



TOWN OF FAIRFAX

STAFF REPORT

April 7, 2021

TO: Mayor and Town Council

FROM: Garrett Toy, Town Manager

SUBJECT: Consider request from the CAC to adopt an all-electric requirement for all new construction and direct staff as appropriate

RECOMMENDATION

Consider request from the Climate Action Committee (CAC) to adopt an all-electric requirement for new residential and commercial construction and direct staff as appropriate.

DISCUSSION

At its February 3rd meeting, the Council considered a request from the CAC to require all-electric in new residential and commercial construction. After a lengthy discussion and consideration of a variety of issues, the Council requested the CAC to conduct further research and report back to Council with its recommended approach, including any exemptions to an all-electric requirement.

Attached is the “white paper” prepared by the CAC in response to the Council’s direction. Specifically, the CAC is recommending the Council:

- a. Adopt an ordinance in Health and Safety Code to require all electric.
- b. Apply the ordinance to all types of buildings and uses (i.e., all new residential and commercial).
- c. Exempt commercial kitchens.
- d. Apply ordinance only to new buildings (Note: staff will need to define “new”).
- e. No other energy requirements for the buildings.

Based on the Council’s direction, staff would work with the Town Attorney to develop an ordinance for Council consideration at a future meeting.

Mayor Ackerman and Vice-Mayor Hellman are the Council representatives to the CAC.

FISCAL IMPACT

n/a

ATTACHMENT

CAC White Paper

Report to Fairfax Town Council

From: Fairfax Climate Action Committee

Date: 2021.02.23

Re: Considerations in the Adoption of an All-Electric ordinance for New Buildings

Choices for ordinance construction and Recommendations¹ (recommended option is **Bolded**)

- a. Ordinance based on Energy Code OR **Health and Safety Code**
- b. **All types of buildings** or only some types of buildings
- c. **All uses** or exempt some uses
- d. Commercial kitchens exempt? **Yes**/No
- e. **New Buildings only** or including Existing Buildings
- f. **Building only**, or added requirements for solar or EVs?

¹ See, especially, Building Decarbonization Coalition, *Approved Zero Emission Building Codes in California as of 1/30/2021*; See also, California Energy Commission, Building Efficiency/Renewables (available at <https://localenergycodes.com/content/reach-codes/building-efficiency-renewables/>.)

1. Gas stoves²
 - a. Remember, this is only for buildings that do not exist today! This is NOT about existing stoves; it is about stoves for future buildings.
 - b. People tend to like their gas stoves without much awareness of the very serious indoor air quality health risks they pose, much less their impacts on greenhouse gas emissions and public safety.
 - c. Some jurisdictions have exempted gas stoves, but in doing so impose higher costs on consumers who end up paying for a new gas line as well as their electrical service.
 - d. The new gas line will become a stranded asset as the State or others require that equipment and appliance replacements be All-Electric
 - e. Much experience with induction stoves shows that they are healthier, more cost effective, and preferred by consumers who try them.³
2. Initial cost and ongoing cost⁴
 - a. New All-Electric residential buildings are less expensive to build than new residential multi-fuel buildings due to eliminating the cost of the gas infrastructure.
 - b. Ongoing energy costs for new All-Electric residential buildings are comparable or less expensive than new residential multi-fuel buildings. This is due in large part to the adoption of heat pump technology for space and water heating. The price of natural gas is also likely to rise over time, if some sort of carbon tax or other financial de-carbonization incentives go into place.
3. Power outages
 - a. Either batteries, batteries with solar, or other generators may provide backup power.⁵
 - b. There are no backups to natural gas outages.

² See Common Spark Consulting, *Going Induction Guide*, (available at <https://drive.google.com/file/d/1qg5nyyOkz5hsdWOqZZAm6L9b9wLGJ7s7/view>)

³ People generally prefer induction once they try it. Some potential resources are here: <https://www.switchison.org/how-it-works#cooking>

⁴ See Rocky Mountain Institute, *The Economics of Electrifying Buildings*, 2018 (available at <https://rmi.org/insight/the-economics-of-electrifying-buildings/>). See also, See Energy+Environmental Economics, *Residential Building Electrification in California*, April 2019 (funded by Southern California Edison, Sacramento Municipal Utility District, and Los Angeles Department of Water and Power; available at https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf).

