



# PENNSYLVANIA

## THE HIDDEN COSTS OF A PENNSYLVANIA 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 and even a complete phase-out of service to existing customers. However, few if any of these proposals have provided a realistic cost estimate of what a force switch to electric appliances would cost, if they have offered one at all.

To give consumers a sense of the potential cost, Consumer Energy Alliance (CEA) developed a calculator that uses open-source, localized consumer data to provide an estimate of what a typical household could expect to pay.

In Harrisburg, Pennsylvania, retrofitting a typical household's appliance could cost almost \$29,000, depending on the appliance models, home configuration, labor, and reliance on natural gas. 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](#).

Currently, 20 states have enacted legislation to protect consumer choice and pre-empt local bans on reliable, affordable natural gas. Pennsylvania's legislature passed a similar protection for the Commonwealth, but it was vetoed by the governor in 2022.

Consumers need always-on options like natural gas to support renewables, balance the grid and ensure they have the power and heat they need during storms, weather events and for daily service. This became evident when more than 1.5 million homes and businesses across the U.S. were plunged into darkness during winter storm Elliott in December 2022.

CEA supports thoughtful efforts to reduce our emissions

profile and enhance environmental stewardship while ensuring consumers have access to reliable, affordable energy.

Further, a tremendous amount of new electric transmission and distribution infrastructure will need to be built at significant cost to Pennsylvania families and businesses 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 real-world, practical considerations that can help lower emissions today.

## 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 science and leave out pertinent facts – mainly how expensive it will be to force people to change all their appliances to electric-only.

Arbitrarily limiting energy choice would increase prices and disproportionately affect consumers and households on fixed and low incomes. [The U.S. Census Bureau](#) estimates 12.1% of Pennsylvania's residents live at or below the poverty line. Additionally, more than 253,000 Pennsylvanians were [unemployed](#) as of December 2022.

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. 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. Additionally, a recent survey by the [U.S. Energy Information Administration](#) revealed 34 million U.S. households (27% of all U.S. households)

reported difficulty paying energy bills or that they had kept their home at an unsafe temperature because of energy cost concerns.

**ELECTRIC PANEL UPGRADE**  
**\$511 - \$3,096**  
 (PRICE RANGE FOR UPGRADING TO 200-AMP ELECTRICAL PANEL)  
 (July 2022 prices include material, labor and supplies)

## NATURAL GAS AND PENNSYLVANIA

Pennsylvania families, seniors, small businesses, and manufacturers saved more than \$13.4 billion over the past decade because of the increased availability of affordable natural gas and related infrastructure. These savings are crucial to families in Pennsylvania, where two-thirds of the state's homes rely on natural gas during the winter for heat. Additionally, natural gas accounted for almost four-fifths of all the generating capacity added in the state since 2019.

Restricting use of natural gas could put those cost savings in jeopardy for Pennsylvania households. Not only would there be significant costs for new appliances, wiring upgrades and potential remodeling, but it would potentially lead to higher monthly energy bills for home heating. According to data from the American Gas Association (AGA), households utilizing conventional natural gas appliances for heating cooking and clothes drying are less expensive to operate – with an average

savings of \$1,041 per year - compared to homes using electricity for the same appliances.

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.”

## EMISSIONS BENEFITS OF NATURAL GAS

What is often left out of the public policy conversation is that as natural gas use has expanded across Pennsylvania, emissions have fallen dramatically.

Based on data from the Environmental Protection Agency spanning 1990 to 2021, Pennsylvania's emissions of criteria pollutants have decreased across the board with reductions of:

- **78.9% for nitrogen oxides (NOx)**
- **61.7% for volatile organic compounds (VOCs)**
- **95.0% for sulfur dioxide (SO2)**

## PENNSYLVANIA EMISSION TRENDS 1990-2021

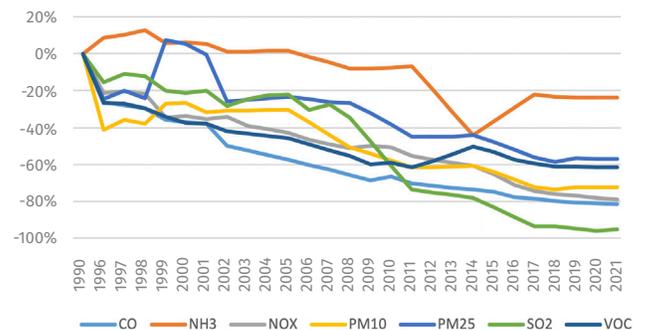


Figure 1: : Pennsylvania Emission Trends, 1990-2021 (Source: U.S. Environmental Protection Agency)

Even more remarkably, Pennsylvania's energy-related carbon emissions dropped almost 27% from 1990 to 2020. These reductions came as natural gas use grew, infrastructure expanded, and Pennsylvania's economy expanded. Usually, economic growth and emissions increase in parallel.



**TOTAL COST FOR HEAT PUMP INSTALLATION**  
**\$20,000**

*(potentially depending on labor, fees and permits)*

## IMPACT ON PENNSYLVANIA HOUSEHOLDS

A ban or mandate to replace natural gas appliances could be potentially ruinous for many Pennsylvanians by hitting them with surprise bills. CEA developed its cost calculator by examining open-source information and from consumer websites that collect local average cost information for the replacement of natural gas appliances, remodeling, construction, wiring, and labor. If policies requiring a switch from natural gas appliances to electric were rolled out, all of these costs would be forced onto homeowners and landlords, the latter of whom would pass them on to renters.

According to the consumer website Homewyse, a [new heat pump](#) in Harrisburg would currently cost homeowners as much as \$6,178. "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 \$29,000 for a Harrisburg home reliant on 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 impacts.



**ELECTRIC HOT WATER HEATER:**  
**\$1,634 - \$2,035**

*(July 2022 prices include material, labor and supplies)*

It is possible to achieve a cleaner future with lower emissions without dictating energy choices to families, seniors and neighbors along the way. 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 into useable fuel that can be transported through existing infrastructure. Blending hydrogen into our existing gas infrastructure is another emerging solution, along with increased wind and solar power deployment.



**ELECTRIC RANGE:**  
**\$955 - \$1,942**  
(July 2022 prices include material, labor and supplies)

The infographic features a stylized electric range with four burners and four control knobs, all in blue and yellow. The price range is displayed in the center of the range's surface.

However, consumers need protection from misguided attempts to ban energy services that will lead to far higher costs, potential service disruptions and jeopardize energy resources that are helping reduce emissions in real time.

It should be up to consumers to decide what types of appliances they want, not activists.