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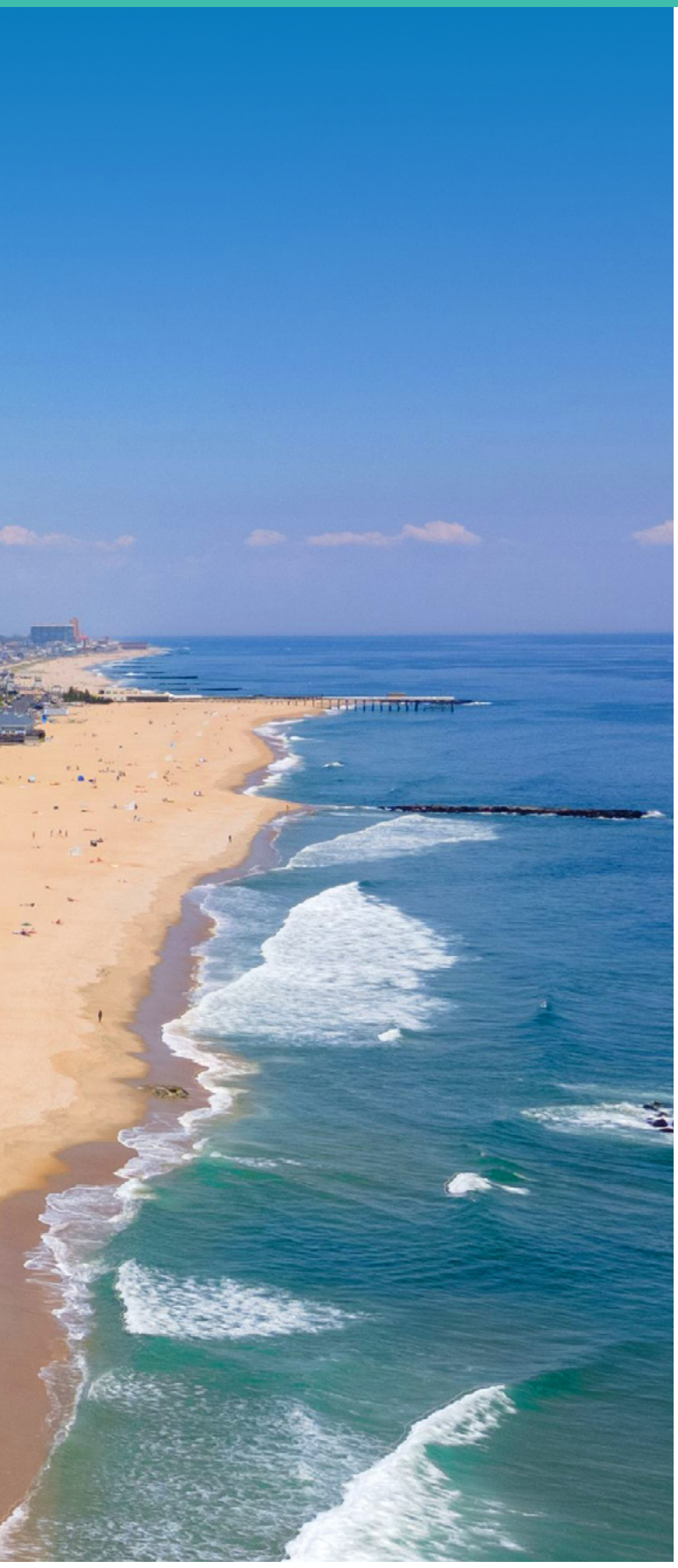


At the federal level, the Clean Air Act — the United States federal law that limits national air pollution — has been a successful piece of legislation in terms of health outcomes.

The United States Environmental Protection Agency (EPA) indicated that Clean Air Act amendments that reduce levels of fine particles and ozone prevented an estimated 230,000 premature adult deaths, 280 premature infant deaths, 2.4 million asthma attacks, 120,000 emergency visits, 5.4 lost school days, and 17 million lost workdays in 2020. While these statistics give much cause for celebration, New Jerseyans still breathe some of the worst air in the nation. In its 2024 *State of the Air* report, the American Lung Association found that the Newark-New York City metropolitan area was tied for the 13th-most ozone-polluted city in the nation. Ozone can reach unhealthy levels on hot sunny days in urban environments, making it more difficult to breathe and increasing the frequency of asthma attacks.

