

Comments to Climate Action Council Regarding Draft Scoping Plan

My name is Gale Pisha and I live in Rockland County. I am a member of Sierra Club, but am submitting these remarks on my own behalf.

The following comments contain more detail than my oral testimony on May 11, 2022. They apply to the following topics in the draft scoping plan: Chapter 8: Public Health; Chapter 10: Benefits of the Plan; Chapter 11: Transportation; Chapter 12: Buildings; Chapter 13: Electricity and Chapter 18: Gas System Transition.

I'd like to start by thanking the Climate Action Council and staff for the well-organized virtual hearing. It was very helpful to receive a list of speakers ahead of time, and the folks who handled the technical aspects of the hearing were extremely competent and polite. I appreciated that the CAC members and staff stayed on so long, so that everyone who had preregistered and was still on the call could speak. This was the most organized virtual hearing I have attended!

Second, I'd like to thank the CAC for the draft scoping plan, which I think clearly acknowledges the urgency with which the world needs to decarbonize, because climate change is already impacting humans and ecosystems worldwide.

On April 4, 2022, the UN's Intergovernmental Panel on Climate Change reported that global temperature will stabilize when the world has achieved net zero carbon dioxide emissions; to keep global warming to 1.5°C, this must happen by the early 2050s.¹ Since about 40% of greenhouse gas emissions comes from heating our buildings and almost 30% from transportation, it's clear our society must transition quickly to heat pumps and electric vehicles, and cut out the use of fossil fuels.

Therefore, **I urge the CAC to adopt Scenario 3, Accelerated Transition Away from Combustion and include a ban on new natural gas combustion in 2024.** We need to stay with proven renewable energy sources like wind and solar, with battery storage backup, rather than false solutions including hydrogen, "renewable natural gas" and biofuels. See Sierra Club testimony to the NYS Assembly on May 12, 2022,² for more details on why these alternatives will not allow New York State to meet our ambitious greenhouse gas emissions goals quickly enough to ward off devastating climate change impacts and to avoid spending billions upon billions of dollars for health and property damage.

Transitioning to a truly clean energy future will save New Yorkers money and create jobs, though we need to make sure the plan includes a just transition for affected workers and communities. But transition we must because there is no Planet B.

¹<https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/>

²<https://atlantic2.sierraclub.org/sites/newyork.sierraclub.org/files/documents/2022/05/SCAC%20All%20Electric%20Buildings%20Testimony.pdf>

Opponents to an accelerated transition away from combustion frequently cite their concerns about energy and affordability under an electrified future. **My personal experience of installing a heat pump shows that it is affordable and has saved me money, while ensuring that my home is being heated with New York State renewably-generated power.** Please see the details below.

And while our next car will be all electric, my family has owned two hybrid Toyota Prius models for the last 12 years and our gas mileage averages 50 miles per gallon. During the recent spike in gas prices, our cost to commute to work went up, but not by much: it usually costs more in tolls for two days than for gasoline for an entire week, and the sticker prices for both hybrids were lower than for many similar size non-hybrid cars when we bought our Priuses.

Therefore, our experience has been that hybrids are affordable and economical. Research has also shown that charging an electric car for a 150 miles trip would cost about half what it would cost to drive the same distance in a regular gasoline powered car.³ This study assumed a price of electricity of 18 cents per kilowatt hour. Because we get our electricity through our town's Community Choice Aggregation plan, we only pay 7.16 cents per kWh, so we would save even more by charging at home.

1. Energy costs lower now with the heat pump than before with the gas furnace:

In October, 2019, my husband and I installed a Mitsubishi air-source heat pump in our 1,300 square foot home in Nanuet, to replace a 62-year-old gas furnace which fed into a forced air system of ductwork. The model of heat pump we bought will operate down to **negative 13 degrees Fahrenheit** without needing a gas backup furnace. It has an outside compressor unit connected to an inside air handler that feeds into the original main air ducts.

