

**Statement of Mike Tidwell, Director,  
Chesapeake Climate Action Network and CCAN Action Fund  
before the Montgomery County Council  
on the Comprehensive Building Decarbonization Bill No. 13-22  
July 26, 2022**

I am Mike Tidwell, director of the Chesapeake Climate Action Network and the CCAN Action Fund. Our organization has been based in Montgomery County for more than twenty years. I want to thank Councilmember Hans Riemer and County Executive Marc Elrich for together proposing this legislation, and Councilmember Will Jawando for becoming an early cosponsor. I also want to especially thank my friend Hans Riemer for his years of service to Montgomery County as he moves towards making a positive impact on county and the world in other arenas.

Each of you knows that we are in a climate crisis. The last seven years have been the hottest since temperature recording was begun. Storms are getting worse. Glaciers are breaking up. The ocean is becoming more acidic and sea levels are rising. The UN Secretary General, echoing the science of the Intergovernmental Panel on Climate Change, has repeatedly said that we need to cut emissions 45% off a 2010 baseline by the end of this decade and calls this a “code red for humanity.” You may know that in a hospital, a code red generally means that the building is on fire. It is an appropriate metaphor for this emergency.

The burning question for all of us is what action we can take right now to reduce emissions and slow down the climate chaos that has already begun.

I am going to make three overall points:

- 1) 13-22 is a modest bill, consistent with and necessary to the achievement of the State of Maryland and Montgomery County’s greenhouse gas reduction goals.

- 2) Even if we were not in a climate crisis, this bill would be good policy because of cost and health considerations.
- 3) Don't be taken in by opponents' argument that the grid can't handle the new building load or their non-substantive arguments for choice and delay.

**The Comprehensive Building Decarbonization legislation is a modest bill, consistent with and necessary to the achievement of the State of Maryland and Montgomery County's greenhouse gas reduction goals**

Given the scale of the climate crisis that the planet is facing, directing the County Executive to create new building codes that stop digging the big hole we have dug for ourselves is a very modest step indeed. There are climate experts who argue that we shouldn't even be spending our time talking about something this modest and this well understood.

After considering the state of Maryland's greenhouse gas emissions reduction goals and the unbiased professional analysis that I discuss below, the Maryland Commission on Climate Change, chaired by Governor Hogan's Environment Secretary, made all-electric building codes for the state "beginning as early as possible but no later than 2027" its top recommendation. However, since that recommendation was made, the General Assembly has passed legislation to move up the date by which the state has to be carbon neutral. We now have until 2045 – just 23 years – to implement all the many changes that have to be made to hit that target. This legislation will take a modest bite, just as the recent BEPS and climate impact assessment bills did. Even if they are not to the scale we need, modest bites are critical. But there is far, far more that needs to be done.

Here in Montgomery County, we declared a climate emergency nearly five years ago, we have committed to a greenhouse gas emissions reduction of 80% by 2027 and 100% by 2035, and we have developed a county-wide Climate Action Plan. The Climate Action Plan recommends this modest step. The Council needs to respect that citizen-driven process and the recommendation to pass this implementing legislation. Then next year we all need to move on to other items that will have a larger impact on reducing our greenhouse gas emissions and protecting our most vulnerable populations.

Electrification bills like this are becoming common in several cities, including Seattle, New York City, and several in California. Just two weeks ago, the DC Council unanimously passed a bill that goes far beyond this, not only banning the combustion of all fuel for thermal energy in all new or substantially renovated buildings except for residences three stories and less but requiring all of

those new buildings to be Net Zero Energy. This means that the building will have to produce or directly purchase enough renewable energy to meet its energy consumption over the course of a year. Bill 13-22 does not go nearly that far.

