

MAKING BUILDINGS CLEANER & SAFER

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EXECUTIVE SUMMARY

While the General Assembly has done considerable work to decarbonize the electricity and transportation sectors, little has been done to address the residential and commercial building sector, which contributes 36% of Virginia's climate emissions.¹ Gas-powered space and water heating in Virginia's buildings lead to harmful indoor methane combustion, causing significant climate, community safety, and public health impacts. To ensure the success of Virginia's existing climate policies and remove fossil fuel combustion from our buildings, Virginia should incorporate our clean energy transition into its building policies by pursuing updated performance standards, amplifying federal funding opportunities to modernize existing building infrastructure, and protecting existing local authority to electrify new building construction.

CHALLENGE

Although Virginia has begun its decarbonization journey in earnest in the electric and transportation sectors, little has been done to address the next frontier for climate action: buildings. Buildings sit at the nexus of climate, land use, and public health. Commercial and residential buildings make up nearly 36% of Virginia's emissions.²

But the combustion of methane gas in buildings is far more than a climate problem. Methane is highly flammable and volatile, with considerable risk of fires and explosions. Explosions, often deadly, occur nearly every year in Virginia, including most recently in Bristol.³ While explosions happen unpredictably in gas-powered buildings, methane gas combustion has a deleterious effect on public health. Methane combustion creates nitrous dioxide, a respiratory irritant which significantly exacerbates the risk of asthma, particularly for children. Recent studies show that over 12% of childhood asthma cases are directly caused by indoor methane gas combustion.⁴ The risk is greater in poorly ventilated homes, meaning that low-income households are at greater risk, contributing to disproportionate rates of asthma in low-income families.⁵

Finally, the soaring price of methane gas, partially attributable to the war in Ukraine, is evidence of a pressing need to move away from a fuel source whose cost is so heavily influenced by unpredictable geopolitical factors. Virginians across the Commonwealth saw "fuel factor" charges add over \$35 per month to household energy bills.⁶ These unexpected and exorbitant costs are untenable for Virginia's families. Virginians deserve the opportunity to get volatile, explosive, toxic methane gas out of our homes.

SOLUTION

The imperative to shift away from methane gas in buildings demands a complementary approach that focuses on bold building performance standards and protecting local authority to electrify new building construction, all while helping modernize existing building infrastructure.

First, Virginia should require the adoption of building efficiency standards at least as stringent as the latest IECC as promulgated by the International Code Council

(ICC). Legislation enacted in 2021 calls for that result when such standards provide savings and other benefits over time that exceed the incremental cost of construction. However, Virginia's Board of Housing and Community Development (BHCD) has failed to implement the law as written despite independent findings that building occupants and the public would save money and incur other benefits, including pollution reduction, every year. High building efficiency standards are critical since buildings will be used for 50-100 years and retrofitting is far more expensive than initial construction.

Second, localities' existing authority to meet health and safety goals through ordinances for electric-only new construction must be maintained, and localities should be allowed to adopt codes with stronger energy efficiency and climate standards.

To facilitate the transition for existing buildings, the Commonwealth should take advantage of the numerous new federal funding opportunities available to help Virginians electrify their homes – including HVACs, stoves, and water heaters. Virginia can accelerate the uptake of these incentives by providing technical guidance and public education programs, particularly targeted towards low-income households disproportionately impacted by the health effects of indoor methane combustion. Moreover, public awareness campaigns, particularly with institutionally underserved low-income, BIPOC, and/or rural communities, should be conducted to highlight the benefits of transition not just from the climate perspective, but also its impact on community safety, public health, and affordability. A strong focus on education and outreach can help to overcome resistance to change and ensure widespread adoption.

POLICY RECOMMENDATIONS

Implement or exceed the most current building performance standards, as defined by the International Code Commission, for both new residential and commercial structures.

Maintain localities' authority to meet health and safety goals through ordinances for electric-only new construction and allow localities to adopt codes with stronger energy efficiency and climate standards.

Instruct the Virginia State Energy Office to pursue available federal funding geared towards climate-focused community initiatives to enable the state to carry out a non profit coalition led public awareness campaign aimed at retrofitting, weatherizing, and electrifying residential homes for institutionally underserved communities.

Reform the building code consideration process at DHCD by eliminating the consensus workgroup requirement, which leaves Virginia's building codes in control of one entity, and allows all options to be heard, considered, and voted upon.