

Fairbank, Maslin, Maullin, Metz & Associates (FM3) recently completed a survey of California voters to assess their attitudes toward key energy issues facing the state.<sup>1</sup> The survey results show that voters are increasingly concerned about climate change, and support efforts by State government to shift California toward more use of clean and renewable energy. More specifically, **voters broadly support increasing use of non-combustion fuel cells as part of State’s clean energy transition**; they prefer the use of fuel cells to diesel generators, and back a range of State policies to encourage their use.

Key specific findings of the survey include the following:

- California voters are increasingly concerned about climate change and its impacts.** As shown in Figure 1, four in five or more voters call drought and wildfire risk "extremely" or "very serious problems," right alongside to-tier concerns like homelessness and the cost of housing. Climate change is a key concern for nearly two-thirds of those polled – the highest level of concern we have seen about climate change in a decade of polling. Addressing climate change and its impacts now stands as one of voters’ very top priorities.

**Figure 1: Issues Facing California**

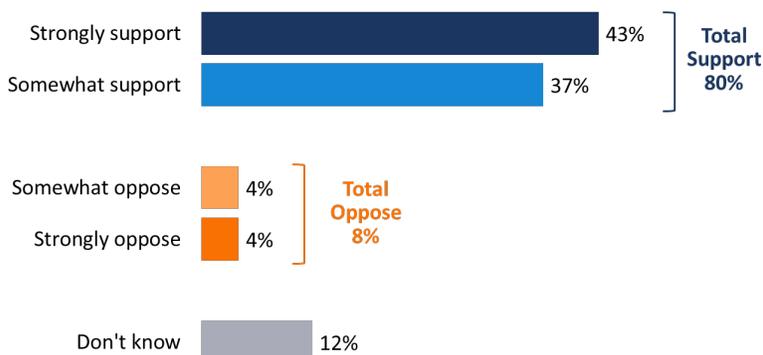
Issue	% Extremely/Very Serious Problem
Homelessness	90%
The risk of wildfires	85%
Drought	82%
The cost of housing	79%
The economic impacts of the coronavirus	77%
The increasing cost of living	76%
Crime	70%
Climate change	65%

- Given a brief explanation of the technology, four in five support using non-combustion fuel cells in California.** As shown in Figure 2 on the following page, 80% of California voters support increasing the use of non-combustion fuel cells once they learn more about how the technology works – including more than two in five (43%) who “strongly” support it.

**Figure 2: Support for Non-Combustion Fuel Cells**

*Next, I’d like to tell you a bit more about non-combustion fuel cells. Fuel cells are a technology that generate electricity from natural gas, biogas, or hydrogen found in water, without releasing local air pollution like smog and particulate matter. Fuel cells installed at local sites are designed to serve as an alternative to the electric grid, providing reliable, locally-generated clean energy that is available 24 hours per day at locations such as hospitals, grocery stores, universities, and data centers – as well as other businesses and homes. The technology*

*continues to evolve and has recently been adapted to use hydrogen, with no CO<sub>2</sub> emissions, to generate electricity. Do you support or oppose increasing the use of non-combustion fuel cells in California?*



- **By a 62-point margin, voters support encouraging non-combustion fuel cells as part of meeting the State’s clean energy goals.** Fully 73% of California voters believe the state should encourage the use of these fuel cells – a figure that rises to 79% after they hear a list of benefits that fuel cells provide, including making the grid more resilient in case of disaster, reducing the risk of wildfire, and providing reliable energy during Public Safety Power Shut-offs.