**Even if we were not in a climate crisis, this bill would be good policy because of cost and health considerations**

I want to make clear to you that this bill would be very good public policy for the people of Montgomery County even if it didn't directly help to achieve our climate goals. This legislation may officially be called "Comprehensive Building Decarbonization", but it might be more appropriately entitled the Montgomery County Resident Support and Protection Act. By requiring new and substantially renovated buildings in the county to be all-electric, the legislation strongly directs Montgomery Council residents away from burning a product in their homes which is bad for their wallets and bad for their health and their children's health, and sometimes even bad for their lives. That is good public policy. I'm going to go into detail on two ways that is true.

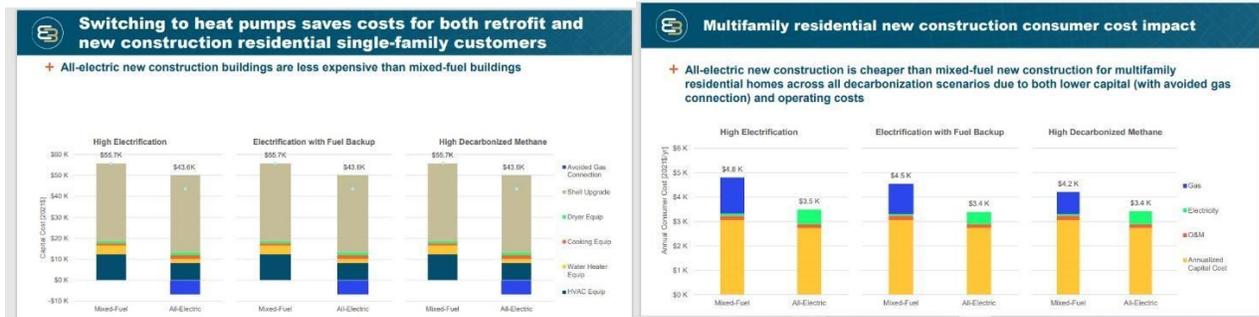
First, let's consider the costs to Montgomery County residents that this bill will avoid. When thinking about building costs, it is important to distinguish between incremental construction costs (between what is currently required by codes and what is proposed) and the ongoing operational costs that are locked in by the decisions made when a building is built. First costs are paid by the builder and reflected in the sales price of the building. Ongoing costs are paid by the eventual building owner (maintenance) and the tenants (utilities or rent increases.) As an easily understandable example: if an affordable, low-income multifamily building is built with the minimum required insulation values and methane gas heat and hot water, the tenants will pay higher monthly utility bills for as long as they live there, or higher rents to compensate the landlord for higher utility costs.

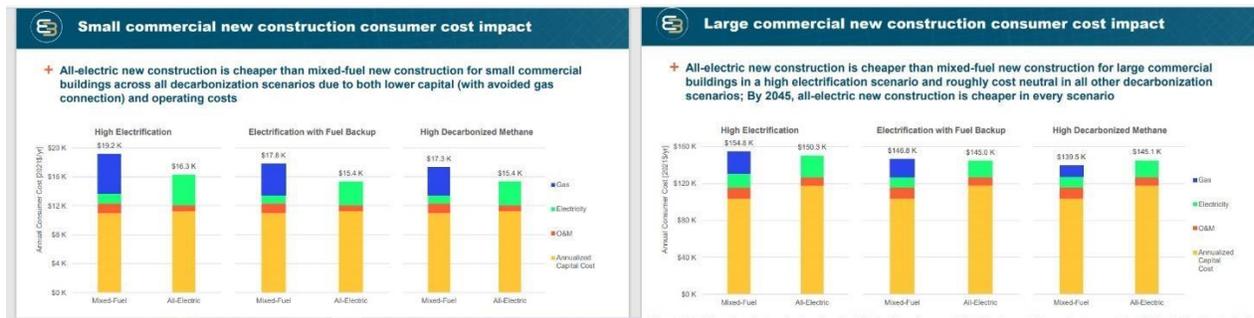
There is a widespread contention among opponents of this legislation that the all-electric construction codes required by bill 13-22 would cost more money. This assertion becomes the basis for both regional competitiveness and equity arguments and is meant to scare you away from supporting the bill, but these arguments are simply untrue.