The health impacts of transportation powered by fossil fuels affect everyone, but especially vulnerable are children, the elderly, the chronically ill, and low-income households and communities near heavily trafficked freight corridors. In New Jersey, the transportation sector represents the single largest emitter of greenhouse gases (GHGs), accounting for 38 percent of the state's total GHG emissions in 2020. In addition to releasing GHGs, vehicle emissions release co-pollutants, such as particulate matter that can impair lung function and cause tissue damage.

Pollutants emitted from burning gas, oil, and propane in buildings—especially particulate matter (PM2.5) and gaseous pollutants like nitrogen oxides (NO_x), which form ground-level ozone—are a leading cause of poor air quality and premature deaths. In New Jersey, more than 600,000 adults and 167,000 children have asthma, and Black and Latino/a/x communities are more likely to be affected with asthma symptoms, according to the New Jersey Department of Health. Rates for emergency room visits due to asthma are highest in Cumberland, Essex, and Camden Counties.

In the United States, outdoor air pollution was estimated to be responsible for 5–10 percent of the total annual premature mortality in the contiguous United States, according to a 2020 report published in *Nature*. In New Jersey specifically, long-term exposure to particulate matter from fossil fuel combustion has been responsible for 17,646 premature deaths, according to a Harvard 2021 study, as reported by Environment New Jersey, Research and Policy Center.

In short, air pollution in New Jersey from cars, trucks, industry, and buildings must be reduced—and current air pollution standards enforced—to better protect public health.

Phase Out Fossil Fuel Infrastructure and Align Gas Regulations and Climate Goals

Reduction in the use of natural gas (primarily composed of methane), propane, and oil is critical to mitigating climate change, improve public health, and reach New Jersey's clean-energy goals:

- Reach a 2030 target of 50 percent below 2006 levels for greenhouse gas reduction
- Reach 20 million heat pump installations across a coalition of states by 2030
- Reach 100 percent in energy sales of clean electricity in New Jersey by 2035
- Produce 11,000 megawatts of offshore wind by 2040
- Reach 90 percent of residential heating, air conditioning, and water heating sales from heat pumps by 2040

New Jersey is working towards transitioning away from natural-gas electric generation through the development of large-scale renewables like offshore wind and solar. The New Jersey Energy Master Plan concludes that, in order to meet the state's climate goals, the overall consumption of natural gas must be reduced by approximately 75 percent between 2020 and 2050.

However, despite New Jersey's strong climate and clean-energy goals and policies, there is little reconciliation between the gas system's regulatory practices and goals. Without adequate early planning and transparency, there is a risk that New Jersey's climate transition will not only be delayed, but also significantly more costly and inequitable. Costs of stranded assets will continue to be borne by vulnerable customers as the affluent transition away from natural gas.

New Jersey has been faced with numerous new project proposals for fossil fuel infrastructure in recent years, including gas and oil pipelines, compressor stations, gas-fired power plants, and liquefied natural gas terminals. Some project proposals will not even supply power in the state, yet will contribute to New Jersey's overall emissions. Collectively, these projects represent a significant threat to critical natural resources, public health, and public safety, in addition to posing a block to the transition away from fossil fuels to 100 percent clean energy. These projects would shoulder ratepayers with billions of dollars in costs and result in stranded assets as the state shifts away from fossil fuels.

What are Stranded Assets?

Stranded assets are assets (e.g., a piece of equipment, resource, or infrastructure) that once had value or produced income but no longer do, usually due to some kind of external shift. For example, the rise of clean energy may leave behind fossil fuel infrastructure as a stranded asset.

