


9/28/2021

item 8




City Council Hearing

Item 21-1108

Introduction of an All-Electric Reach Code Ordinance, including Electric Vehicle (EV) Charging, that Amends Chapter 15.36 (Energy Code) and Chapter 15.38 (Green Building Code) of Title 15 (Buildings and Construction) of the Santa Clara City Code

September 28, 2021

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City of Santa Clara
The Center of What's Possible

Reach Codes
What Are They, Why Adopt Them?

Emissions Reduction & Decarbonization

- Addresses City CAP targets
- Enables EV adoption
- Supports State Carbon Neutrality by 2045
- Utilizes a cleaner energy grid with more renewables




Health & Safety

- Improves indoor air quality
- Reduces illness tied to indoor combustion
- Eliminates leading cause of home fires with transition to induction cooking


Cost Savings

- Lowers first costs without natural gas infrastructure
- Benefits to residents \$
- Improves economic & environmental performance



Faster Recovery

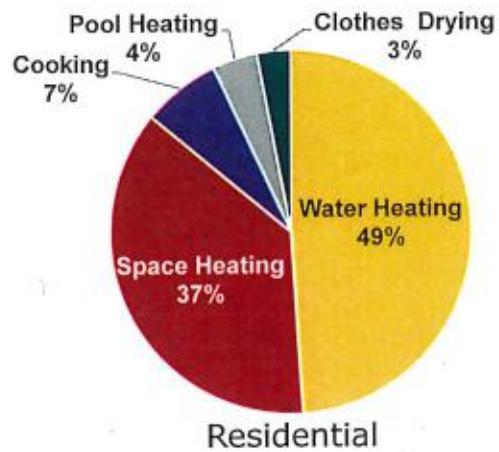
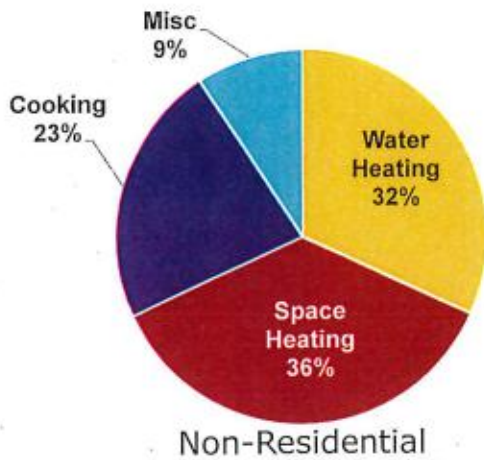
- Electric distribution recovers more quickly than natural gas



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Thermal Energy Use in CA



2009 Residential Appliance Satisfaction Survey
2006 California Commercial End Use Survey



Amendment to CA Energy Code

Proposed All-electric NEW Construction Ordinance

All-electric building

- No gas or propane plumbing within building
- No gas meter
- All-electric appliances

New Construction

- Newly constructed buildings
- Additions/improvements to existing buildings:
 - 50% exterior walls removed or
 - 50% of wall plate height raised



Amendment to CA Energy Code Proposed All-electric NEW Construction Ordinance

Applies to New:

- Single- & two-family, townhouses
- Multi-family residential
- Hotels & motels
- Offices and other non-residential

Includes Solar-ready:

- Hotel/Motel Occupancies & High-rise Multifamily (10 stories)
- Nonresidential Buildings (3 stories)

Includes Exceptions:

- Factories, hazardous materials facilities, laboratories
- Emergency operating centers
- Hotel laundry facilities (80 rooms)
- Commercial kitchens
- Infeasibility



Amendment to CA Green Building Code

Code Element	Proposed Electric Vehicle (EV) Charging for NEW construction
Single and two-family & Townhouses	<ul style="list-style-type: none"> • One Level 2 EV Ready per dwelling + Level 1 EV Ready if two spaces <ul style="list-style-type: none"> • 25% of all unassigned spaces - Level 2 EV Ready • 75% of unassigned spaces – Low Power Level 2 EV Ready
Multifamily & Multifamily Affordable	<ul style="list-style-type: none"> • 20 or less dwelling units with parking - one Level 2 EV Ready per dwelling • Over 20 dwelling units with assigned parking: <ul style="list-style-type: none"> • First 20 dwellings - one Level 2 EV Ready per dwelling • 25% of all remaining units with assigned spaces - Level 2EV Ready • 75% of all remaining units with assigned spaces – Low Power Level 2 EV Ready • Secured bicycle parking with 110v electrical outlets shall be provided • Affordable units with parking - 10% Level 2 EV Ready, 90% Level 1 EV Ready
Hotels & Motels	<ul style="list-style-type: none"> • 10% Level 2 Electric Vehicle Charging Station (EVCS) • 50% EV Capable
Offices & Other Non-residential	<ul style="list-style-type: none"> • 35% Level 2 Electric Vehicle Charging Station (EVCS) • 35% EV Capable



Proposed Building Electrification and Electric Vehicle Reach Codes

Recommendation

Introduce electrification reach codes as written, to be established on January 1, 2022; to help reduce carbon emissions associated with new construction, reduce costs in new construction, improve indoor air quality and safety of our building stock, support affordable housing, and increase adoption of electric vehicles.