The Maryland Commission on Climate Change commissioned the topflight international energy economics consulting firm Energy and Environmental Economics (E3) to provide unbiased analysis of three future growth scenarios. These scenarios were all-electrification, electrification with fuel backup, and carbon-neutral methane. I have taken the four slides reproduced below from E3's

final September 2021 report to the Commission. For reading convenience, I am including their headlines here:

- 1) “Switching to heat pumps saves costs for both retrofit and new construction **residential single-family** customers. All-electric new construction buildings are less expensive than mixed-use buildings.”
- 2) “All-electric new construction is cheaper than mixed-fuel new construction for **multifamily residential homes** across all decarbonization scenarios due to both low capital (with avoided gas connection) and operating costs.”
- 3) “All-electric new construction is cheaper than mixed-fuel new construction for **small commercial buildings** across all decarbonization scenarios due to both lower capital (with avoided gas connection) and operating costs.”
- 4) “All-electric new construction is cheaper than mixed-fuel new construction for **large commercial buildings** in a high electrification scenario and roughly cost neutral in all other decarbonization scenarios; by 2045, all-electric new construction is cheaper in every scenario.”





The study found that, in Maryland, construction and costs are cheaper across almost all building types and all scenarios. The entire presentation can be accessed at [E3 Maryland Buildings Analysis Slide Report.pdf](#).

Beyond the Commission’s E3 study, the most comprehensive recent study of new electric building costs was completed this past April by a building think-tank called the New Buildings Institute (NBI) and its partners. NBI rigorously studied costs in both typical single-family homes and medium size commercial buildings in climate zone 5A, just to the north of Maryland, which is typically slightly colder (and therefore slightly more expensive) in the winter heating season.

The NBI study’s methodology was to examine both incremental first costs and life-cycle costs of going from the 2021 International Energy Efficiency Codes to NBI’s Building Decarbonization Code, which incorporates all-electric requirements. (Montgomery County is currently using the 2018 IECC codes but is likely to upgrade to the 2021 IECC codes in the new code cycle.) The study took into consideration both high labor and materials cost areas (New York City) and moderate cost areas (Buffalo), making it even more applicable for the DC metro area.

Among the NBI study’s principal conclusions were these:

“The all-electric single-family home is \$7,500-\$8,200 cheaper to construct than the baseline code home.”

“The all-electric medium office has an incremental cost of \$0.33-0.50/sf.”

And among its policy recommendations is this:

“All jurisdictions in Climate Zone 5A adopt all-electric provisions for new construction, strongly considering the inclusion of EVCI (Electric Vehicle Charging Infrastructure) requirements to mitigate future costs of electrifying the transportation sector.”

Following its recommendations, the report goes on to say:

“Because of the factors used in this study, costs in the scenarios analyzed are likely on the high end of an expected range. The favorable cost savings found in these market scenarios support the case for implementation of electrification across more temperate climate zones and less expensive utility markets.”

Here, the NBI study’s assumptions (including the climate zone and the labor and materials costs) may have been a little different than the E3 study, but the conclusions are largely the same: costs are lower for residential homes and may be only a little higher for medium offices – at least to the north of us where the winter season requires more heat.

The entire NBI study can be accessed here: [NBI BuildingDecarbCostStudy.pdf](#)