PRIMARY CONCERNS

- Gas utilities and regulators continue to operate in a business-as-usual framework, assuming static or increased use of natural gas without reconciliation with New Jersey's climate and clean-energy objectives.
- Continued investment in gas infrastructure will leave ratepayers on the hook for decades, based on an assumed useful life of 60 years, and that raises the risk of stranded assets and increased rates.
- Natural gas rates will increase as consumption declines and the cost of maintaining the gas system is borne by fewer customers. A proactive, planned transition from gas to electric appliances for low-income and moderate-income consumers will protect these households from increasing gas bills.
- State and federal policies need to be strengthened to better protect against both unneeded, polluting projects and existing facilities that are inconsistent with environmental justice and clean-energy goals.
- New Jersey Natural Gas constructed the Southern Reliability Link, a project that provided no reliability benefit, through the protected Pinelands National Reserve. Problems with

horizontal directional drilling during construction resulted in 17 spills, the pollution of streams, and damage to one home that was so severe the homeowner was forced to evacuate.

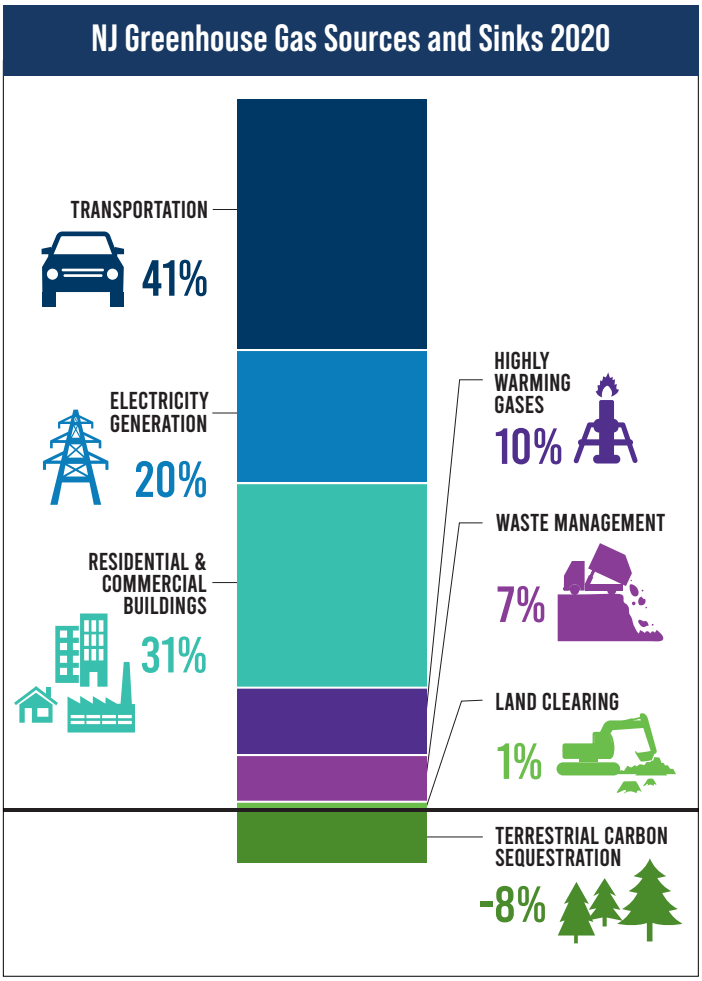
- Delaware River Partners is proposing to construct an export facility for liquified natural gas terminals in Gibbstown, New Jersey, across the Delaware River from Philadelphia. The facility would be the first in the majestic Delaware River Basin, which provides drinking water to approximately 15 million people. The completed project would also unleash a torrent of trucks and trains through low-income communities in Pennsylvania and New Jersey, each transporting a full load of dangerous, methane-emitting liquified natural gas from an upland facility to mammoth ships waiting in port.
- Williams has revived two proposed Pennsylvania to New York natural gas pipelines - the Northeast Supply Enhancement (NESE) and the Constitution Pipeline. The NESE project would cut through Raritan Bay and was previously denied permits by New Jersey and New York state agencies.
- Peaker plants disproportionately contribute to harmful air pollution in environmental justice communities.
- In 2019, over 1,568 miles of long-distance pipelines for the transmission of natural-gas crossed the state, and nearly 35,600 miles of distribution mains delivered gas to users through more than 2.3 million service connections. Methane, the primary component of natural gas, could potentially be released at any point in this infrastructure. In 2019, emissions from New Jersey's system of natural gas transmission and distribution totaled 2.3 million metric tons of CO_2e (out of New Jersey's overall GHG emissions of 98.5 CO_2e).

