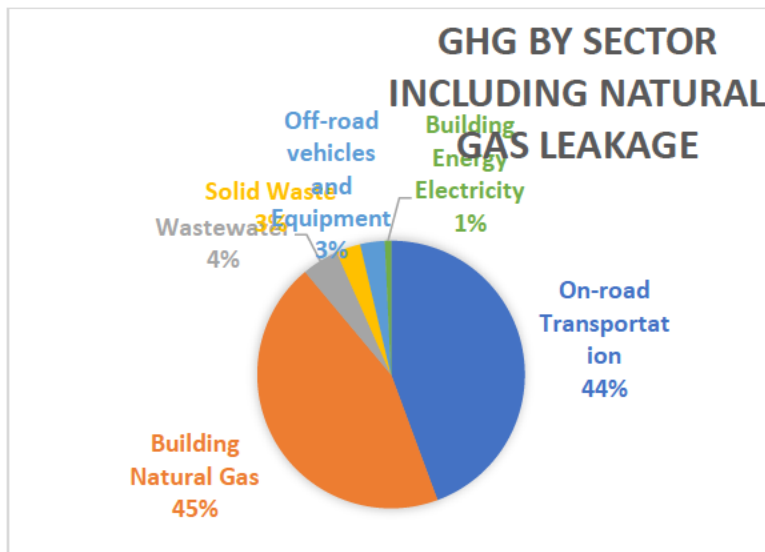


Figure ES 1 revised Calculation of Sector Emissions including the effects of Natural Gas Leakage

# The Imperative of “End of Gas Flow” for All Users of Natural Gas

## Gary Latshaw, Ph.D., September 2022

### Natural Gas Leakage

Natural gas leaks around gas wells, storage tanks, and 3 million miles of underground piping. It has been detected leaking in large amounts at the Permian Basin and other active drilling sites. Its danger as an explosive material have been well demonstrated by the San Bruno Explosion (2010) and the Northridge Massive Gas Release (2015). The release went on for months and released almost 100 million tons of methane into the atmosphere.

Because of the perpetual leakage of 1-3%, its use is considered as harmful to the climate as the combustion of coal<sup>i</sup>. Quoting from Science: *A new study finds that in the United States, such leaks have nearly doubled the climate impact of natural gas, causing warming on par with carbon dioxide (CO<sub>2</sub>)-emitting coal plants for 2 decades.*

### Indoor Air Quality Degradation from Natural Gas

The combustion of natural gas causes the formation of many poisonous chemicals<sup>ii</sup>. These tables below are from pages 21 and 22 of the referenced UCLA Report. The impact to the residents was dependent on the ventilation in the kitchen and the home in general.

**Table 2-6:** Average peak (kitchen) and time-weighted 24-hour average (entire home) NO<sub>2</sub> concentrations from use of gas kitchen appliances in various residence types, and percentage of scenarios in which concentrations exceed air quality thresholds.

Residence Type	Acute - Peak		Chronic			
	Peak Conc. in Kitchen (µg/m <sup>3</sup> )	% of Cases Above Acute Standards	Time-weighted Conc. 1-hour Cooking Entire Home (µg/m <sup>3</sup> )	% of Cases Above Chronic CAAQS 1-hour Cooking	Time-weighted Conc. 2-hour Cooking Entire Home (µg/m <sup>3</sup> )	% of Cases Above Chronic CAAQS 2-hour Cooking
Apartment	2,400	98.3%	46	27.2%	85	65.8%
Townhouse	1,100	90.8%	31	8.4%	52	31.9%
SFH	1,100	87.0%	33	12.5%	56	33.9%

**Table 2-5:** Average peak (kitchen) and time-weighted, 8-hour average (entire home) CO concentrations from use of gas kitchen appliances in various residence types, and percentage of scenarios in which concentrations exceed air quality thresholds.