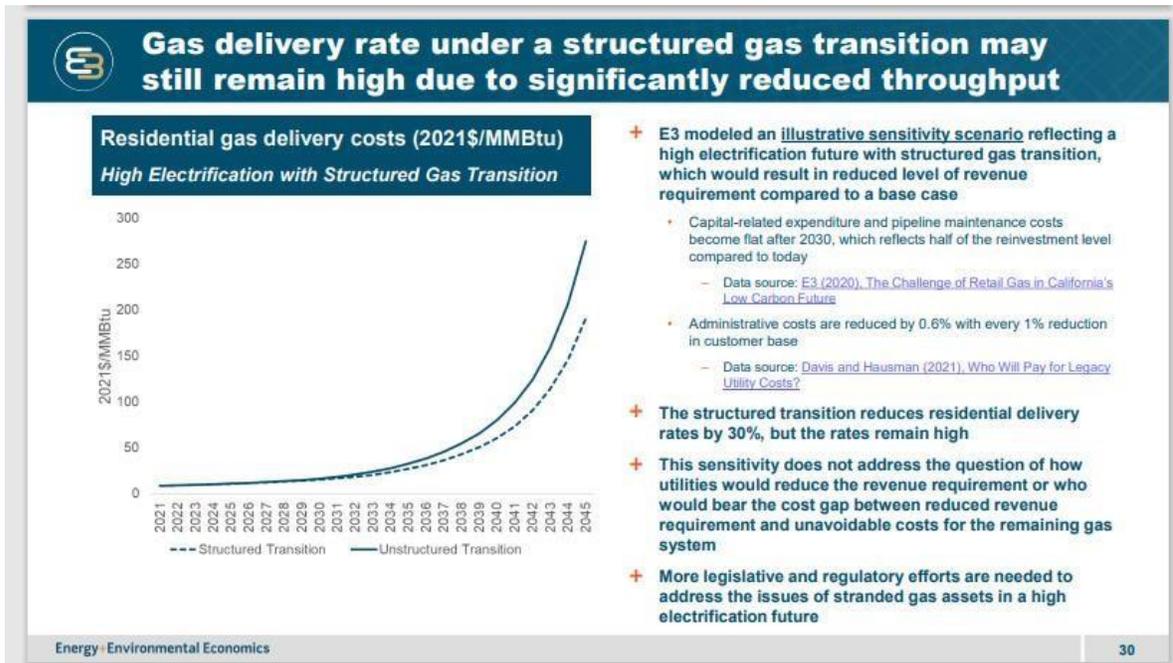
Finally with regard to costs, it is important to note that NOT building to an all-electric code now locks houses and buildings into fossil fuel use for years to come. In that context it is important to consider what is almost certain to happen to the price of methane gas in our region over time.

There are hundreds of pages of likely scenarios for future WGL rates, BGE rates, and other publicly owned utility rates, but the short version is this: the utilities in our area will incur very significant costs to maintain the safety of their old and failing gas distribution system, which they necessarily will seek to recover from ratepayers. At the same time, they will need to make very expensive investments in trying to replace their fossil gas product with biogas or hydrogen, which they will also seek to recover.

As more and more customers understand the benefits of electrification in the coming years and policies are enacted to meet our greenhouse gas emissions reduction targets, the gas utilities’ rate base will shrink, and those large capital investments will need be spread across a smaller and smaller denominator, meaning that rates for remaining customers will rise dramatically. Those left behind as methane gas customers will see their costs skyrocket, including many low-income people whose energy burden is already high.

Below is an illustrative slide from the Energy and Environmental Economics presentation to the Maryland Commission on Climate Change. This shows what residential gas delivery costs are projected to be under a high electrification scenario and either a “structured” or an “unstructured” transition. Even the best case “structured” transition shows methane gas delivery costs rising dramatically by 2045. Furthermore, this analysis doesn’t even take into consideration

the likely large increase in commodity price as the methane gas companies try to move away from fossil fuels into mass production and distribution of biogas or hydrogen.



Along these lines, our friends at AOBA (the Apartment and Office Building Association of Metropolitan Washington) recently filed twenty-four pages of comments with the DC Public Service Commission regarding WGL’s pitiful climate business plans. As she concluded the filing, AOBA Senior Vice President and General Counsel Frann Francis took pains to explain this “death spiral” (her words, not mine.) Mrs. Francis wrote:

“In the context of the foregoing concerns, the District’s pursuit of electrification alternatives should be viewed as providing opportunities for (a) avoidance of extremely large and uneconomic gas system pipe replacement expenditures; (b) avoidance or minimization potential future stranded gas system cost; and (c) more economical use of overall (gas and electric) ratepayer resources.”