POLICY RECOMMENDATIONS

- Explore options to require mandatory emissions reductions from New Jersey businesses, and ensure enforcement of existing air pollution regulations.
- Reinvigorate and move forward with the New Jersey Board of Public Utilities' natural gas planning proceeding, initiated in March 2023, to achieve the goal of reducing greenhouse gas emissions below 2006 levels by 2030 through the development of natural-gas utility plans.
- Encourage NJBPU to make the decision-making processes for gas-utility activities more transparent and accessible to all stakeholders. These processes should include the detailed evaluation of the impact of potential actions on disproportionately impacted communities, as well as of the environmental and energy-justice implications of any approvals.
- Coordinate near-term decisions and long-term goals by considering both cumulative impacts on customer cost and alignment with long-term system planning and climate goals. In particular, decisions about building, repairing, or replacing infrastructure should consider the potential long-term need for that infrastructure, given climate goals. Any investment with long-term assets should include the evaluation of alternatives, including nonpipeline alternatives.
- Defend against the seizure of state-preserved lands for proposed projects for fossil fuel infrastructure.
- Require the New Jersey Department of Environmental Protection to fully enforce New Jersey's strong authority under the Clean Water Act, Freshwater Wetlands regulations, Flood Hazard regulations, and Coastal Zone Management regulations, and deny permits for projects that do not meet New Jersey's strict environmental standards.
- Move forward with NJDEP's general permit authorization for horizontal directional drilling to protect against releases of contaminants. Encourage NJDEP to require that applicants avoid sensitive natural resources rather than assuming that horizontal directional drilling will prevent impacts to these resources.
- Use data collected through NJDEP's new Greenhouse Gas Monitoring and Reporting Rule to strategically reduce leakage of methane from the natural-gas transmission and distribution system by requiring leak abatement, the replacement of leaky pipes, and the reduction of blowdown events.
- Transition peaker power plants that run on fossil fuel, often located in environmental justice communities, to clean renewables and battery storage.
- Defend against any proposed oil and gas leases off New Jersey's coast.

Reduce Harmful Emissions from New Jersey Buildings

Currently, residential and commercial buildings produce about 25 percent of the state's greenhouse gas emissions and represent the second largest source of emissions after transportation. These substantial greenhouse gas emissions are produced primarily by gas furnaces and water heaters, and, to a much lesser extent, by oil and propane furnaces.



Source: New Jersey Department of Environmental Protection

Weatherizing homes are a key strategy for reducing greenhouse gas emissions in the state, as New Jersey's housing stock is older and less energy-efficient than the national average. Research shows that for energy-inefficient (or leaky) homes in New Jersey, weatherization can substantially reduce heating and air-conditioning costs for homes using oil, propane, or natural gas. Weatherization, together with switching to electric appliances such as heat pumps, often reduces total energy bills for homes that currently rely on natural gas.

The installation of electric appliances not only eliminates the combustion of fossil fuels from homes and businesses—a critical strategy in addressing climate change—but also improves local air quality. Furthermore, the emissions benefit from electric appliances increases over time as electricity becomes cleaner and eventually carbon-free. A new gas furnace locks in GHG emissions over the lifetime of the appliance.

Heat pumps provide a number of advantages for all households, but particularly for low-income households. According to the US Department of Energy, "heat pumps can reduce household electricity use by up to 75 percent compared to electric resistance heating such as furnaces and baseboard heaters. High-efficiency heat pumps also dehumidify better than standard air conditions, resulting in less energy usage and more cooling comfort in summer months."

There are several best practices to encourage consumers to choose electric appliances. For example, electric appliances are often chosen over gas appliances when energy audits are conducted and consumers can follow expert recommendations for cost-effective weatherization at low costs, when HVAC installers are trained on the current generation of highly efficient electric appliances, and when retailers carry popular models and offer instant rebates.