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September 28, 2021

8

8/27/21

Item 8.

Julie Minot

From: Diane Bailey <diane@menlospark.org>
Sent: Monday, September 27, 2021 10:49 PM
To: Mayor and Council
Subject: Re: Support for an All-Electric Reach Code for Healthy Homes, Clean Air, and a Climate Resilient Community
Attachments: City of Santa Clara Electric Reach Code Support Letter 9 27 21.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

My apologies, please use the attached comment letter with correct signatories.
Thank you.
All the best,
Diane

From: Diane Bailey <diane@menlospark.org>
Date: Monday, September 27, 2021 at 5:33 PM
To: "MayorAndCouncil@santaclaraca.gov" <MayorAndCouncil@santaclaraca.gov>
Subject: Support for an All-Electric Reach Code for Healthy Homes, Clean Air, and a Climate Resilient Community

Dear Mayor Gillmor and City Council Members,
Please accept these comments (attached) on behalf of the Campaign for Fossil Free Buildings in Silicon Valley (FFBSV), expressing our strong support for the all-electric reach code to be considered in Santa Clara tomorrow, September 28. Although we are continuing to recover from the pandemic, local building electrification regulations are critically needed to address the magnitude of the climate crisis, as well as the air quality, health, and safety impacts of current fossil gas use in our homes and buildings. We strongly urge you to adopt an all-electric Reach Code now requiring electric heating and appliances, on-site solar energy, and electric vehicle charging infrastructure in all new construction, both residential and commercial.

Thank you for considering our comments.

Sincerely,
Diane Bailey

Diane Bailey (she/her), Climate Change Professional (CC-P) | Executive Director
MENLO SPARK
diane@menlospark.org | 650-281-7073
Visit us: www.MenloSpark.org & www.FossilFreeBuildings.org
Find us on [Facebook](#)
Follow us on [Twitter](#)



POST MEETING MATERIAL

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/>

*For there is always light, if only we're brave enough to see it.
If only we're brave enough to be it. – Amanda Gorman*



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: Silicon Valley, Coltura, Cool Block, 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, 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, 2021

Santa Clara City Hall
1500 Warburton Ave.
Santa Clara, CA 95050

Via email: MayorAndCouncil@santaclaraca.gov

RE: Support for an All-Electric Reach Code for Healthy Homes, Clean Air, and a Climate Resilient Community

Dear Mayor Gillmor and City Council Members,

On behalf of the Campaign for Fossil Free Buildings in Silicon Valley ([FFBSV](#)), this letter expresses our strong support for the all-electric reach code to be considered in Santa Clara on September 28. Although we are continuing to recover from the pandemic, local building electrification regulations are critically needed to address the magnitude of the climate crisis, as well as the air quality, health, and safety impacts of current fossil gas use in our homes and buildings. We strongly urge you to adopt an all-electric Reach Code now requiring electric heating and appliances, on-site solar energy, and electric vehicle charging infrastructure in all new construction, both residential and commercial. We also urge you not to allow exceptions for gas-powered fuel cells, as [one local company](#) that produces gas-powered fuel cells may have been urging you to do.

FFBSV includes the 37 local organizations listed above, working together to support an accelerated phase out of fossil fuels in buildings. A rapid transition away from fossil fuel use is critical to avoid the very worst and irreversible impacts of climate change. Preventing the use of fossil fuels, including natural gas, in new construction will create more affordable, cleaner, healthier, and more resilient housing and buildings for communities throughout Santa Clara.

Building Electrification is an Urgent Climate Action

Although the devastating increase in catastrophic wildfires 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 sobering report from the Intergovernmental Panel on Climate Change (IPCC) released last month has found that humans have had an “unequivocal” influence on climate change and warns that this decade is humanity’s last chance to limit warming.¹ 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 2050.² That means we need to accelerate phasing out fossil fuels now, including heating and cooking with methane gas (note that methane has an 84 time greater climate impact than CO₂ over a 20-year timespan).³

Nearly all cities in Santa Clara County have already adopted electric requirements for new construction that avoid new fossil gas use because there are many benefits to community health, safety, and a stable climate future, including:

