

This Range War is not about the “Old West”

(But it's a tempest on a cooktop)

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Personal History—

By 1957 I was 10 years old. Occasionally, I would be with my dad, on cardboard or a creeper under a vehicle in our Oakland, California garage. I wanted to be helpful, and this turned out to be a series of mechanical learning experiences. There were other ones throughout my youth, and as I struggled but then did something right, dad would often remark with one of two phrases that marked my success. “Now you’re cookin’ with gas, Willy” or “Now you’re cookin’ on the front burner.”

It’s only recently (with the hubbub about gas cooking appliances) that I discovered the origin of those phrases. They were marketed by the AGA (American Gas Association) as a promotion to spread gas to more kitchens in the mid-1930s. Since my dad was born in 1911, such ads were hitting him as a young man of 24, and 20 years later they were being passed on to me—without either one of us understanding that advertising had successfully penetrated private lives.



What about Now?

Currently, the gas industry is losing its former influence as additional jurisdictions around the country emphasize the shift to electrification for reducing the nation’s carbon footprint. The policy changes are varied, but over 100 U.S. cities or counties have restricted or eliminated the use of gas in newly constructed buildings, and in some retrofits of existing building stock. The gas industry’s carefully choreographed campaign has been to convince consumers that the best (or only way) to really cook effectively is with “natural” gas, another adjective in the lexicon that boosts its use as normal.

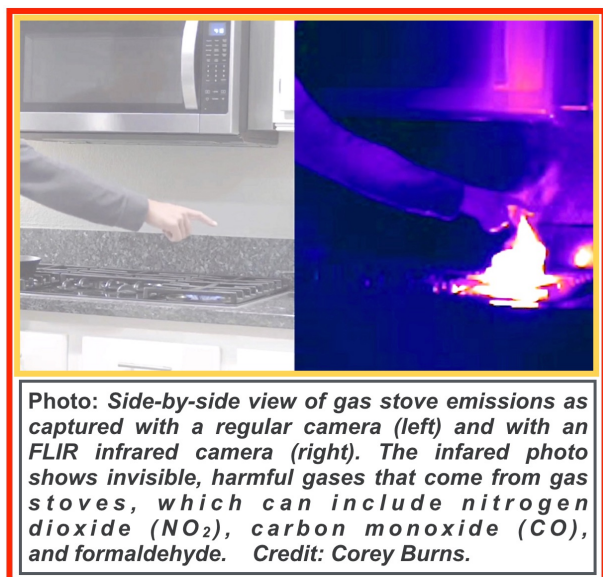


Photo: Side-by-side view of gas stove emissions as captured with a regular camera (left) and with an FLIR infrared camera (right). The infrared photo shows invisible, harmful gases that come from gas stoves, which can include nitrogen dioxide (NO₂), carbon monoxide (CO), and formaldehyde. Credit: Corey Burns.

Decarbonization, led via the shift to electrifying all possible building services, is heightening worries for the gas industry. It is underpinned by an increasing number of [scientifically-based medical analyses](#) that document the respiratory harm to residents that internal gas emissions can cause. The frenzied push-back by gas-aligned advocates entered the news, recently, when a government official from the Consumer Product Safety Commission offered that gas kitchen appliances were a recognized hazard to health and that they might need to be regulated. (Note the name of this federal organization to guess its purpose) Aside from the fact that this statement was not strategic, or a likely result of the full commission’s debate over the matter—the skirmish became a culture war issue that spread like a prairie fire in a high wind.

The Range War rages-

The first to rage was Texas Congressman (and former White House physician to DJT) Ronnie Jackson, who channeled the late Charlton Heston's claim to the NRA that "they" would have to pry his rifle from his "...cold, dead hands" (before taking it). Ronnie howled like Heston that he'd die before the feds could get the gas stove out of his kitchen!

Aside from the historical pattern that no device, equipment, or product deemed less than safe has been "rounded up" by any governmental agency like this, Ronnie may not know he has a tangible point. That is, we may see the cessation of gas burner manufacturing for indoor cooking appliances that are not continuously vented to outside space. Why else would we regulate for the safety of our citizens (for decades) that furnaces, boilers, and water heaters burning gas **MUST** be vented outside, while not considering kitchen emissions? Did you know that the makers of gas cooktops in the 1980s built a prototype burner that nearly eliminated emissions? It was abandoned due to manufacturing complexity and high cost, since there were no restrictions on emissions to support its use (which continues to this day). Today's increasing restrictions are focused on walking away from carbon, overall—not specifically or solely regulating to protect human health.