PRIMARY CONCERNS

- Energy costs are disproportionately high as a percentage of income for low-income households.
- Buildings in New Jersey have a high carbon footprint, both because the housing stock is older and less energy-efficient, and because buildings rely on fossil fuels for space and water heating.
- Electric appliances, such as heat pumps, are highly effective in cold climates. Yet, despite heat pumps now outselling gas furnaces, market barriers make it challenging for consumers to choose them in New Jersey.
- Fossil fuel appliances contribute both to air pollution and GHG emissions, and need to be phased out.
- Increasing the number of energy codes is a cost-effective and foundational strategy for reducing energy usage and energy bills in New Jersey. Building energy codes dictate the minimum energy efficiency for new building construction, major renovations, and additions in existing buildings. In this way, energy codes represent the floor, that is, the least-efficient building standards by law. Municipalities should have the option to opt in to a zero-net-energy stretch code that is more aggressive than the base code to achieve higher energy savings.

POLICY RECOMMENDATIONS

- For existing residential and commercial buildings, the state should:
  - ✓ Set goals to achieve high levels of both energy efficiency and healthy homes for 80 percent of the existing housing stock that serves low-income households by 2030, and 50 percent of all residential housing within the state.
- For new residential and commercial buildings, the state should:
  - ✓ Create a roadmap, with stakeholder input, to place New Jersey on the path toward achieving 100-percent-electric new residential and commercial buildings by 2030, and prioritize investments in affordable, 55+ housing and multifamily projects. Include data on job creation related to this initiative.
  - ✓ Enact a zero-net-energy stretch code for New Jersey that is more aggressive than the base code to achieve higher energy savings for residential and commercial homes and buildings. Municipalities should be able to adopt this new stretch code voluntarily. Additionally, update the energy stretch code statewide, along with the energy base code updates, to ensure a consistent above-code option. Implement a mandatory, statewide zero-net-energy code no later than January 1, 2028.
- Reform the New Jersey Board of Public Utilities' Clean Energy Program to target the conversion of building heating from fossil fuels to electricity, prioritizing the conversion of heating oil and propane customers. There should be no incentives for gas connections for buildings or gas appliances.
- Pass legislation that requires NJBPU to reduce GHG emissions, consistent with New Jersey laws, and require utilities to achieve annual GHG-reduction targets in their energy-efficiency programs. In addition, such legislation would require NJBPU to comply with state environmental and public health goals when evaluating the development of new energy infrastructure. Ensure overburdened communities receive at least 40 percent of the benefits from emissions reductions.
- Pass legislation to require NJBPU to establish a beneficial program for building electrification and decarbonization, which would include electric public utilities. (See Assembly Bill No. 4844 / Senate Bill No. 249 of the 2024–2025 legislative session.)
- Implement and monitor New Jersey's building benchmarking law and consider how the data may be used to drive policies that make for greener, more resilient buildings.
- Revitalize and update the Office of Climate Action and the Green Economy to centralize governance around "clean buildings," creating a whole-government approach to the issue. Clean Buildings are defined as those designed, constructed, and/or retrofitted with energy-efficiency systems, and with 100 percent zero-emission space and water heating and appliances.
- Ensure that state-funded projects and buildings set the highest mark for "clean building" design practices, including the requirement of such practices as a condition of receiving state support for development.

Create Healthy Housing for Low-Income Households

According to a 2020 report from the American Council for an Energy-Efficient Economy, compared to white households, Black households spend 43 percent more of income on energy costs, Hispanic households spend 20 percent more, and Native American households spend 45 percent more across the nation. Current New Jersey programs, such as Comfort Partners, are designed to assess energy usage, weatherize homes, and then install efficient appliances, yet many low-income households do not qualify for such efficiency retrofits because of issues such as asbestos, lead, leaky roofs, or mold. New approaches are needed to address building updates in a holistic manner, starting with a healthy home and energy assessment, followed by a broader range of services. A holistic approach to building updates will improve access for low-income households, help reduce indoor pollution, and make buildings more comfortable and more efficient.

The New Jersey Board of Public Utilities launched the Whole House Pilot Program in Trenton in September 2022. The program takes a holistic approach to healthy housing, incorporating and coordinating energy-efficiency improvements while remediating health and safety hazards that pose a threat to human health and too often cause efficiency upgrades to be deferred or delayed.