Residence Type	Acute - Peak		8-hour			
	Peak Conc. in Kitchen (µg/m <sup>3</sup> )	% of Cases Above 1-hour Standards	8-hour Conc. 1-hour Cooking Entire Home (µg/m <sup>3</sup> )	% of Cases Above 8-hour CAAQS 1-hour Cooking	8-hour Conc. 2-hour Cooking Entire Home (µg/m <sup>3</sup> )	% of Cases Above 8-hour CAAQS 2-hour Cooking
Apartment	28,000	27.6%	3,900	8.2%	7,400	18.2%
Townhouse	13,000	12.8%	2,000	2.5%	3,500	6.9%
SFH	12,000	12.2%	1,800	1.8%	3,300	5.8%

These levels of pollutants contribute to Asthma and other respiratory ailments.

# The Imperative of “End of Gas Flow” for All Users of Natural Gas

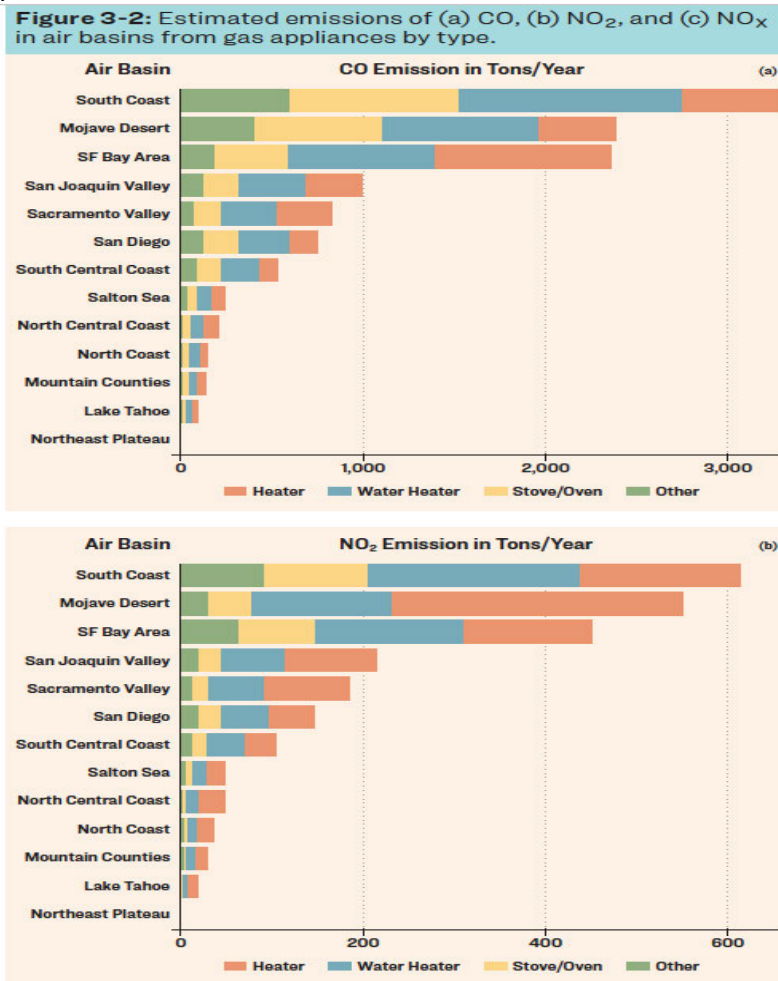
Gary Latshaw, Ph.D., September 2022

The UCLA Report concludes on page 41:

*The indoor air quality analysis for this report found that concentrations of CO and NO<sub>2</sub> during cooking events can exceed the levels set by national and California based ambient air quality standards, occurring much more often for NO<sub>2</sub> than CO. Under a cooking scenario where the stove and oven are used simultaneously for an hour, acute exposures to NO<sub>2</sub> from cooking with gas appliances exceed the levels of national and California based ambient air quality thresholds in more than 90% of modeled emission scenarios.*