Translation: electrification is a good idea to avoid high future costs. New buildings built with fossil fuels are going to lock in their owners and tenants to high variability in utility costs are the very least, and massive increases at worst. This is, among other things, a serious social justice issue.

For more largely relevant cost analysis, see “The Challenge of Retail Gas in California’s Low-Carbon

Future,” a report prepared for the California Energy Commission’s (CEC) Natural Gas Research and Development program in April 2020 by Energy and Environmental Economics and the University of California, Irvine: [The Challenge of Retail Gas in California’s Low-Carbon Future \(Ipdd.org\)](https://www.ipdd.org/).

Now consider the health of Montgomery County residents. There is irrefutable scientific evidence going back to the 1990s that burning fossil fuels in homes is bad for you, particularly when the resulting NOx and other gasses and the particulate matter isn’t fully vented. Here is a short and memorable phrase that sums it up nicely: you burn it, you breathe it.

The evidence of the serious health effects of burning gas in homes is not new. One meta-analysis done nine years ago of 41 prior studies concluded:

“Our meta-analyses suggest that children living in a home with gas cooking have a 42% increased risk of having current asthma, a 24% increased risk of lifetime asthma and an overall 32% increased risk of having current and lifetime asthma.”

Many more recent studies have been done, including at the Lawrence Berkely Labs, UCLA, Stanford, the National Center for Healthy Housing, and Harvard. Most studies have focused on the health impacts of burning methane gas for cooking, but the recent Harvard study focused on the air quality and health implications of unburned methane gas leaking into homes in the Boston area. The study identified 296 unique chemical compounds routinely leaking into the homes, 21 of which are listed by the EPA as hazardous air pollutants. The press release accompanying the study summarized:

“A new study finds that natural gas used in homes throughout the Greater Boston area contains varying levels of volatile organic chemicals that when leaked are known to be toxic, linked to cancer, and can form secondary health-damaging pollutants such as particulate matter and ozone.”

One of the study’s authors went on to say:

“This study shows that gas appliances like stoves and ovens can be a source of hazardous chemicals in our homes even when we’re not using them. These same chemicals are also likely to be present in leaking gas distribution systems in cities and up the supply chain. Policymakers and utilities can better educate consumers about how natural gas is distributed to homes and the potential health risks of leaking gas appliances and leaking gas pipes under streets, and make alternatives more accessible.”

The Harvard study can be accessed here: [Harvard acs.est.1c08298.pdf](https://www.acs.org/pressroom/2019/08/20190814-harvard-study)

I believe that at least three medical doctors will be offering testimony to you about these health impacts on your constituents. They will likely mention that the quite conservative American Medical Association recently passed this resolution at its annual policy meeting:

“RESOLVED, That our American Medical Association recognize the association between the use of gas stoves, indoor nitrogen dioxide levels and asthma; and be it further

RESOLVED, That our AMA inform its members and, to the extent possible, health care providers, the public, and relevant organizations that use of a gas stove increases household air pollution and the risk of childhood asthma and asthma severity; which can be mitigated by reducing the use of the gas cooking stove, using adequate ventilation, and/or using an appropriate air filter; and be it further

RESOLVED, That our AMA advocate for innovative programs to assist with mitigation of cost to encourage the transition from gas stoves to electric stoves in an equitable manner.”

The methane gas industry is desperate for you not to understand the health impacts of their product so that you can create good public policy in response, just as the tobacco industry was desperate for all those years. The industry’s principal political strategy these days is to convince state legislatures in red states to completely take away the right of local governments to protect the health and economic well-being of their own constituents. Fortunately, they haven’t yet made any progress in Maryland.

Finally, and I’m not going to dwell on this, methane gas and propane blow up. We have had two awful incidents in the county in the past year, and there was an entire office complex destroyed in Howard County not long ago.