Opportunities For Expanded Efforts

The NJBPU pilot program presents a tremendous opportunity to collect data on both its successes and failures, and to adjust program steps as needed to bring the Whole House approach to full scale in New Jersey's most vulnerable communities. Additionally, the program provides local jobs by utilizing community-based vendors to publicize the program, assess housing and energy needs, and provide energy upgrades in income-eligible housing.

Additionally, a law was signed in May 2024 establishing a new framework for determining and enforcing New Jersey municipalities' affordable housing obligations under the New Jersey Supreme Court's Mount Laurel doctrine and the State's Fair Housing Act (also known as the Fourth Round). With the implementation of the Fourth Round, there is a tremendous opportunity to expand energy-efficiency and electrification efforts in new or rehabilitated construction, especially for affordable housing units.

PRIMARY CONCERNS

- Multiple programs have different guidelines, intake protocols, and priorities. This creates differences in how owners versus renters are treated, as well as single-family dwellings versus multi-family dwellings.
- Impractical and unneeded documentation requirements exist for program participants.
- Serious structural issues prevail for a large percentage of low-income residences.

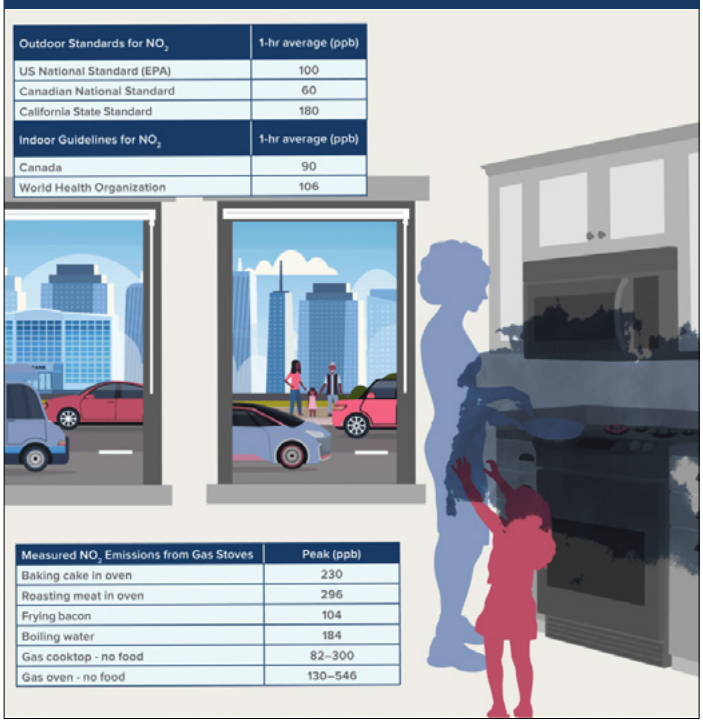
POLICY RECOMMENDATIONS

- Evaluate program outcomes for the Whole House Pilot Program, adjust the program, and expand it statewide. Bolster this work through robustly funding the Comfort Partners Program.
- Unify all low-income energy-efficiency programs in the state into a single source for energy efficiency.
- Remove all documentation requirements, except proof of ownership and identity, and eliminate the need for social security cards, W2s, and other such documents. Use low-income census tracts or defined overburdened communities for choosing homes and neighborhoods to weatherize, and review and standardize income tests for all energy-efficiency programs.
- Use funding from multiple programs and sources to address factors that create obstacles for installing energy-efficiency upgrades, such as roofing and/or other home-health issues, including lead abatement. By combining funds from non-energy-efficiency programs, this new program can flex the funding to the measures needed by each unit. Consider a set-aside for community education to spread awareness about the program.
- Any new affordable housing that receives state funding should be energy-efficient and not include any new natural gas connections.

Address Problems Associated with Indoor Air Pollution

According to the United States Environmental Protection Agency, Americans spend 90 percent of time indoors and 65 percent at home. Strikingly, concentrations of various pollutants in household air can often be higher than that of outdoor pollution. Multiple sources contribute to household air pollution, including tobacco smoke, the method of heating, poor ventilation, dampness, and chemicals in cleaning products, as well as some building materials and types of gas cooking stoves.