## Outdoor Air Quality Degradation

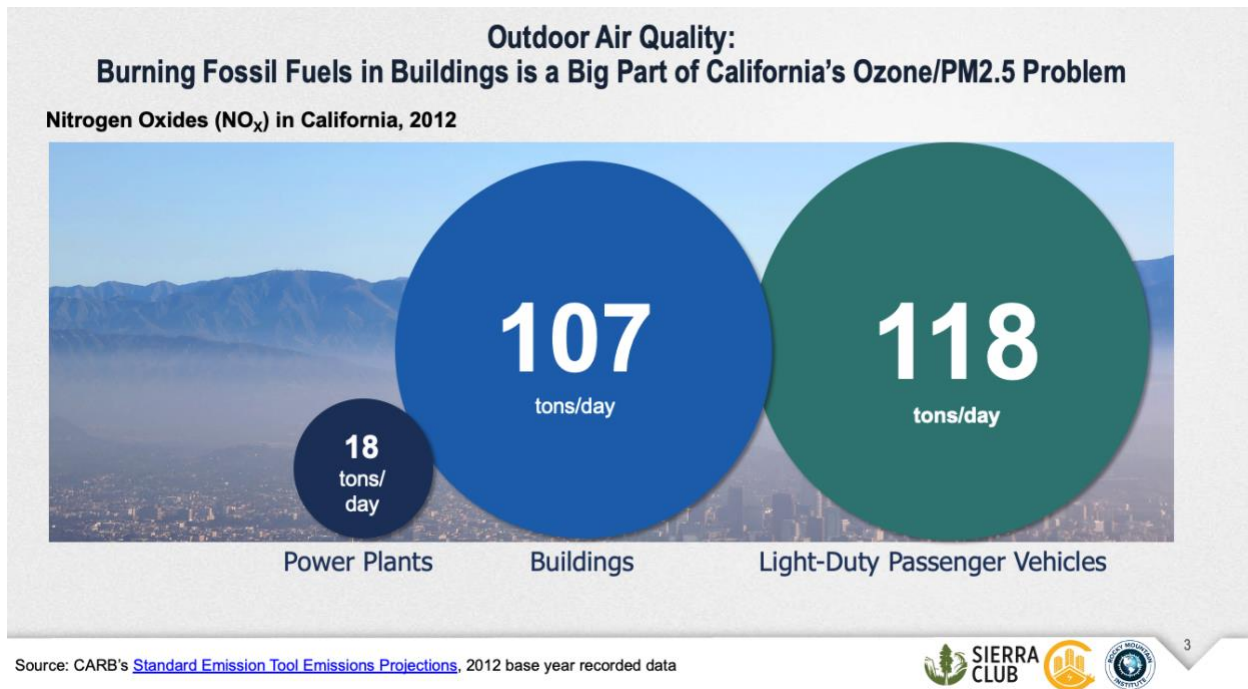
Eventually the indoor combustion products leave the home or other building and contribute to degradation of the outdoor air quality. This is a diagram from page 37 of the referenced UCLA report:



To put these numbers in perspective, this is a chart from the California Resources Board that demonstrates the total impact of fossil fuel usage in buildings:

# The Imperative of “End of Gas Flow” for All Users of Natural Gas

Gary Latshaw, Ph.D., September 2022



The slide is one of many used by the Chief Executive Officer, Jack Broadbent, of the Bay Area Air Quality Management District. It is from a presentation given on August 31, 2020. As seen in the slide, burning natural gas produces pollutant concentrations comparable of that from Light-duty passenger vehicles.

The UCLA Report concludes on page 41:

*Regarding outdoor air quality, this report indicates that under a 2018 scenario where all residential gas appliances were transitioned to electric, the reduction of secondary nitrate PM2.5 (from NO<sub>x</sub>) and primary PM2.5 would result in 354 fewer deaths, and 596 and 304 fewer cases of acute and chronic bronchitis, respectively. The reduction in associated negative health effects is equivalent to approximately \$3.5 billion in monetized health benefits for just one year.*

<sup>i</sup> Cornwall, Warren, *Natural Gas could warm the planet as much as coal in the short term*, Science, June 21, 2018

