



SIERRA CLUB  
LOMA PRIETA CHAPTER

November 30, 2020

Re: **Our response to Supplemental Memo of 11/25/20 re. Agenda Item 6.1:  
Pass Updated Gas Ban Ordinance, Reject exemption for gas-powered fuel cells**

Dear Mayor Liccardo, Vice Mayor Jones, and Council Members Foley, Jimenez, Peralez, Diep, Carrasco, Davis, Esparza, Arenas, and Khamis,

As you know, we **strongly support the updated gas ban infrastructure prohibition ordinance.** We commend you for your very important leadership in declaring a climate emergency and transitioning new buildings from dirty gas to clean electricity, essential to meeting our Climate Smart goals.

We also **strongly oppose the proposed exemption for fossil gas-powered fuel cells,** and were very disappointed with the Supplemental Memo of November 25th. Rather than responding to our concerns about this exemption, the exemption is now being proposed for an additional year, through the end of 2024: **four entire years!**

In climate years, this is an eternity. Given that approximately 14 commercial projects are developed in San José each year, even if only a few of these employ gas fuel cell power, they would **lock in hundreds of thousands of additional tons of carbon pollution per year for a decade or more to come, stranding assets along the way.**

We also find part of the Analysis in the Memo to be misleading in important areas, perhaps because staff did not have adequate time to prepare it. We ask you to consider our response to the key points of the Supplemental Memo, summarized on this chart and the **Infographic** attached at the end:

Supplemental Memo of 11/25/20	Our response
Staff recommends that City Council consider the following alternative as a replacement for	DERs are <b>not necessary</b> for public health, safety or economic welfare. There are other reliable

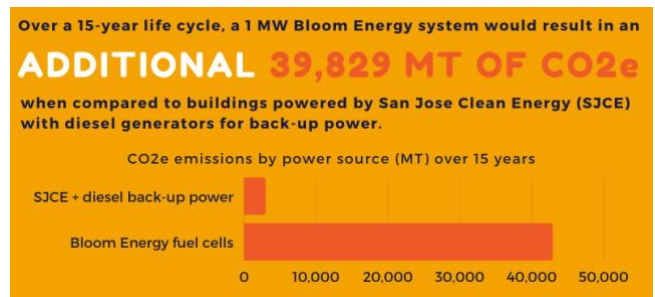
<p>exemption number 4 in the November 16, 2020 Supplemental Memorandum:</p> <p>Facilities with a Distributed Energy Resource [DER] that is necessary for the public health, safety, or economic welfare in the event of an electric grid outage, until December 31, 2024. The Director will report to Council no later than December 31, 2023 with analysis of the availability of fuel substitutes for natural gas and whether or not to transition this section to a Hardship Exemption, effective January 1, 2025.</p>	<p>sources of backup power in the event of a power shut off, which on average affect each San Jose business for approximately 126 minutes per year.</p> <p>If there is truly a hardship in securing backup power, facilities that absolutely need always-on power should be <b>required to apply for a Hardship Exemption now</b>, rather than receiving a blanket exemption for four years.</p> <p>Note that all of the other exemptions sunset by the end of 2022: <b>why allow an extra two years beyond that for the continued build out of fossil gas infrastructure?</b></p>
<p><b>ANALYSIS</b></p> <p>Staff acknowledges concerns raised by San José’s environmental advocacy community around the proposed exemption for Distributed Energy Systems that operate using fossil fuels that was included in the November 16, 2020 Supplemental Memo, specifically that the exemption runs counter to the City’s stated climate objectives, and allows for an expansion of gas infrastructure in use in some settings that may potentially be in place for the foreseeable future.</p> <p>Central to the discussion is the availability of back-up electrical power in the event of a Public Safety Power Shutdown. This power has predominantly been provided in the past by the presence of a back-up diesel generator, but other strategies for avoiding the impacts of power outages have emerged on the market, including the installation of fuel cell systems that operate on natural gas and provide “baseload” power to a facility, with the electric grid serving in a back-up role.</p>	<p>We do not feel that our concerns have been addressed. In fact, the exemption has gotten worse.</p> <p>Staff are correct that fuel cell systems are used to provide <b>baseload power</b> to a facility, relegating the electric grid (i.e., SJCE or PG&amp;D) to a back-up role. Given their high costs, fuel cell systems are NOT used only for backup power.</p> <p>On the contrary, to be economically viable, fuel cell systems operate <b>24/365, providing continuous, always-on power, which means that fuel cells powered with “natural” gas generate a tremendous amount of carbon emissions</b>. These fuel cell systems cannot be accurately described as back-up power.</p> <p>Another solution is through SJCE, which has partnered with 7 other CCAs to <b>purchase battery backed up power and long term storage</b>. (<a href="https://www.svcleanenergy.org/joint-lds-rfo/">https://www.svcleanenergy.org/joint-lds-rfo/</a>)</p>
<p>The emissions profiles of diesel generators are well-documented, and their siting is subject to</p>	<p>It’s important here to compare apples to apples. If diesel generators were allowed to operate</p>