- **Economic:** All-electric homes are less expensive to build (saving roughly \$10,000 for each single-family home and \$3,000 or more for each new apartment unit).⁴ In all of the buildings analyzed by the 2019 Nonresidential New Construction Reach Code Cost Effectiveness Study by TRC and Energy Soft, all-electric versions cost less to construct than their mixed-fuel counterparts. **All-Electric buildings are also more efficient.** For example, according to the California Energy Commission, a modern high-efficiency heat pump electric water heater (available now at major retailers) costs roughly one-third less on utility bills to operate than the most efficient gas water heater.⁵ In addition, all-electric buildings include air-conditioning combined with heating, resulting in less equipment, reduced maintenance costs, and greater climate resilience.
- **Public Safety:** Fossil 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.⁶ Methane gas also caused half the fires after two major California earthquakes.⁷
- **Public 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.⁸ *In fact, studies have shown that children living in homes using gas for cooking have a more than 40% higher risk of developing asthma.*⁹ Further, improperly vented gas appliances lead to carbon monoxide poisoning that results in thousands of emergency room visits and several hundred deaths every year.¹⁰
- **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 and counties can take to address climate this year.
- **Construction Time Savings:** All-electric buildings are generally faster to design, permit, and build. The code is easier for building and planning staff to apply, and it is also easier for everyone to understand.
- **Resilience:** An all-electric code today heads off a complex, costly and likely inevitable switch to electricity in the future, since gas prices are expected to rise sharply, and California is planning

8/27/21

Item 8

Julie Minot

From: Barbara Kelsey <barbara.kelsey@sierraclub.org>
Sent: Monday, September 27, 2021 10:11 PM
To: Mayor and Council
Cc: Lisa Gillmor; Kathy Watanabe; Raj Chahal; Karen Hardy; Kevin Park; Sudhanshu Jain; Anthony Becker; Clerk; Manager; Dashiell Leeds; Gladwyn d'Souza; James Eggers; Mike Ferreira
Subject: Loma Prieta Chapter Sierra Club comment letter re: 9.28.2021 Agenda item 8: Action on the Introduction of an All-Electric Reach Code
Attachments: SCLP letter to Santa Clara 9.28.2021.pdf
Follow Up Flag: Follow up
Flag Status: Flagged

September 28th, 2021

City of Santa Clara
1500 Warburton Avenue
Santa Clara, CA 95050

Dear Mayor Gillmor and Santa Clara City Councilmembers,

The Sierra Club Loma Prieta Chapter strongly supports the all-electric reach code proposed for the September 28th City Council meeting. While the overall code is excellent, we believe there are a few small but important opportunities for the City Council to strengthen the Reach Code. If these modifications can be accepted without delaying the first reading, we hope the City Council moves to include these minor amendments. Please see our full comment letter attached.

Sincerely,

Dashiell Leeds
Conservation Assistant
Loma Prieta Chapter Sierra Club

Gladwyn d'Souza
Conservation Committee Chair
Loma Prieta Chapter Sierra Club

Cc: James Eggers
Executive Director
Loma Prieta Chapter Sierra Club

POST MEETING MATERIAL

Sent by:

Barbara Kelsey

she/her/hers

Chapter Coordinator

Sierra Club, Loma Prieta Chapter

3921 E. Bayshore Rd, Suite 204

Palo Alto, CA 94303

barbara.kelsey@sierraclub.org

We do not have a Chapter office
opening date yet, so email is the
best way to contact us.

POST HERE TO REGISTER



SIERRA CLUB

LOMA PRIETA CHAPTER

SAN MATEO, SANTA CLARA & SAN BENITO COUNTIES

September 28th, 2021

City of Santa Clara
1500 Warburton Avenue
Santa Clara, CA 95050

Via email to mayorandcouncil@santaclaraca.gov

Cc: Clerk@santaclaraca.gov

Manager@santaclaraca.gov

lgillmor@santaclaraca.gov

kwatanabe@santaclaraca.gov

rchahal@santaclaraca.gov

khardy@santaclaraca.gov

kpark@santaclaraca.gov

sjain@santaclaraca.gov

abecker@santaclaraca.gov

Re: 9.28.2021 Agenda item 8: Action on the Introduction of an All-Electric Reach Code

Dear Mayor Gillmor and Santa Clara City Councilmembers,

The Sierra Club Loma Prieta Chapter strongly supports the all-electric reach code proposed for the September 28th City Council meeting. While the overall code is excellent, we believe there are a few small but important opportunities for the City Council to strengthen the Reach Code. If these modifications can be accepted without delaying the first reading, we hope the City Council moves to include these minor amendments. Precedent has been set by many jurisdictions, including Los Gatos, San Mateo County, and Mountain View, which all removed and modified exception language on the day of the first reading without delaying that first reading.