I compared the cost of the heat pump to the cost of installing a high efficiency gas furnace with a central air conditioning (AC) system, since we did not previously have AC and the heat pump now gives us AC capacity. The heat pump and installation ended up costing only about \$3,400 more than the gas/AC combo (\$16,400 vs \$13,000). We did have to upgrade our electrical panel to a 200-amp system (\$2,700) plus enlarge the feeder ducts from the main ductwork into the rooms to accommodate the AC capacity of the heat pump (\$2,000), but we would have had to do both of those things with the gas/AC system also, so I did not count those costs in comparing the two system options. We also got a \$1,000 rebate from Orange and Rockland, our gas and electric utility, so that brought the **cost difference down to about \$2,400 for the heat pump over the gas/AC system.**

We've had the system for over two years now. **We now keep the house 3 degrees warmer in winter than we did before the heat pump, and have still saved money.**

I compared the cost of our total energy bill from the period from mid-January through mid-February before we got the heat pump and this past winter with the heat pump.

³ <https://driveclean.ca.gov/electric-car-charging>

| Billing period | Kilowatt hours used | CCFs of gas used | Total combined cost including delivery charges |
|-----------------------|----------------------------|-------------------------|---|
| 1/16/19-2/14/19 | 178 | 122 | \$295.04 |
| 1/18/22-2/15/22 | 1152 | 9 | \$249.32 |

You can see from the figures that we clearly used more electricity with the heat pump but our gas usage dropped way down. The final result was that **we SAVED \$45.72, or had a 15% lower energy bill now than we had before the heat pump**, even though we keep the house warmer now!

I have heard some groups claim that one’s electric bills will go up four times as high with heat pumps as with gas furnaces, but you can see that this has not been my experience, since while one’s electric bill will go up with the increased usage, the savings from the drop in gas usage more than makes up for any electricity increase. Also, these costs were calculated compared to natural gas prices in 2019, before the big increases this past winter. If we had still been on gas for heating this year, we likely would have paid more than in 2019.

2. Benefits of using a heat pump rather than gas furnace:

The main reason we wanted a heat pump was **to cut way down on our fossil fuel use**, which clearly is causing climate change to get worse. A heat pump is much more efficient than burning fossil fuel to generate heat; heat pumps don’t generate heat; they move it from place to place like our refrigerators or air conditioners do (which are both heat pumps operating in one direction to cool).

As a side benefit, **our air is cleaner** than when we burned natural gas, which emits carbon dioxide, oxides of sulfur and nitrogen, methane, particulates, sometimes radon, and residual chemicals used in gas fracking operations. We aren’t locking these pollutants inside with us all winter any more. New York has the highest number of premature deaths and health impacts in the nation from exposure to fossil fuel combustion in residential and commercial buildings, especially in communities of color.⁴ While there will be a cost to the state to switch to electrified buildings, New York should see a reduction of healthcare costs as residents’ exposure to indoor air pollution drops.

An important benefit of using a heat pump is that we can now heat our home using solar and wind generated energy. We did belong to a 100% wind electricity plan from Green Mountain Energy up until this past January, when we switched over to our town’s Community Choice Aggregation program. Our town chose the green CCA plan, which means that 100% of our electricity comes from NYS renewably generated power. We also subscribe to a community solar (CS) farm in Orange County, NY, so get a credit on our electric bill for the amount of solar power our share generates. (Note: I did add this credit back into the total energy use calculations above; the amount we actually paid our utility was \$188.93 plus we paid \$60.39 to the CS program for our share, which reflects a 10% discount we get from the solar farm.) So **renewably generated energy from New York State is being put into the grid for our electric usage, keeping our energy dollars and jobs in the state.**

⁴ <https://rmi.org/new-york-emits-more-building-air-pollution-than-any-other-state/>

Other benefits are that the heat pump system is much quieter than the old gas furnace used to be, and I no longer worry about the furnace causing a fire in the basement. The house is very comfortable in the winter and we now have the option to use the AC on hot summer days. Yes, if the power goes out, we have no heat or AC, but that's the same as with a gas furnace or central AC since it takes electricity to power the furnace fan and thermostat. Also, the heat pump has heat strips within it which it needs for the defrost cycle (like a freezer), and in the event the heat pump condenser fails, the heat strips will kick in and keep the house heated until repairs can be made. Heat pumps also have little maintenance costs—we have not needed to have ours serviced every fall like we did with the gas furnace.

