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BILL NO.: Senate Bill 1023

Maryland Building Performance Standards – Fossil Fuel Use,
Energy Conservation, and Electric– and Solar–Ready
Standards (Better Buildings Act of 2024)

COMMITTEE: Education, Energy, and the Environment Committee

HEARING DATE: March 4, 2024

SPONSOR: Senators Brooks, Lewis Young, and Lam

POSITION: Favorable with amendments

The Office of People’s Counsel supports Senate Bill 1023, the Better Building Act of 2024, with an amendment to require that significantly improved existing buildings, as well as new residential buildings, meet all water and space heating demands without the use of fossil fuels.

SB 1023 requires most new buildings in Maryland to meet all energy demands without fossil fuels (i.e., to be fully electric) and requires new construction that cannot feasibly be built without fossil systems and appliances to meet a separate “electric-ready standard.” In addition, SB 1023 establishes a solar-ready standard for new buildings that are less than 20 stories tall and have 20,000 square feet or more of continuous roof space, establishes an electric-vehicle-ready standard for all new buildings, and establishes energy conservation standards for new buildings that have 25,000 square feet or more of floor space.

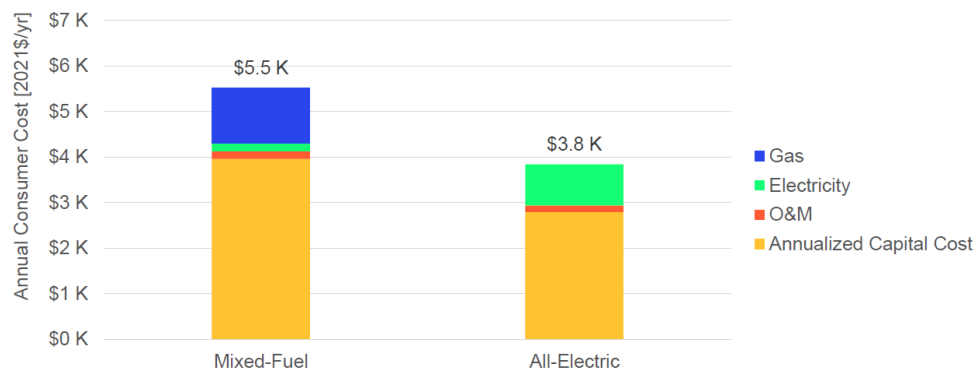
OPC supports SB 1023 with the above-referenced amendment because requiring that new and significantly improved residential buildings be all-electric, while also meeting strong energy efficiency and conservation standards, is both in the economic interest of Maryland’s residential utility customers and a critical step for Maryland’s achievement of its greenhouse gas (“GHG”) reduction goals.

Background

Direct fossil fuel use in buildings for space heating, water heating, and cooking accounts for approximately 14 percent of Maryland’s GHG emissions. For Maryland to achieve net zero emissions by 2045 in accordance with the Climate Solutions Now Act (“CSNA”), both new and existing buildings must generally electrify these energy loads. This makes economic sense for utility customers, as well as climate sense, because as a 2021 analysis by Energy + Environmental Economics (“E3”) for the Maryland Commission on Climate Change (“MCCC”) found,¹ all-electric buildings are generally more economical in Maryland than mixed-fuel new construction.

The following E3 graphs illustrate the economic advantage of all-electric new construction and retrofits for single-family and multifamily residential buildings:

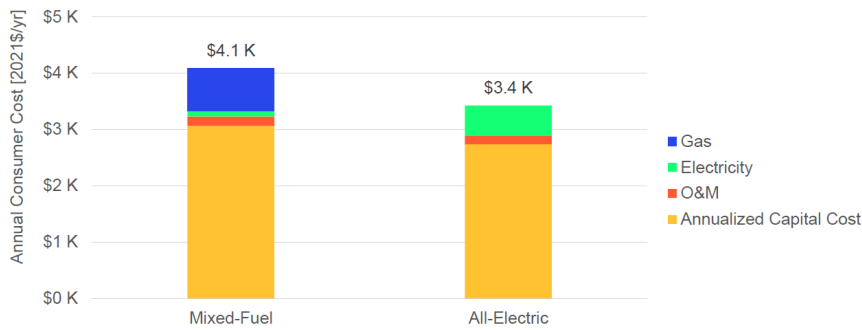
Figure 1: Annual New Customer Costs – Single-Family Residential Buildings



From E3 Maryland Building Decarbonization Study: Final Report (slide 65)