Exception 1

The existing language is "F, H, L Occupancies may utilize natural gas and provide installed rewiring for future use of electric appliances." We propose adding "To take advantage of this exception, applicant should provide third party verification that an All-Electric building is not cost effective and feasible."

Exception 3

The existing language is "Hotels with eighty or more guestrooms may utilize natural gas in on-site commercial laundry facilities only." We propose adding "To take advantage of this exception, applicant should provide third party verification that an all-electric commercial laundry facility is not cost effective and feasible."

Exception 4

We propose adding the following modifications in bold:

Non-residential kitchens may not **utilize gas for** cooking appliances unless the applicant establishes that there is not an all-electric option for the kitchen using commercially available technology. If the building official grants an exception, EnergySTAR rated **propane** appliances shall be used.

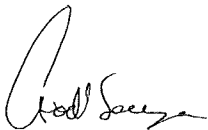
The default requirement for building types should be all-electric. Gas should be used only as a last resort in cases where technical infeasibility and a cost burden can be demonstrated by a third party to the Building Official. Such language would prevent the unnecessary expansion of the gas pipeline network which is a threat to the public health, finances, and climate of Santa Clara residents. The modified language could also send a stronger signal to the private marketplace, further accelerating the proliferation of all-electric technologies.

Adopting an All-Electric Reach Code is an important step towards reducing future gas use and limiting emissions that threaten the survival of ecosystems and organized human life on earth. Many more climate actions will need to be achieved by Santa Clara and other jurisdictions going forward. We look forward to supporting the City in fighting for the health and survival of its residents by rapidly reducing emissions.

Sincerely,



Dashiell Leeds
Conservation Assistant
Loma Prieta Chapter Sierra Club



Gladwyn d'Souza
Conservation Committee Chair
Loma Prieta Chapter Sierra Club

Cc: James Eggers
Executive Director
Loma Prieta Chapter Sierra Club

-
- ¹ <https://www.ipcc.ch/report/ar6/wg1/>
<https://www.bloomberg.com/news/features/2021-08-09/ipcc-report-human-caused-climate-change-unequivocal>
- ² https://www.nytimes.com/2021/08/09/climate/climate-change-report-ipcc-un.html?te=1&nl=climate-fwd:&emc=edit_clim_20210812
- ³ California Air Resources Board, <https://ww2.arb.ca.gov/our-work/programs/methane-research>
- ⁴ See www.PeninsulaReachCodes.org
- ⁵ Rider, Ken, Email correspondence, ken.rider@energy.ca.gov. March 2020.
- ⁶ 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
- ⁷ 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.
- ⁸ 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>
- ⁹ 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).
- ¹⁰ USDN, Methane Math, https://sfenvironment.org/sites/default/files/fliers/files/methane-math_natural-gas-report_final.pdf

to eventually end gas distribution. PG&E has asked for a 24% gas rate increase and SoCalGas, a 42% increase, over the next couple years, and this is just the beginning. **Building all-electric now will help future-proof Santa Clara.**

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 adopt this important climate measure at your September 28 City Council Meeting.

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

Sincerely,

Lauren Weston, Executive Director, Acterra: Action for a Healthy Planet

Janelle London, Coltura

Jenny Green, Mothers Out Front Silicon Valley, leadership team volunteer

Bruce Naegel, Carbon Free Silicon Valley, Sustainable Silicon Valley

Terry Nagel, Chair, Sustainable San Mateo County, and former Mayor, Burlingame

Leane Eberhart, San Mateo Architect

Carolyn Zhao, Co-lead of Santa Clara Youth Climate Action

Hoai-An Truong, Leadership Team, Mothers Out Front Silicon Valley

Linda Hutchins-Knowles, Co-founder, Mothers Out Front Silicon Valley

Brianna Duarte, Beneficial Electrification, Acterra

Mary Dateo, Board member, Carbon Free Mountain View

James Tuleya, Chairperson, Carbon Free Silicon Valley

Hoi Poon, Chair, Environmental Committee, Silicon Valley Democratic Club; Co-Founder, Silicon Valley Youth Climate Action

Stephanie Morris, Mothers Out Front Silicon Valley Leadership Team

Suzanne Henderson Emerson, San Carlos Green

Sean Armstrong, Managing Partner, Redwood Energy

Bruce Hodge, Founder, Carbon Free Palo Alto

Jared Johnson, Sr. Manager of Policy & External Relations, Acterra

Robert M. Gould, MD, President San Francisco Bay Physicians for Social Responsibility

Gary Latshaw, Ph.D., Chair of the Guadalupe Group of the Sierra Club (Chapter Loma Prieta)

Diane Bailey, Executive Director, Menlo Spark