

THE HIDDEN COSTS OF A VIRGINIA NATURAL GAS BAN

Across the U.S., state and local governments have proposed measures to ban or discourage the use of natural gas hookups for new homes and businesses. Some have even gone so far as to push for a complete phase-out of services to existing customers that rely on natural gas. Proposed rulemaking that limits access to affordable energy jeopardizes those who can least afford it, while increasing the likelihood of power disruptions.

Consumers need always-on options like natural gas to support renewables, balance the grid and ensure they have the power and heat they need for daily service and especially during storms and other weather events. This became evident when Texas faced power reliability challenges during the February 2021 freeze.

Consumer Energy Alliance (CEA) supports efforts to thoughtfully reduce our emissions profile and enhance environmental stewardship that keep in mind both the environment and the energy needs of consumers.

Using open-source consumer data, CEA developed a cost calculator to provide an estimate of what a typical household in Richmond, Virginia, could expect to pay if policies to ban natural gas service and use are forced onto families.

Depending on the appliance models, home configuration, labor, and reliance on natural gas, an energy ban could cost as much as \$27,385 for a Richmond household to retrofit existing appliances. These findings dovetail with previous CEA research which found that the cost to replace major gas appliances in homes nationwide would be [more than \\$258 billion](#).

Further, a tremendous amount of new transmission

infrastructure will need to be built at significant cost to Virginia to meet the demands to “electrify everything.” While CEA supports voluntary efforts by consumers to use the types of appliances and services they prefer, the cost of forcing actions on them must be balanced against costs to households and real-world, practical considerations that can help lower emissions today.



TOTAL COST FOR HEAT PUMP INSTALLATION
(potentially depending on labor, fees and permits)

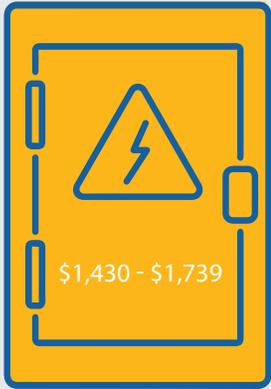
THE CONSEQUENCES OF ENERGY BANS

Natural gas bans deny homeowners and businesses the service they need, want and most commonly use to power their lives, heat their homes and run their operations. These energy bans dictate choices to consumers, and supporters of these efforts ignore data and leave out pertinent facts – mainly how expensive it will be to force people to change all their appliances to electric-only and whether they want to do so

Arbitrarily limiting energy choice would increase prices and disproportionately affect consumers and

households on fixed and low incomes. The U.S. Census Bureau [estimates](#) 10.2% of Virginia’s residents live at or below the poverty line. Additionally, more than 123,000 Virginians were [unemployed](#) as of November 2022. According to the [2022 Personal Capital Wealth and Wellness Index](#), only 47% of Americans are in a position to cover a \$500 expense without worry.

Banning natural gas hookups could lead to sticker shock on future energy bills. That’s something no household with a stretched budget needs to face.



ELECTRIC PANEL UPGRADE (PER PANEL):
\$1,430 - \$1,739
(July 2022 prices include material, labor and supplies)

NATURAL GAS AND VIRGINIA

Virginia families, seniors, small businesses, and manufacturers saved more than \$5.1 billion over the past decade because of the increased availability of affordable natural gas and related infrastructure. These savings are crucial to Virginia families where [one-third of homes rely on natural gas](#) during the winter for heat. Additionally, natural gas powered about [60% of Virginia’s utility-scale electricity generation in 2021](#).

Restricting use of natural gas could jeopardize those cost savings for Virginia households. Not only would there be significant costs for new appliances, wiring upgrades and potential remodeling, but there would potentially be higher monthly energy bills for home heating. According to [data](#) from the American Gas Association (AGA), conventional natural gas furnaces are less expensive to operate compared to other heating sources, including advanced heat pumps.