Like all culture wars, there is a "fog of war" in this one that misses some of the boundaries of the discussion, like leaving the impression that cooking indoors may soon be outlawed. There has always been an alternative to gas, which explains the AGA's campaign that started in the 1930s, influencing my father. It's called electric cooking. And for the past 20 years or so, a newer version of it for cooktops has grown.

Electric Induction Cooking Expands-

When I built my house ten years ago, there were only three electric cooktops with down flow venting to the outside, so we chose a common glass-surfaced electric resistance cooktop that would support that choice. But since, we have acquired an electric kettle and a pressure cooking pot that use induction. Small and large plug-in hot plates are available, too.

I am nobody's idea of a cook, but aside from commercial kitchens and home pros who want you use flame under their woks for that kind of cuisine—many are waking up to the benefits of induction cooktops. They consume less electricity, heat only directly under the pot or pan that rests on their surface, and shut off if a pan gets too hot or is removed. They have numbered settings that make adjustment easy and will maintain a consistent temperature in the pot. And they keep both commercial and residential kitchens cooler in summer, which can boost comfort and lower air conditioning costs.

There is no such thing as an induction oven, but if you're staying with electric, a convective, self-cleaning oven will probably use the least electricity. Did you know that because of the 1,000° cleaning cycle, they are better insulated?



The assortment of induction models is expanding, and the prices are now nearly equivalent to gas equipment, and way less than a macho 6-to-8 gas burner “trophy” range by Wolf or Viking. And when you go electric (induction or not) you have the option to offset your electricity use by deploying tax credit supported solar PV, which is required in all new residential construction in California. Like many other shifts in technology (such as the parallel case of electric heat pump expansion) it takes the general public awhile to understand the costs and benefits of any shift, especially if it has to swim upstream against a misinformation current. Until new installs or retrofits are supported by more contractors using at-scale manufactured induction products at lower prices per unit, this will only be a gentle cost descent.

The Gas Industry’s future-

Any industry [at risk of losing its market will take steps to protect it](#). This is predictable, but gas, along with other fossil-based industries have had their way much of the time until now. The California Energy Commission’s regulations only dropped the mandate on 1/1/21 for new residential construction (within piped gas territory) to use gas furnaces, boilers, and water heaters. The new baseline is an electric heat pump, or gas if you choose.



One of the macroeconomic certainties that affect all utility providers is the potential for the rate base (the total of rate payers) to threaten the model if they migrate to an alternative supply. Here’s an example. If by regulatory influence or choice, more gas customers electrify their buildings, there will be less revenue or none at all from each migrator to support the gas infrastructure’s fixed cost to deliver fuel and service to those remaining. That means that future expenses will be supported by fewer ratepayers. And when that happens, prices must go up—possibly increasing the ratepayers who will respond by “fuel switching.” It is very likely that the electrification scenario will continue to accelerate.

This supply-demand scenario would work in a similar way if current all-electric customers abandoned their utility’s system by using solar or wind with on-site batteries. Much less likely.

Mitigation-

Although I’m personally all-in for electrification to de-carbonize for climate defense, I am not in favor of “ruining” fossil-based utilities. That said, I will admit I’ve always wanted the gas and electric utilities to install underground heat exchangers for customers who will install geo heat pumps and pay the utility back for their loop through on-bill financing. The earliest small-scale version of this was begun just 30 miles east of here in the 1980s by an industry friend. There are also “home-grown” utilities created by large developers for their own projects such as at [Whisper Valley outside Austin, Texas](#). The regulated utility model can/could survive even without selling carbon resources.

The most interesting experimental project I know of is in [Massachusetts, where local citizen advocates, state regulators, and a gas utility are partners](#) in a program to establish district-wide geo heat pump underground loops, retrofitting geo heat pumps in existing buildings, and building this expense into the permitted rate base, meaning that a special rate component will be charged to all that will fund these systems. If this is successful in five Massachusetts areas at the outside edge of the gas distribution infrastructure, I hope it will be expanded.

A positive result would be that more people electrify at no large capital expense. The utility would become less of a fossil purveyor and more of an underground thermal provider. Expanding portions of the leaky gas pipes currently needing replacement at high cost would be replaced with a renewable product, keeping the utility solvent. It's a lot to hope for, I admit. But without trying something new, we keep replacing infrastructure that perpetuates carbon and its emissions that must continue over a long service life for infrastructure to be paid for.

Maybe a culture war over cooking with gas will turn out to inspire more careful thinking than just rage. We can hope.

—*Bill Martin*