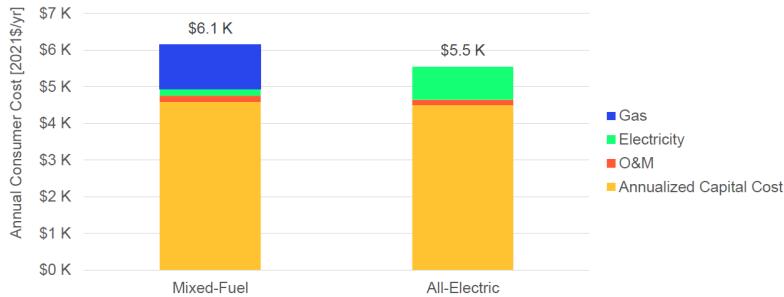
¹ Energy + Environmental Economics (“E3”), *Maryland Building Decarbonization Study: Final Report*, (Oct. 20, 2021) at 37. More recently, RMI’s 2022 report, *The Economics of Electrifying Buildings*, found that in nine U.S. cities representing a range of climate zones, all-electric single-family new construction is more economical to build and operate than a home with gas appliances and has lower lifetime emissions. Available at <https://rmi.org/economics-of-electrifying-buildings/>

Figure 2: Annual New Customer Costs – Multifamily Buildings



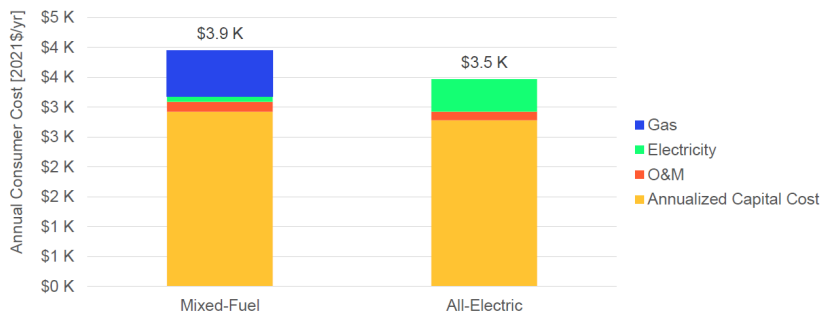
From E3 Maryland Building Decarbonization Study: Final Report (slide 67)

Figure 3: Annual Retrofit Customer Costs – Single-Family Residential Buildings



From E3 Maryland Building Decarbonization Study: Final Report (slide 64)

Figure 4: Annual Retrofit Customer Costs – Multifamily Buildings



From E3 Maryland Building Decarbonization Study: Final Report (slide 66)

In light of the E3 analysis, the MCCC in 2021 recommended that the General Assembly “require the Maryland Building Code Administration to adopt a code that

ensures that new buildings meet all water and space heating demand without the use of fossil fuels,” along with a process whereby buildings that cannot electrify cost-effectively may obtain variances if they meet electric-ready standards.² These requirements were in fact included in the initial drafts of the CSNA—but then were removed from the bill before it was passed due to the concern that Maryland’s electricity grid would be unable to handle the increased demand from a highly electrified building sector.

The requirements were replaced with language stating that in alignment with MCCC’s recommendation, the General Assembly “supports moving toward broader electrification of both existing buildings and new construction as a component of decarbonization” that that “it is the intent of the General Assembly that the State move toward broader electrification of both existing buildings and new construction on completion of the study required under subsection (b) of this section.” That subsection tasked the Building Codes Administration with developing specific recommendations for an all-electric building code by December 1, 2023.

With respect to electricity grid impacts, the General Assembly directed the Public Service Commission (“PSC”) to conduct a study “assessing the capacity of each company’s gas and electric distribution systems to successfully serve customers under a managed transition to a highly electrified building sector,” and directed the Building Codes Administration to conduct a study that includes recommendations “for the fastest and most cost-efficient methods for decarbonizing buildings and other sectors in the State.”³

The PSC submitted its analysis to the General Assembly on December 29, 2023.⁴ It concludes that across three “high electrification” scenarios modeled to reduce statewide GHG emissions 60 percent by 2030—including a scenario where buildings electrify mainly by using less efficient heat pumps with electric resistance backup—electricity load growth would range from 0.6 percent to 2.1 percent through 2030.⁵ Moreover, each scenario assumed minimal levels of “demand-side management” strategies like energy efficiency and load flexibility (e.g., time-varying rates that shift electricity consumption

² Maryland Commission on Climate Change, *Building Energy Transition Report: a Roadmap for Decarbonizing the Residential and Commercial Sectors in Maryland* (November, 2021), at 5, available at [https://mde.maryland.gov/programs/air/ClimateChange/MCCC/Documents/2021%20Annual%20Report%20FINAL%20\(2\).pdf](https://mde.maryland.gov/programs/air/ClimateChange/MCCC/Documents/2021%20Annual%20Report%20FINAL%20(2).pdf).