<sup>ii</sup> Effects of Residential Gas Appliances on Indoor and Outdoor Air Quality and Public Health in California, UCLA Fielding School of Public Health Sciences, April 2020

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**From:** Diane Bailey [REDACTED]  
**Sent:** Tuesday, September 27, 2022 11:47 AM  
**To:** Public Comment  
**Cc:** Murdock, Christian  
**Subject:** Support for a Strong Reach Code Update and Policy Development for Existing Buildings  
**Attachments:** FFBSV Support Letter to Pacifica for a strong Reach Code Update.pdf

**[CAUTION: External Email]**

Dear Mayor Bier and Council Members,

On behalf of the Campaign for Fossil Free Buildings in Silicon Valley (FFBSV), please accept these comments urging you to consider a strong Reach Code update for new buildings based on the model code provided by the [Bay Area Reach Codes team](#); and to begin development of an electrification ordinance for existing homes and buildings. It is essential that the city consider all reasonable measures to prevent new uses of gas and facilitate the necessary transition from fossil gas at the speed and scale called for by the Intergovernmental Panel on Climate Change, as well as to address the air quality, health, and safety impacts of current fossil gas use in our homes and other buildings.

Sincerely,

Diane Bailey

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

[REDACTED]  
Visit us: [www.MenloSpark.org](http://www.MenloSpark.org) & [www.FossilFreeBuildings.org](http://www.FossilFreeBuildings.org)

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*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/>*

**“Half of humanity is in the danger zone from floods, droughts, extreme storms and wildfires.” António Guterres, UN Secretary General July 18, 2022**

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## **The Campaign for Fossil Free Buildings in Silicon Valley**

350 Silicon Valley, Acterra, Bay Area for Clean Environment, Carbon Free Silicon Valley, Carbon Free Palo Alto, Carbon Free Mountain View, Cinnamon Energy Systems, Citizens' Climate Lobby San Mateo County, Citizens Environmental Council of Burlingame, Clean Coalition, Climate Reality Project: Santa Clara County, Coltura, Cool Block, Drawdown Bay Area, Earthy B, Electrify Now, emeraldECO, Fossil Free Mid-Peninsula, GreenTown Los Altos, Indivisible Ross Valley, Kitchens of Life, Menlo Spark, Menlo Together, Mothers Out Front Silicon Valley, npc Solar, Pacifica Climate Committee, Peninsula Interfaith Climate Action, Project Green Home, Redwood Energy, SIDCO Homes, San Carlos Green, San Francisco Bay Physicians for Social Responsibility, San Mateo Climate Action Team, Sierra Club Loma Prieta Chapter, Sustainable San Mateo County, Sustainable Silicon Valley, Sunnyvale Cool, Silicon Valley Youth Climate Action, and Silicon Valley Youth Climate Strike

September 27, 2022

Pacifica City Hall  
540 Crespi Drive  
Pacifica, CA 94044

*Via email: [publiccomment@pacifica.gov](mailto:publiccomment@pacifica.gov)*

### **RE: Support for a Strong Reach Code Update and Policy Development for Existing Buildings**

Dear Mayor Bier and Council Members,

We, the undersigned, on behalf of the Campaign for Fossil Free Buildings in Silicon Valley (FFBSV), urge you to consider a strong Reach Code update for new buildings based on the model code provided by the [Bay Area Reach Codes team](#); and to begin development of an electrification ordinance for existing homes and buildings. It is essential that the city consider all reasonable measures to prevent new uses of gas and facilitate the necessary transition from fossil gas at the speed and scale called for by the Intergovernmental Panel on Climate Change, as well as to address the air quality, health, and safety impacts of current fossil gas use in our homes and other buildings.