review and permitting by the Bay Area Air Quality Management District. Diesel generators produce more pounds of CO2 per megawatt-hour than their natural gas fuel cell counterparts.

24/365, as fuel cell systems do, then of course the generators would produce more CO2 than fuel cells.

However, because diesel generators are **only permitted for use during the few hours of power shut offs** and for routine testing and maintenance, they produce **far fewer emissions** on a yearly basis than do “natural” gas fuel cell systems running continuously.

To put it in other words, diesel emergency backup generators **only run a few days per year**, while fuel cells run continuously every day of the year. Therefore the CO2e per megawatt-hour metric is misleading; they should be compared on the basis of average annual emissions:



Staff recommends that the exemption for a facility served by a Distributed Energy Resource sunset on December 31, 2024. The prior recommendation language of an expiration when “low or zero carbon fuels are commercially available for the supply pipeline” does not provide a clear end date. Further research into the existing natural gas infrastructure determined that the pipeline most likely will not accommodate low or zero carbon fuels in the near horizon. As a result, staff believes it is important to continue the City’s progress towards its Climate Smart goals and provide a more specific end date.

Experts advise that it will not be financially feasible to simply switch fuel cells from running on “natural” gas to renewable hydrogen.

Hydrogen can be blended up to 7% (by mass, 20% by volume) in existing gas pipes, but beyond that the pipes would need to be replaced. **This would require massive investments that would get stranded.**

In addition, after December 31, 2024, a facility that requires the Distributed Energy

Why wait until 2025 to require facilities to apply for a “hardship exemption”? Why not use the

<p>Resource for necessary operational requirements may apply for a “hardship exemption” under the proposed language of Section 17.845.050. Staff will report back to Council by the end of 2023 with a recommendation on whether the hardship exemption should be modified.</p>	<p>hardship exemption to start with, and only grant it to facilities for whom diesel backup power is not feasible?</p>
<p>In addition to providing a positive benefit on indoor air quality, updating the current natural gas infrastructure prohibition will have a significant positive impact on future GHG emissions from the building sector.</p> <p>Based on the City’s latest five-year development forecast, the projected GHG emissions offset over the estimated 50-year lifecycle of these buildings via this update is approximately 608,000 tons of CO2 emissions. Continuing installations of fossil fuel technologies will reduce those offsets, potentially significantly.</p>	<p>We agree that the updated gas ban ordinance will ensure significantly improved indoor air quality than if the new facilities used “natural” gas appliances, which are highly polluting.</p> <p><b><u>Continuing installations of fossil fuel technologies will reduce those offsets, potentially significantly.</u></b> <i>Shouldn’t we take the time to evaluate the extent to which these fossil fuel cells could undermine the 600,000 tons of CO2 reductions and <b>analyze the impacts to Climate Smart San Jose and our ability to achieve those climate goals?</b></i></p>
<p>The City remains a leader in addressing the global environmental crisis at a local level, from its approval of Climate Smart San José, to the adoption of Reach Code and Natural Gas Infrastructure Prohibition ordinances. Replacing natural gas ultimately with carbon-free electricity in new buildings will help the City to mitigate the impact of climate change on local conditions, while also continuing to set an example for other cities to follow.</p>	<p>Yes, but adding an exemption for large amounts of fossil gas use in fuel cells (generating methane which is 84 times more potent than CO2) undermines this ordinance. Other large cities, including San Francisco and Oakland, are not considering this type of exemption; we know of no other similar exemption under consideration by another city.</p> <p><b>To truly set an example for other cities to follow, San Jose should resist any loopholes that allow for the continued expansion of fossil gas infrastructure and stranded assets.</b></p>