⁵ See Bay Area Air Quality Management District, *Public Safety Power Shutoff Events* (accessible at <https://www.baaqmd.gov/permits/apply-for-a-permit/engine-permits/psps>). See also, California Air Resources Board, *Emergency Backup Power Options - Residential* (available at <https://ww2.arb.ca.gov/our-work/programs/technology-clearinghouse/clearinghouse-tools/next-gen-tools/emergency-backup>).

- c. When power goes out, many natural gas appliances do not work, as they require electrical controls, ignition, fans, etc. All modern appliances require electricity to run properly. For safety reasons pilot lights have been replaced with electric ignitions so no new appliances work in a power outage. The exception is the gas stove which can be match lit, but this is not recommended as the ventilation will not work and the pollutants (including Carbon monoxide) can build up quickly. However, most gas ovens made today are not capable of being match-lit, so they will not work in a PSPS event either.
4. Marin County Electric-Preferred vs. All-electric
- a. Electric-Preferred It is not as good as All-Electric in helping us get to zero carbon emissions.
 - b. Also, the Energy Code approach is more difficult to enact - requires a cost-effectiveness study and approval by the California Energy Commission (CEC).
 - c. While the County Staff is available to help us get an Electric-Preferred Reach Code under the Energy Code passed, the Building Decarbonization Coalition is similarly available to help us adopt an All-Electric ordinance- under the Health and Safety Code -- there is no advantage one way or the other.
 - d. The adoption of a Reach Code under the CA Energy Code would expire at the end of this code cycle (January 2023) and need to be reworked (including cost effectiveness study) and re-approved by the CEC in advance of that date. Adopting an all-electric ordinance under CA's Health and Safety Code will not need to be renewed. That is, if we do a Reach Code, we will only have it in place for maybe a year and then have to start over.
 - e. The County says it is considering an All-Electric Code for the next cycle. So, they advised us that, if we could not get something in place now, we should go for the all-electric option.
 - f. The approach of using the CA Energy Code as the basis for the Ordinance is more complicated to use and enforce. The approach of using the Health and Safety Code as the basis for an All-Electric ordinance is easy for both.
6. Exemptions used by other jurisdictions
- a. See the table from Building Decarbonization Coalition (attached).
 - b. It is actually easier to talk about what to include rather than what to exempt!
 - c. Choices are as follows:
 - i. Which kinds of new buildings: low-rise residential, city-owned properties, high-rise residential, hotel, retail, office, restaurants. Most jurisdictions are applying the requirements to all buildings.
 - ii. Some jurisdictions apply only to water heating; only to space heating; or the whole building.

- iii. Some jurisdictions are applying additional requirements for solar panels or for EV stations.
7. Existing buildings, additions, renovations
 - a. Fairfax only constructs a very few new buildings every year, although ABAG's Regional Housing Needs Allocation may lead to substantial new construction. To minimize the impact to current residents, we have focused this recommendation to apply only to new buildings.
 - b. We will need to think about how to help the Town Residents to move towards All-Electric for existing buildings. Others (especially BAAQMD) are working on this issue and it seems likely that "replace on burnout" requirements will be adopted at some point in the future. Thus, letting people put in new gas appliances will lead to even higher costs when they are forced to abandon these lines and put in new electric appliances. By acting now, we are able to protect our people against future costs.
 - c. Fairfax defines "newly constructed" as "A building that has never before been used or occupied for any purpose. Fairfax's All-Electric ordinance can adopt this same definition or a different definition for purposes of the ordinance."⁶
 8. Sewage systems during power outages
 - a. Sewage systems are electric whether or not we do an All-Electric ordinance, so this ordinance does not impact this.
 9. BAAQMD considerations
 - a. Currently exploring rulemaking to reduce NOx emissions from space heating and water heating. Implementation will likely mean no more natural gas furnaces or water heaters will be permitted.
 10. Building community support and understanding
 - a. Mostly through conversation. All electric construction might seem daunting at first but when we look at the climate, health and cost benefits it's hard to find any downsides. The technologies offer a better experience while being cost effective and resulting in a healthier home.
 - b. We are going to need to do an effective education campaign, and, by the way, consider leading the way by electrifying our own Town buildings to show that we are willing to walk the talk.
 11. Other Marin County and California jurisdictions
 - a. The Fairfax is in contact with many other jurisdictions in Marin County. All are supportive of Fairfax moving in this direction, and our doing so is inspiring them to follow us.