The Study Session this evening seeks direction on whether the existing reach code should be updated (as it must be to remain effective since the state will transition to a new building code in January 2023); and whether a reach code for existing homes and buildings should be developed in the coming year. Please proceed quickly with the model reach code (for new construction) provided by the Bay Area Reach Codes Team, including Peninsula Clean Energy and four other agencies, ensuring there is no lapse in the current reach code, which will sunset at the end of the calendar year. This model code has made important improvements that will strengthen the code from 2019. We also urge you to develop a comprehensive electrification ordinance for existing buildings as a priority in the coming year. It is critical to address existing buildings, because - as the staff report notes - only 23 new residential units were approved for construction over the past 5 years, but the City has issued hundreds of permits for residential remodels, water heater replacements, and other improvements to these existing residential units over the same period.

[FFBSV](#) includes the 39 organizations listed above, working together to support an accelerated phase out of fossil fuels in homes and buildings. A rapid transition away from fossil fuel use is critical to avoid the very worst and irreversible impacts of climate change. Preventing the continued use of fossil fuels, including "natural gas" (which is comprised of methane), creates more affordable, cleaner, healthier, and more resilient housing and buildings for communities throughout San Mateo and Santa Clara Counties.

### ***Building Electrification is an Urgent Climate Action***

Although the devastating increase in catastrophic wildfires, heatwaves, and drought throughout California has raised public awareness of climate change, the depth of the climate crisis is even worse than is commonly understood and demands urgent action. A recent report from California's nonpartisan Legislative Analyst's Office detailed how we are already experiencing the impacts of Climate Change.<sup>1</sup> In 2021, California experienced its hottest average summer temperatures, its second largest wildfire, and its third driest year (based on precipitation) on record, and we can expect extreme weather to intensify as the climate continues to change. The LAO report estimates that \$8 to \$10 billion of existing property in California is likely to be underwater by 2050; extreme heat is projected to cause more deaths per year than from car accidents; and at least 13,000 existing housing units in the Bay Area alone, "will no longer be usable" because of sea rise over the next 40 to 100 years.<sup>2</sup>

Levels of CO<sub>2</sub> in the atmosphere reached 420 parts per million (ppm) last month, which is well above the 280-350 ppm scientists say is ideal for human life.<sup>3</sup> This measurement has been certified as the highest level ever recorded, and it's estimated to be the highest in the last 4.5 million years. A sobering series of reports from the Intergovernmental Panel on Climate Change (IPCC) released from August 2021 through April 2022 have found that humans have had an "unequivocal" influence on climate change and warn that this decade is humanity's last chance to limit warming.<sup>4</sup> While the IPCC report revealed that sadly, a 1.5°C rise in planetary temperature is now unavoidable, the potential to limit warming to below 2°C—and avoid even more catastrophic climate impacts—is still possible if the world can achieve net-zero carbon emissions by 2050.<sup>5</sup> That means we need to begin phasing out fossil fuels right away, including methane gas used to heat and cook with.

The Bay Area Reach Codes has provided carefully vetted policies, reviewed by top legal and energy experts to help cities throughout our region meet their climate plan goals and demonstrate much needed progress in phasing out fossil fuel use. They provide additional resources and staffing support to ensure that cities have successful outcomes when adopting these policies. Additional electrification resources that support bold action at this time include:

- The new federal climate bill (Inflation Reduction Act) contains significant funding (up to \$14,000 in direct rebates for each qualifying household) for fixed, low, and middle income residents, and tax credits for everyone.
- Peninsula Clean Energy is launching a zero interest on-bill financing program, along with extensive rebates and home upgrade funding.

Phasing out gas use provides many benefits to community health, safety, and a stable climate future. Extending these benefits to existing homes and buildings is now urgently needed.

- **All-Electric homes and buildings are more efficient.** According to the California Energy Commission, a modern high-efficiency heat pump electric water heater (available at all major retailers) costs roughly one-third less on utility bills to operate than the most efficient gas water heater.<sup>6</sup> In addition, electric heat pump heating also provides air-conditioning, resulting in less equipment, reduced maintenance costs, and greater climate resilience.
- **Public Safety:** Methane gas is highly flammable. In the past 10 years, 9,000 gas explosions in the U.S have killed more than 500 people, and gas leaks have displaced and sickened thousands of people.<sup>7</sup> Methane gas also caused half the fires after two major California earthquakes.<sup>8</sup>
- **Health:** Gas stoves release smog-forming compounds such as nitrogen dioxide, unburnt hydrocarbons and carbon monoxide pollution that doubles risks for heart and lung disease and triples the use of asthma medications.<sup>9</sup> ***In fact, studies have shown that children living in homes using gas for cooking have a more than 40% higher risk of having asthma.***<sup>10</sup> Further,

improperly vented gas appliances lead to carbon monoxide poisoning that results in thousands of emergency room visits and several hundred deaths every year.<sup>11</sup>