³ See CSNA at § 10(b).

⁴ Serigici, Ramakrishnan, et al., *An Assessment of Electrification Impacts on the Maryland Electric Grid*, prepared by the Brattle Group for the Maryland Public Service Commission with support from Applied Energy Group and Mondre Energy (Dec. 19, 2023), available at <https://www.psc.state.md.us/wp-content/uploads/MD-PSC-Electrification-Study-Report.pdf>.

⁵ *Id.* at 2-3.

to times of non-peak demand).⁶ The study found that load growth could be reduced by 0.2 to 1.2% per year with additional demand-side management programs.⁷

As far as OPC is aware, the Building Codes Administration has yet to submit its study including specific recommendations for an all-electric building code.

Comments

OPC supports SB 1023 for four reasons.

First, as the MCCC concluded in its 2021 Building Energy Transition Plan, and as the analysis cited above shows, all-electric new residential buildings, as well as all-electric residential retrofits, are more cost-effective for Marylanders than mixed-fuel buildings—and the general electrification of the building sector is necessary for Maryland to achieve the GHG reduction targets in the CSNA. The E3 graphs reprinted above show that for both single-family and multifamily residential buildings, the lower cost of all-electric construction is attributable to lower utility costs as well as lower capital costs.

Second, HB 1023’s requirement that the Department adopt regulations that establish energy efficiency and conservation requirements for new buildings with a gross floor area equal to or greater than 25,000 square feet will minimize energy usage and costs for Marylanders living in multifamily buildings, who are disproportionately low-income and generally have less ability to improve the energy efficiency of their living spaces than inhabitants of single-family homes. Moreover, the greater the efficiency of new buildings in Maryland, the less likely those buildings will be to need services (and necessitate expenditures) under Maryland’s EmPOWER programs.

Third, as the PSC noted in transmitting its grid impacts analysis to the General Assembly, the load growth rates associated with high electrification in Maryland through 2031 (0.6 percent to 2.1 percent with minimal levels of demand-side management) are significantly lower than the rates that Maryland experienced in the 1980s (4.9 percent average annual growth), and are comparable to those experienced from 1990 to 2010 (1.2 percent to 1.5 percent). Accordingly, the Commission concluded that “[t]hese results show that peak load growth through 2031 with high electrification of the building sector will be comparable to or less than the growth rate that the Maryland system has seen over the past 40 years.”⁸ In other words, the PSC’s analysis satisfies concerns about electricity

⁶ *Id.* at 3.

⁷ *Id.*

⁸ Fredrick H. Hoover, Chair, cover letter to President Ferguson and Speaker Jones accompanying *An Assessment of Electrification Impacts* (Dec. 29, 2023), available at <https://www.psc.state.md.us/wp-content/uploads/MD-PSC-Electrification-Study-Report.pdf>.

load growth expressed during passage of the CSNA, especially if the General Assembly and the Commission require electric utilities to maximize energy efficiency savings and load flexibility.

Finally, the electrification of new buildings will reduce the build-out of new gas infrastructure—and thereby insulate not just the owners and inhabitants of those buildings, but gas customers as a whole, from rising gas system costs. As OPC has explained,⁹ increasing electrification—which will happen even without SB 1023, only to a lesser extent—will lead to fewer gas utility customers and sales. If sales decline faster than gas utilities’ asset bases depreciate and faster than utilities can lower their operating and maintenance costs, the utilities will seek approval for higher gas rates to recover their costs over fewer unit sales. Higher rates will in turn spur more customers to electrify, and those left on the gas system will be required to pay even higher rates. This vicious cycle will have the greatest impact on low- and moderate-income households who lack access to the upfront capital needed to electrify or rent from building owners that lack incentive to electrify.

This trend, which has already begun, was the impetus for a petition that OPC filed with the Public Service Commission in February, 2023 to require long-term gas utility planning and certain immediate actions by the utilities.¹⁰

Recommendation: OPC requests a favorable report from the Committee on SB 1023 with the amendment recommended above.

⁹ Office of People’s Counsel, *Maryland Gas Utility Spending: Projections and Analysis* (Oct., 2022), with 2023 update, *Maryland Gas Utility Spending: Updated Revenue Projections and Bill Impact Analysis* (Nov, 2023), available at <https://opc.maryland.gov/Publications>.

¹⁰ The Commission docketed OPC’s petition to Case No. 9707 and issued a notice on June 14, 2023 requesting public comments through October 10, 2023.