We, and our many allies, urge that **any additional backup power exemption:**

- Not allow for the construction of new fossil fuel pipelines.
- Not allow for the continuous use of fossil fuels for baseload energy.

- Not allow a backup power source to be connected to the gas grid infrastructure.

In this way, you will honor the entire purpose of the gas ban infrastructure prohibition.

**One further point:** Experts predict that data centers will consume 20% of the world's power by 2025. If San Jose allows data centers to be powered with “natural” gas fuel cells, *it may well be impossible to meet our emissions reduction goals*. Refer to SVCE's excellent [Building Decarb Joint Action Plan](#) and watch Panama Bartholomy's [riveting presentation](#) (or view the [slide deck here](#)) to see how vital it is to decarbonize our buildings.

**Bottom line:** This is obviously a complicated issue with serious implications. Exemptions whose consequences are not fully understood should not be rushed. Therefore, we urge the Council to simply **approve the already well-vetted Update Gas Prohibition Ordinance** and **postpone any consideration of a possible hardship exemption for fuel cells** until the implications are fully studied and understood.

**Final plea:** Please don't grant a hasty exemption now that could lock in high carbon emissions for four years, halfway through the “climate decade.” Our children's futures are too precious to gamble with, and your leadership on the national, even global stage, is too important to water down.

Thank you for your attention to this very important issue. We trust you'll continue to display the climate leadership worthy of the Capital of Silicon Valley, and incentivize clean-energy solutions rather than fossil gas. Our children and grandchildren deserve no less.

Sincerely,

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

Diane Bailey, Executive Director, Menlo Spark

Dashiell Leeds, Conservation Assistant, Sierra Club Loma Prieta Chapter

# KEEP SAN JOSE'S FUTURE FOSSIL-FUEL FREE

Bloom Energy is seeking a last-minute special exemption to the expanded all-electric new buildings ordinance for their fossil gas-powered fuel cells. Here's what that could mean for your community:



For a 1 megawatt (MW) system, Bloom Energy fuel cells produce an additional

## 2,085 MT\*

or metric tons of CO<sub>2</sub>e\*\* annually when compared to San Jose Clean Energy with diesel generators for back-up power.



That's equivalent to

## 450

passenger vehicles being driven for one year.

\* Emissions from Bloom Energy fuel cells operating with a 95% capacity factor, as recommended by manufacturer. This number is expected to increase as San Jose Clean Energy's power mix transitions to 100% carbon free.

\*\* CO<sub>2</sub>e refers to carbon dioxide equivalent, including emissions from carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), and nitrous oxide (N<sub>2</sub>O).

While Bloom Energy markets its fuel cells as "back-up power," the fuel cells are actually designed to run continuously.

Even traditional diesel-powered back-up generators are **less harmful to GHG emission levels than** Bloom Energy fuel cells.

In fact, a diesel-powered back-up generator, designed to run only during power outages and for maintenance, would produce less GHG emissions over a 15 year span when compared with Bloom fuel cells.

Over a 15-year life cycle, a 1 MW Bloom Energy system would result in an

## ADDITIONAL 39,829 MT OF CO<sub>2</sub>e

when compared to buildings powered by San Jose Clean Energy (SJCE) with diesel generators for back-up power.



This special exemption will keep San Jose dependent on dirty fossil fuels.

Contact your council member and urge them to support the expanded ordinance to electrify new buildings and oppose the gas-powered fuel cell exemption to keep San Jose's future clean.