- **Climate:** All-electric buildings are a highly visible and practical step forward to address the climate crisis, by breaking the cycle of fossil fuel dependency in buildings. This is the single biggest step that cities can take to address climate this year.
- **Resilience:** Switching from gas to electric at the time of remodel or replacement helps avoid a complex, costly and likely inevitable switch to all-electric heating and appliances in the future, since gas prices are expected to rise sharply, and California is planning to eventually end gas distribution. The California Public Utilities Commission estimates that natural gas rates will increase at twice the rate of electricity through the next 10 years.<sup>12</sup> Converting to **all-electric now will help future-proof Pacifica.**

In addition to the many benefits of building all-electric new homes and buildings, including on-site solar energy generation, strong electric vehicle charging infrastructure standards will also help support a transition away from fossil fuels, boost resilience, and ensure equity in accessing EVs. Please move forward as quickly as possible with this important climate measure.

Thank you for considering our comments. We would be pleased to provide additional information or respond to any questions that might arise.

Sincerely,

Terry Nagel, Chair, Sustainable San Mateo County

Ole Agesen, Menlo Park

Kathleen Goforth, Co-founder, Climate Reality Bay Area San Mateo Policy Action Squad

Tom Kabat, Board Member, Carbon Free Silicon Valley

Leane Eberhart, Architect

Michelle Hudson, Co-Leader of the San Mateo Climate Action Team

John McKenna, Co-Leader of the Menlo Park Climate Team

Linh Dan Do, Co-Leader of the Menlo Park Climate Team

Kristel Wickham, Co-lead of Climate Action Leadership Team

Jennifer Thompson, Sustainable Silicon Valley

Debbie Mytels, Peninsula Interfaith Climate Action

Hoi Poon, Co-Founder, Advisor, Silicon Valley Youth Climate Action

Bret Andersen, Board Member, Carbon Free Palo Alto

Diane Bailey, Executive Director, Menlo Spark

Cc: Christian Murdock, Planning Director, [cmurdock@pacifica.gov](mailto:cmurdock@pacifica.gov)



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<sup>1</sup> <https://lao.ca.gov/Publications/Series/1>

<sup>2</sup> <https://calmatters.org/environment/2022/04/california-climate-change-report-legislature/>

<sup>3</sup> <https://keelingcurve.ucsd.edu>

<https://www.axios.com/2022/05/04/april-sets-record-highest-co2-levels>

<sup>4</sup> <https://www.ipcc.ch/report/ar6/wg3/>

<https://www.bloomberg.com/news/features/2021-08-09/ipcc-report-human-caused-climate-change-unequivocal>

<sup>5</sup> [https://www.nytimes.com/2021/08/09/climate/climate-change-report-ipcc-un.html?te=1&n=climate-fwd:&emc=edit\\_clim\\_20210812](https://www.nytimes.com/2021/08/09/climate/climate-change-report-ipcc-un.html?te=1&n=climate-fwd:&emc=edit_clim_20210812)

<sup>6</sup> Rider, Ken, Email correspondence, ken.rider@energy.ca.gov. March 2020.