⁶ California Building Code, 2019, Chap. 2, § 202 (adopted by Town of Fairfax as local building code).

- b. We are also talking with the County about possibly preparing a CEQA analysis that would cover all of us. No commitments, but we are starting to have conversation.
- c. The State of California is considering making its next iteration of the Title 24 Energy Code all-electric. This is unlikely for this cycle but likely the next cycle.

Approved Zero Emission Building Codes in California as of 1/30/2021

Jurisdiction	Approach			Systems			Building Types							Add-Ons		
	Natural Gas Infrastructure Moratorium	All-Electric Reach	Electric-Preferred	Whole Building	Water Heating	Space Heating	Low Rise Residential	City-Owned Properties	High Rise Residential	Hotel	Retail	Office	Restaurant	Life Sciences	Additional Solar	Electric Vehicles
Alameda	X			X				X								
Albany			X				X			X	X				X	X
Berkeley*	X		X	X			X	X	X	X	X	X	X	X	X	X
Brisbane		X			X	X	X	X	X	X	X	X	X			X
Burlingame		X		X	X	X	X	X	X	X	X			X		X
Campbell		X			X	X	X									X
Carlsbad	X	X			X		X								X	X
Cupertino		X		X			X	X	X	X	X	X				X
Davis			X	X			X									
East Palo Alto		X		X			X	X	X	X	X			X		X
Hayward		X	X	X			X	X	X	X	X	X	X	X	X	X
Healdsburg		X			X	X	X	X	X	X	X	X	X			
Los Altos		X		X	X	X	X	X	X	X	X	X				X
Los Altos Hills		X			X	X	X	X	X	X	X	X				
Los Gatos		X		X			X									X
Marin County			X	X			X	X	X	X	X	X	X	X		X
Menlo Park		X			X	X	X	X	X	X	X	X			X	X
Millbrae		X			X	X	X	X	X	X	X	X	X			X
Mill Valley			X	X			X		X							X
Milpitas			X	X			X	X	X	X	X	X	X			X
Morgan Hill	X			X			X	X	X	X	X	X	X			
Mountain View		X		X			X	X	X	X	X	X	X		X	X
Oakland		X					X	X	X	X	X	X	X			
Ojai		X		X			X	X	X	X	X	X		X		
Pacifica		X			X	X	X	X	X	X	X	X	X		X	X
Palo Alto		X	X	X			X	X	X	X	X	X	X			X
Piedmont		X		X			X								X	
Redwood City		X		X			X	X	X	X	X					X
Richmond		X		X	X	X	X	X	X	X	X					X
San Anselmo			X	X			X	X	X	X	X	X	X			
San Francisco*	X		X	X			X	X	X	X	X	X	X	X	X	X
San Jose*	X			X			X	X	X	X	X	X	X	X	X	X
San Luis Obispo			X	X			X	X	X	X	X	X	X			X
San Mateo*		X		X			X		X			X				X
San Mateo County		X		X			X	X	X	X	X	X				X
Santa Cruz	X			X			X	X	X	X	X			X		
Santa Monica			X	X			X	X	X	X	X	X	X	X	X	X
Santa Rosa		X		X			X									
Saratoga		X			X	X	X	X	X	X	X	X	X			X
Sunnyvale		X		X			X	X	X	X	X	X	X			X
Windsor		X		X			X									

* Multiple ordinances passed to strengthen/expand scope