This corresponds with AGA’s findings from the 2014 Polar Vortex, when the average cost to heat a natural gas home in January of that year was \$159 compared to \$267 for a similar home with a heat pump and an electric furnace

for backup heat – a 40% difference. AGA reported that “an equivalent home with equal heating loads operating an electrical resistance furnace would have incurred a heating bill of \$445 on average.” What is often left out of the public policy conversation is that as natural gas use has expanded across Virginia, emissions have fallen dramatically.

Based on [data](#) from the Environmental Protection Agency spanning 1990 to 2021, Virginia’s emissions of criteria pollutants have decreased across the board with reductions of:

- 75.1% for nitrogen oxides (NOx)
- 67.6% for volatile organic compounds (VOCs)
- 96.1% for sulfur dioxide (SO2)

Even more remarkable Virginia’s [energy-related carbon emissions](#) dropped more than 20.3% from 2000 to 2020. These reductions came as natural gas use grew, infrastructure expanded, and Virginia’s economy surged. Usually, economic growth and emissions increase in parallel.

VIRGINIA EMISSION TRENDS 1990-2021

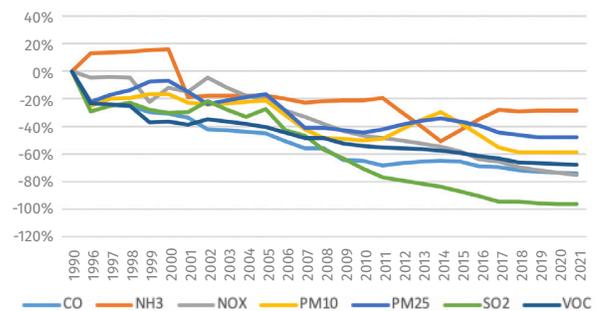


Figure 1: Virginia Emission Trends, 1990-2021
(Source: U.S. Environmental Protection Agency)

IMPACT ON VIRGINIA HOUSEHOLDS

A ban or mandate to replace natural gas appliances could be potentially ruinous for many Virginians by hitting them with surprise bills. The additional costs for the replacement of natural gas appliances, remodeling, construction, wiring, and labor would be forced on homeowners and landlords, the latter of whom would pass them on to renters.

According to the consumer website Homewyse, a new [heat pump](#) in Richmond would currently cost homeowners as much as \$5,708. “After labor, fees and permits, costs can hit [\\$20,000 or more](#), not including ducts,” according to consumer website HomeAdvisor. This is just to replace a furnace and does not include other appliance replacement costs nor the rewiring

needed for conversion. Depending on the models chosen, mandates requiring the replacement of major appliances like hot water heaters, furnaces, gas stoves, gas dryers could top out at more than \$27,385 for a Richmond household which uses natural gas.

CLEANER FUTURES WITHOUT CONSUMER PAIN

CEA supports a balanced and rational discussion by those who want to voluntarily pursue strategic electrification efforts that make sense from a practical or technical standpoint. However, prematurely instituting technologies comes at a cost; and a blanket adoption of forced electrification without examining the financial and reliability impacts is bad policy with potentially costly, unforeseen or crisis-causing effects.

It is possible to achieve a cleaner future with lower emissions. We can get there without dictating energy choices to families, seniors and neighbors. Exciting technologies like renewable natural gas (RNG) can help reduce methane emissions and improve water quality while using existing infrastructure. RNG captures harmful methane emissions from landfills, municipal water systems or farm operations and transforms them



ELECTRIC RANGE:
\$928 - \$1,896

(July 2022 prices include material, labor and supplies)

into useable fuel that can be transported through existing infrastructure.

Blending hydrogen into our existing gas infrastructure is another emerging solution. Large-scale renewable opportunities from offshore wind, along with battery storage technology, are other options on the horizon that will help further drive down Virginia's emissions profile. However, misguided attempts to ban energy services will lead to astronomical costs and jeopardize energy resources that are helping already reducing emissions.

Protections are needed to prevent our neighbors and communities from being hit with surprise bills and service disruptions as a result of these bans. It should be up to consumers to decide what types of appliances they want, not activists.



ELECTRIC WATER HEATER:
\$1,495 - \$1,859

(July 2022 prices include material, labor and supplies)