**Figure 3: Encouragement of Fuel Cells**

*And should California State government encourage or discourage the use of fuel cells as a way of meeting the State’s clean energy goals?*

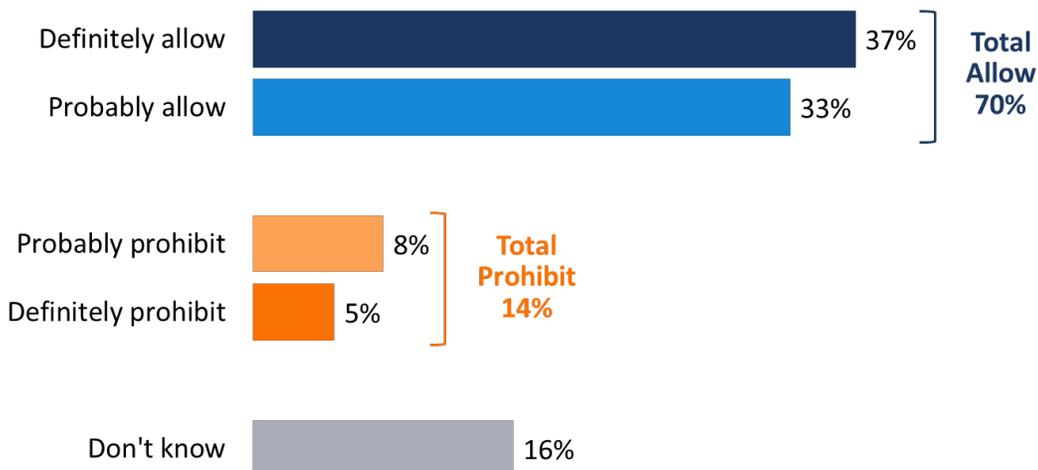
Choice	% Chosen
Encourage	73%
Discourage	9%
Don’t know	17%

- **Seven in ten voters support allowing continued use of non-combustion fuel cells as part of building decarbonization.** By more than a two-to-one margin, (62% to 29%), voters back efforts by state and local government to require a transition away from natural gas in California homes and other buildings. At the same time, voters believe that a number of factors which make fuel cell technology distinct (their location outside buildings, lack of local emissions, and ongoing transition to use of hydrogen rather than natural gas) should allow its continued use as decarbonization policies advance. As shown in Figure 4 fully 70% of voters support allowing fuel cells as an alternative to natural gas power plants and diesel generators as the state moves toward decarbonizing buildings, while fewer than one in five (14%) want to prohibit this technology.

**Figure 4: Fuel Cells and Building Decarbonization**

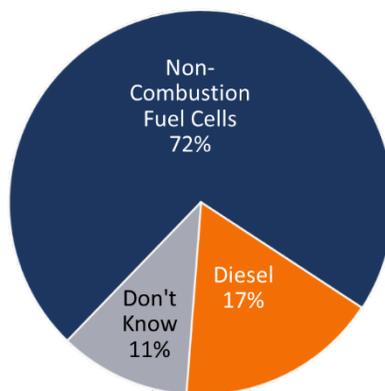
*Next, as communities set policies to prohibit the use of natural gas in buildings, there has been discussion of whether those policies should also prohibit the use of non-combustion fuel cells nearby. Non-combustion fuel cells sometimes use natural gas, but are located outside of buildings; produce no pollution emissions at the site;*

and within a few years will run entirely on hydrogen, phasing out the use of natural gas completely. In addition, if non-combustion fuel cells using natural gas are prohibited, it will force the state to rely more on much higher-polluting sources of electricity to replace them when demand surges – including traditional natural gas power plants and diesel backup generators. Having heard this, do you think non-combustion fuel cells located outside buildings should be allowed or prohibited as part of policies to transition away from natural gas?



- Voters clearly prefer non-combustion fuel cells to diesel generators as a source of electricity during Public Safety Power Shutdowns.** As illustrated in Figure 5, the preference is overwhelming – with nearly three-quarters choosing fuel cells and fewer than one in five favoring diesel. While voters recognize the need for some use of diesel in the near-term, they welcome the speediest possible transition to clean energy as a backup during outages.

