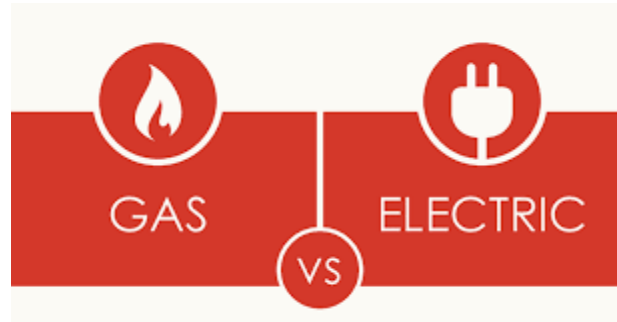


The Push to “Cancel” Natural Gas in Homes: Is the Timing Right?

by Martin Flusberg



I bought my current home in 2005. One of the first things I did was replace the electric clothes dryer in the house with a gas dryer. This was clearly the cleaner energy option being recommended by organizations involved in energy efficiency and sustainability – and was also less expensive for consumers. It was part of my commitment to moving to a cleaner energy future.

I had done the same at my previous home – where I also replaced the electric oven with a gas oven.

But now, the message seems to be entirely different. Since 2019 multiple cities, starting with Berkeley CA and expanding to San Francisco and New York City among others, have banned natural gas from new home construction and in some cases from remodels as well. New York State was the first state to try to do this on a state-wide basis, although this initiative failed earlier this year. Several other states, including Maryland and Massachusetts, are pursuing similar initiatives. This movement is even further advanced in other countries, including Canada and the UK.

The US Department of Energy is now pushing people to replace gas furnaces and boilers with Air Source Heat Pumps – which handle both heating and cooling. Just 20 years ago Air Source Heat Pumps were recommended for warm climates only, although very expensive Geothermal Heat Pumps were recommended for colder areas of the country. Gas heat was recommended then as the most environmentally friendly option – and is still used by more than 50% of households in the US.

Bottom line; climate activists are pointing out that burning natural gas discharges carbon dioxide into the atmosphere and therefore needs to be phased out as quickly as possible.

What has changed in the past 20 or so years to change the perspective so markedly?

Clearly there have been many changes. To start with, Air Source Heat Pumps are much more efficient than they were back then, and now make more sense throughout the country. Electric induction ovens and cooktops are much more efficient as well and can now cook much faster than gas equivalents and use less energy. And recent research suggests that cooking with gas creates much more air pollution in the home than previously thought.

Electricity production is also much cleaner than it was. Most notably, coal was the source for more than 50% of electricity generation back in 2000; it now is under 22%. Oil as an electricity source was already

down to about 3% back then, but now is below 1%. And, renewable energy is now used for a much higher percentage of electricity generation, with wind increasing from well under 1% back then to over 9%, solar from virtually 0 to almost 3%, and renewables in total increasing from 9% to just over 20%.

On the other hand, the use of natural gas for electricity generation has more than doubled, from 16% to over 38%. So, replacing gas with electricity for heating, cooking, and water heating does not eliminate the burning of natural gas.

	2000	2021
Natural Gas	16.2%	38.3%
Coal	51.6%	21.8%
Nuclear	19.8%	19.0%
Oil	2.9%	0.5%
Renewables:		
Wind	0.1%	9.2%
Hydro	7.2%	6.3%
Solar	0.0%	2.9%
Biomass	1.6%	1.4%
Geothermal	0.4%	0.4%
Other	0.1%	0.2%

In fact, by some estimates it actually increases it. For example, Ognjen Miljanic, a Professor of Chemistry at the University of Houston, wrote a piece for The Hill in 2021 entitled [Banning Gas in Homes will Increase Gas Consumption](#). He points out that gas used for heating in a home is piped directly into the home and converted into heat with about 90% efficiency. On the other hand, gas being used for electricity generation converts to electricity at about a 45% efficiency rate, and then loses another 5-10% during transmission.

Moreover, gas is still a less expensive household energy choice in many parts of the country.

Perhaps not surprisingly, the debate about gas vs. electricity in the home has become a political issue. While proposed bans on natural gas for homes have happened exclusively in blue states, many red states have taken a very different perspective.

To-date, laws to protect natural gas use have been adopted in Arizona, Louisiana, Oklahoma and Tennessee, and similar laws have been proposed in Texas, Florida, Georgia, Iowa, Kansas, Missouri, Pennsylvania, Utah, Indiana, Arkansas, Kentucky and Mississippi and others. To a large extent this is being driven by the oil industry and gas utilities who have been active in pushing back on attempts to ban gas from new construction or otherwise reduce the use of natural gas. But many on this side of the argument point out that the energy-related costs are lower for gas than electricity for most appliances in most parts of the country and that gas may be cleaner energy option as well in many cases.

So, both sides in the debate have made valid observations. To achieve the clean energy transition, we need to reduce and ultimately eliminate our reliance on natural gas. But, for the moment at least, the

electricity grid is heavily dependent on natural gas so replacing gas appliances with electric appliances does not phase out the usage of natural gas. The key is to increase the use of renewables for electricity generation as rapidly as possible, while simultaneously increasing the installation of energy storage systems that are needed because renewables such as wind and solar are not always available. At the same time, we need to continue to improve the energy efficiency of electric appliances so that energy usage and costs go down. And we need to continue to expand the use of residential solar panels; homes with solar can phase out natural gas immediately. It makes total sense to begin to get the public comfortable with the idea of phasing out gas appliances for everyone over the coming years, but it is probable still a little – but not a lot – too early to actually ban them.