**Finally, don’t be taken in by opponents’ argument that the grid can’t handle the new building load, or their non-substantive arguments for choice and delay**

One of the arguments that we have seen from opponents is that the grid will not be able to manage the additional load from moving to electric heat, water heat, and cooking in new buildings in Montgomery County. This is absurd. While there has been no study done specifically on the grid demand impact of this legislation, a relevant Pepco electrification study done by the Brattle Group was presented to the DC Public Service Commission, pursuant to a Commission order, less than a

year ago. The Pepco study examined the effects of the District electrifying everything to the greatest possible degree in order to meet its greenhouse gas emissions reduction goals. The Pepco Assistant General Counsel's transmission letter has the best summary of the full report's findings:

"The study found that future growth in the Pepco DC distribution system will remain well within the rate of system growth that Pepco DC has successfully managed and operated historically, even under the assumption that the District's landmark decarbonization goals are met largely through new electrification initiatives across all sectors. As shown on page 3 of the study, under certain assumptions Pepco's study estimates that peak demand will grow at an average annual rate of 1.4% between 2021 and 2050. Between 1950 and 2020, Pepco managed annual peak demand growth rates on its DC system well in excess of 2%.

The District's decarbonization and supporting goals extend over a 30-year period, allowing the load growth associated with electrification to be addressed at a manageable pace spanning three decades. Moreover, EE [energy efficiency] and load flexibility can significantly reduce future increases in peak demand and can be scaled up as electrification initiatives gain traction. Indeed, with an achievable portfolio of EE and load flexibility measures, the annual peak demand growth rate can be reduced from a projected 1.4% down to 0.9% between 2021 and 2050. Finally, heating electrification is expected to shift the Pepco DC system peak to the winter season, which is currently lower than its summer peak demand. As a result, heating load will have "room to grow" before it begins to contribute to new capacity needs."

Clearly, bill 13-22 would have nothing close to the impact of the District of Columbia's electrifying everything over the next 30 years in order to meet its net zero carbon goal by 2045. This bill's focus on electric appliances in new construction in Montgomery County would add modestly to Pepco's load, but obviously stay well within its achievable growth rates. Especially notable is the last point in the Pepco letter, stating that heating electrification will shift electric load to the winter, where there is "room to grow."

Other arguments that we have seen from opponents of this and similar legislation are not even about the merits. One is that somehow consumers deserve a choice to continue to use a product that is terrible for the climate and bad for their wallets and health. Let me emphasize that this bill does not take away anyone's choice. This is all about Montgomery County moving into the future with modern, clean, healthy, climate friendly new buildings. At some point we will need to have a serious discussion about helping current customers to understand the risks and move away from

burning climate-destroying methane gas in their homes for heat, water heat, and cooking when their appliances age out, but that is not the issue with bill 13-22. And furthermore I ask you, what sort of choice is it to continue to harm your constituents' finances, their health, and the planet?

Similarly, I urge you not to accept the empty argument that we just need to delay until more studies are done. Given the magnitude of the climate crisis we face, delay is the last thing we need. The status quo that opponents of this legislation want desperately to protect is exactly that which has gotten us to where we are. This policy change for new buildings in Montgomery County is far smaller than the statewide all-electrification codes that the Maryland Commission on Climate Change enthusiastically recommended and that the slow-down-and-delay forces of the status quo were able to kick down the road. The statewide study that will come late in 2023 will have little relevance to this Montgomery County policy. You need to have the conviction and the courage to change the deeply harmful status quo in Montgomery County right now.

In conclusion, I implore you in the strongest possible terms to continue to make Montgomery County a leader in the global fight to stop the climate from reaching the point where trillions of dollars must be spent on adaptation and millions of human beings may die. Bill 13-22 is a modest but important step in that fight. Please pass it for the people of Montgomery County, the State of Maryland, and the world before this year's Council session comes to a close.