**Figure 5: Preferred Power Source During Power Outages**

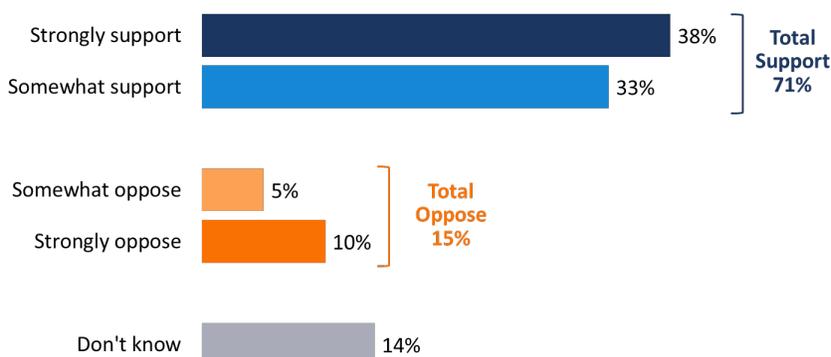


- Seven in ten support State policy to encourage fuel cell microgrids.** Given the brief explanation, 71% of voters support a policy to make it easier for property owners to install non-combustion fuel cells on their property, and 38% “strongly” support the proposal (Figure 6).

**Figure 6: Support for State Policy Supporting Microgrids**

*State government is currently considering a policy that would make it easier for property owners to install non-combustion fuel cells on their property, based on a long-term*

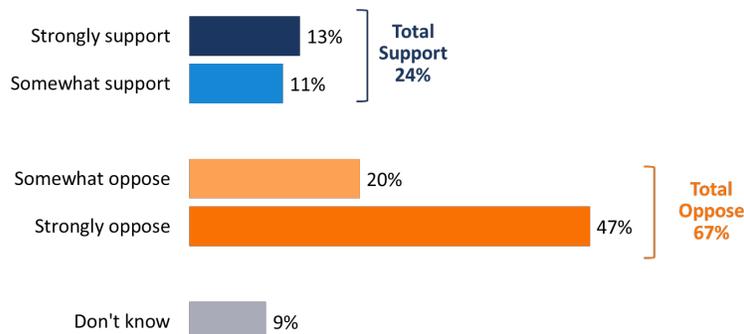
*agreement for how the energy they produce would be connected to and integrated with California’s electrical grid. Does this sound like something you would support or oppose?*



- **At the same time, two-thirds oppose allowing utilities to charge a fee to customers who want to install a non-combustion fuel cell to generate clean energy locally.** Presented with brief arguments on both sides – those in favor arguing that fuel cell owners should pay to support the operation of the grid, and those opposed arguing that the clean energy generated by fuel cells for the grid should provide adequate compensation – voters decisively oppose the idea. Nearly half – 47% – “strongly” oppose it, and just one-quarter support it.

**Figure 7: Views of Allowing Utilities to Charge a Fee for Fuel Cell Users**

*Some electric utilities have argued that customers who want to use non-combustion fuel cells to generate this local, clean energy should pay a fee to electric utilities to support the availability of the grid as backup energy. Some clean energy advocates have argued that fuel cell owners should not be required to pay a fee to utilities, because the clean energy they generate locally already feeds back into the grid when they are not using it. Would you support or oppose charging a fee to customers who want to install a non-combustion fuel cell to generate clean energy locally?*



In sum, the survey results show that California voters see climate change and its impacts as key issues facing the state, and **broadly support increased use of non-combustion fuel cells as part of the state’s transition to 100% clean energy.** They support proposals that would allow continued use of fuel cells as buildings decarbonize, utilize fuel cells as an alternative to diesel generators, and facilitate the development of fuel cell microgrids.

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<sup>i</sup> **Methodology:** From August 2-5, 2021, FM3 completed 600 interviews on landlines, cellphones and online with likely November 2022 voters in California. The margin of sampling error for the study is +/-4.0% at the 95% confidence level. Due to rounding, not all totals will sum to 100%.