Gas Stoves Can Emit Elevated Indoor Nitrogen Dioxide (NO2) Levels Often Exceeding Indoor Guidelines and Outdoor Standards



Source: https://rmi.org/insight/gas-stoves-pollution-health

Indoor Air Health Affects All of Us

In the US, one in three households cooks with gas. While using exhaust-fan ventilation can reduce nitrogen dioxide (NO_2) concentrations and associated respiratory illnesses, a National Health and Nutrition Examination survey found that only 21 percent of gas stoves in homes with children were consistently used with the stove's exhaust vent.

Cooking with gas increases household air pollution: Cooking with gas generates nitrogen dioxide, carbon monoxide, particulate matter, and formaldehyde. Nitrogen dioxide levels are higher in homes with gas cooking stoves. Unlike other gas appliances, which have chimneys or outlets to vent these emissions, gas stoves are not uniformly required to be vented to the outside.

Health Impacts to Children: According to the US Environmental Protection Agency, short-term exposure to high levels of NO_2 has a causal relationship with asthma and can make asthma symptoms worse. Children are particularly vulnerable to the health effects of air pollution because they are more active, have immature respiratory systems, and have higher lung-to-body weight ratios. Nitrogen dioxide increases the risk of respiratory illnesses like asthma in children, and cooking with gas increases the risk of pediatric asthma by 42 percent. Children who have asthma have more severe symptoms in homes with higher NO2 levels.

Equity: Low-income households are more likely to live in smaller homes, where concentrations of NO_2 from cooking with gas tend to be higher than in larger homes. Low-income households where household air pollution levels are below EPA ambient standards are also more likely to suffer from asthma, chronic obstructive pulmonary disease, and heart disease. Energy-efficiency upgrades, which can reduce leaks in buildings through sealing cracks and gaps, can also result in an increase in the concentration of household air pollutants unless sources of pollution (e.g., gas cooking stoves) are removed or adequate ventilation is installed and used.

PRIMARY CONCERNS

- People spend most of their time at home, where household air quality is often worse than outdoor air quality.
- Cooking with a gas stove increases nitrogen dioxide levels in the home.
- Nitrogen dioxide increases the risk of respiratory illnesses (e.g., asthma) in children.
- Most people do not have or use adequate ventilation to clear air pollution (e.g., NO_2) from their homes.
- In smaller homes, cooking with gas can produce higher NO_2 concentrations than in larger homes, which can more severely impact health.

POLICY RECOMMENDATIONS

- Offer no-cost or subsidized options for low-income or affordable housing to install energy recovery ventilators, which are passive energy-recovery devices used to reduce the energy consumption of heating, ventilation, and air-conditioning systems by exchanging stale indoor air with fresh outdoor air.
- Prioritize rebates, incentives, and low-interest loans offered through the state or utilities to property owners and contractors who are installing electric appliances rather than gas appliances.
- Incentivize the sale and installation of new energy-efficient and zero-emission equipment, when replaced at the end of its predecessor's useful life in residential and commercial buildings.
- Create awareness among developers, landlords, contractors, retailers, and consumers through state-sponsored programs about the health risks of cooking with gas stoves. This should include education about the risks associated with cooking with gas (e.g., childhood asthma), and about the benefits gained from reduced gas use, proper ventilation, and switching to electric stoves (e.g., reduced pollution).
- Enhance government agencies' inspection regulations concerning home-safety, plumbing, and home inspections, and review and revise existing standards and procedures to reduce children's exposure to household air pollution generated by cooking with gas. The program must include rental units and affordable housing.
- Update building codes to require range hoods are outdoor-vented for gas stoves.
- Require the installation of outdoor-vented electric cooking stoves for new, state-funded low-income housing.
- Offer no-cost or subsidized options for programs to retrofit low-income or affordable housing with electric stoves, which would include funding for electric panel upgrades, the installation of outlets for electric stoves, and for shutting off gas lines. This could be incorporated into existing programs, such as Comfort Partners or the Whole House Program.