<sup>7</sup> Joseph, George. "30 Years of Oil and Gas Pipeline Accidents, Mapped." Citylab. November 30, 2016

Sellers, F., Weintraub, K. and Wootson, C. (2018). "Thousands of residents still out of their homes after gas explosions trigger deadly chaos in Massachusetts." Washington Post. [https://www.washingtonpost.com/national/thousands-of-residents-still-out-of-their-homes-after-gas-explosions-trigger-deadly-chaos-in-massachusetts/2018/09/14/802ff690-b830-11e8-94eb-3bd52dfe917b\\_story.html](https://www.washingtonpost.com/national/thousands-of-residents-still-out-of-their-homes-after-gas-explosions-trigger-deadly-chaos-in-massachusetts/2018/09/14/802ff690-b830-11e8-94eb-3bd52dfe917b_story.html)

<sup>8</sup> Los Angeles in 1994 and San Francisco in 1989, according to the California Seismic Safety Commission. (2002). "Improving Natural Gas Safety in Earthquakes." SSC-02-03

Taylor, Ann. "The Northridge Earthquake: 20 Years Ago Today." The Atlantic. January 17, 2014.

<sup>9</sup> Jarvis et al. (1996) "Evaluation of asthma prescription measures and health system performance based on emergency department utilization." <https://www.ncbi.nlm.nih.gov/pubmed/8618483>

<sup>10</sup> Lin, W., Brunekreef, B. & Gehring, U. Meta-analysis of the effects of indoor nitrogen dioxide and gas cooking on asthma and wheeze in children. Int. J. Epidemiol. 42, 1724–1737 (2013).

<sup>11</sup> USDN, Methane Math, [https://sfenvironment.org/sites/default/files/fliers/files/methane-math\\_natural-gas-report\\_final.pdf](https://sfenvironment.org/sites/default/files/fliers/files/methane-math_natural-gas-report_final.pdf)

<sup>12</sup> "California's Gas System in Transition | Equitable, Affordable, Decarbonized and Smaller." Gridworks, September 29, 2019. [https://gridworks.org/wp-content/uploads/2019/09/GW\\_Calif-Gas-System-report-1.pdf](https://gridworks.org/wp-content/uploads/2019/09/GW_Calif-Gas-System-report-1.pdf).

CPUC Rate Analysis: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/en-banc/feb-2021-utility-costs-and-affordability-of-the-grid-of-the-future.pdf>

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**From:** Celeste Langille [REDACTED]  
**Sent:** Tuesday, September 27, 2022 12:00 PM  
**To:** Public Comment  
**Subject:** RE: Study Session tonight

**[CAUTION: External Email]**

**September 27, 2022**

Dear Mayor Bier and City Council members,

Thank you for taking up the issue of Reach Codes at your tonight's Study Session. According to the California Energy Commission, "California's buildings produce a quarter of the state's greenhouse gas (GHG) emissions, making homes and businesses a major factor in climate change." Pacifica and other Bay Area communities are well positioned to make a dent in GHG emissions by enacting strong Reach Codes that transition away from the use of methane gas in our buildings.

Please respond YES to all of City staff's requests for direction:

1. Should staff prepare the existing Reach Codes for readoption where they have not been superseded by 2022 CBC? **YES!**
2. Should staff modify any of the 2019 Reach Codes? **Yes, please use the Bay Area Reach Codes Team Model Code**
3. Should staff prepare any additional Reach Codes applicable to new buildings for consideration as part of the 2022 CBC adoption process? **Please use the Bay Area Reach Codes Team Model Code**
4. Should staff prepare an item for consideration during the Fiscal Year 2023-2024 goal setting and work plan development process to study potential adoption of Reach Codes that are applicable to existing buildings? **Yes, it's critical to address existing buildings. As the staff report notes, only 23 new residential units were approved for construction over the past 5 years, but the City has issued hundreds of permits for residential remodels, water heater replacements, and other improvements to these existing residential units over the same period.**

As you know, GHG emissions are driving climate change, which is causing heat waves, fires, drought and flooding in California and throughout the world. Our children deserve better. Please use your power as our City Council to adopt a full electrification ordinance, which is a very local and effective solution to the climate crisis.

Sincerely,

Celeste Langille

**CAUTION: This email originated from outside of the City of Pacifica. Unless you recognize the sender's email address and know the content is safe, do not click links, open attachments or reply.**