3. Considerations for New York State when switching to electrified buildings:

If I worked for the fossil fuel companies, I would probably put out the same fear-mongering talking points they do, saying we should not give up our gas furnaces and stoves. But the reality is that we'll all be affected by climate change impacts, even if indirectly as the prices of food and other commodities rise and as we are exposed to more tropical diseases with our warming climate. Building electrification offers an achievable solution to heating our homes, especially as the power generation into the grid is getting cleaner with the increase in renewable generation.

Three issues will need to be addressed as NY makes the transition to electrification.

One is that **contractors need to be educated to offer heat pumps as an option** when consulted by residents needing to replace an aging or nonworking fossil fuel furnace. When we spoke to contractors in 2018 and 2019 about replacing our gas furnace with a heat pump, most of them quickly said “why wouldn't you just replace the gas furnace with another one? You can get a high efficiency gas furnace that will bring down your gas usage and it's cheaper than a heat pump.” We finally found a contractor who listened to our reasons for wanting a heat pump and did the research to find the equipment we needed. We had told him that gas would eventually be unavailable as the state works to achieve our climate goals, and a few months after the installation, he called me and said he had been in a meeting with ConEd, who had said that gas will be eventually phased out. “How did you know?” he asked me. **Contractors need to offer heat pumps as a viable option so consumers won't be locked into an obsolescent technology as natural gas eventually goes away.**

Second is that **low-income residents in apartments may end up with higher electric bills if their landlord switches to heat pumps.** Currently many apartment dwellers have their heat and water included in their rent but pay for their own electric usage. New York will need to figure out how to keep this financial burden off folks who can't afford it. One possibility might be that the heat pump electricity be metered separately from individual apartment meters so the cost could be included in the rent as the gas cost had been. Another might be to offer such residents help on paying their electric bills.

Third is that **low-income homeowners who want to install heat pumps may need financial help from the state for the initial cost of the system.** While my experience

was that the difference in cost between the heat pump and a comparable gas/AC system was not that much, we also did need to upgrade the electric panel and the feeder ducts. That was a big outlay all at once, though we are now saving money on our energy bills.

As demand for heat pumps increases, I am confident that their price will come down and more models will be available. **NY needs to create incentives for people to replace their fossil fuel furnaces with heat pumps and also needs to stop allowing gas hookups in new construction of buildings.** If the cost of \$2,000 or more⁵ to connect to gas lines in the street was borne by a building owner rather than ratepayers under the existing “100-foot rule,” the cost of a gas system would likely be higher than a heat pump, so people would then see savings from heat pumps right from the beginning.

Thank you for considering my experience with building electrification. **Heating our homes and businesses with heat pumps is generally affordable and saves energy costs, while allowing us to use in-state generated renewable energy.** It’s a win for consumers, a win for our state, and a win for the planet.

Therefore, I urge the CAC to **adopt Scenario 3, Accelerated Transition Away from Combustion and include a ban on new natural gas combustion in 2024.**

I’d like to close with an excerpt from Senator Liz Krueger’s oral comments at the 5/11/22 hearing:

“We do not have the luxury of time, because for decades we listened to the so-called “rational voices” who urged moderation and delay, or who promised false solutions sometime in the distant future. But at this point in the crisis, delay is not rational, it is deadly. There is no climate fairy coming. There is no magical solution waiting in the wings that will suddenly appear and allow us to continue business as usual. I urge you to be ambitious, to be radical even – that is your task because that is what the crisis demands. We will not get a second chance to get this right.”

Submitted on May 13, 2022.

Gale Pisha



5 <https://homeguide.com/costs/gas-line-installation-cost>