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**Committee:** Environment and Transportation

**Testimony on:** HB 831 Reducing Greenhouse Gas Emissions – Commercial and Residential Buildings

**Position:** Favorable with amendments

**Hearing Date:** February 25, 2022

The Maryland Chapter of the Sierra Club urges a favorable report for HB 831, which charts a path for dramatically reducing greenhouse gas pollution from privately owned commercial and residential buildings in Maryland, while protecting low and income renters. We recommend certain amendments included at the end of the testimony.

HB 831 calls for newly constructed and substantially renovated commercial and residential buildings to operate without direct use of fossil fuels starting in 2024. They must also be electric ready for solar and EV chargers. It also charts a path for existing large commercial and residential buildings to reduce their direct emissions of greenhouse gases 20% by 2030 and 100% by 2040 by implementing Building Emissions Performance Standards (BEPS). Protections for low-income renters set a goal for no-cost holistic retrofits including heat pumps and weatherization by 2030.

Reducing greenhouse gas pollution is critical to limiting the damage from the climate crisis. The Maryland Commission on Climate Change has recommended a 50% reduction in greenhouse gas pollution by 2030 and net zero pollution by 2045. Residential, commercial and industrial consumption of fracked gas in Maryland generates 13% of all greenhouse gas emissions (2017 Maryland GHG Inventory). Including the emissions generated from producing the electricity used in Maryland buildings, approximately 40% of greenhouse gases come from buildings.

The Maryland Commission on Climate Change recommends that we reduce greenhouse gas pollution by electrifying our buildings. Among their 2021 recommendations were: adopting an all-electric building code; encouraging fuel switching to electric water and space heating; beneficial electrification (replacement of fossil fuel heating with heat pump or other electrical heating); targeting 50% of heating ventilation, air conditioning and hot water heater sales to be heat pumps by 2025 and 95% by 2030; creating building emissions performance standards; developing utility transition plans; and goals for electrification of low and moderate income households. Many of these goals are partially implemented through HB 831.

Protections for low and moderate income households are critical as we transition off fossil fuels. As families and businesses who can afford to shift to low carbon forms of home and water heating, low and moderate income customers will be left with the bill. According to the E3

Building Decarbonization Study for the Maryland Climate Commission (page 31), residential fracked gas rates could quadruple by 2040. To assure that low income households achieve the benefits of electrification, HB 831 sets a goal to provide holistic retrofits, weatherization measures and heat pump installations with no up-front cost by 2030. We support these provisions and other amendments included at the end of this testimony to assure that there are sufficient resources to successfully achieve these goals. In addition, we recommend provisions to protect low-income renters from rent increases that result from investments in greenhouse gas reductions and energy efficiency improvements.

### Provisions to Reduce Greenhouse Gas Emissions in Existing Large Commercial and Residential Buildings

The Sierra Club Maryland supports the Building Emissions Performance Standards (BEPS), for existing buildings, under proposed 2-1601. These call for a 20% reduction in direct emissions of greenhouse gases by 2030 and net zero direct emissions by 2040 for commercial and residential buildings of over 25,000 gross square feet. The bill calls for these buildings to start reporting their direct emissions from burning fossil fuels in 2025.

The exact process for meeting the targets set out in HB 831 will depend in part on the work of the Maryland Department of the Environment and the Building Energy Transition Task Force. In other jurisdictions (Washington, DC, Montgomery County, MD (prospectively), St. Louis, New York and Boston) the process starts out with a baseline, where emissions are measured for each type of building. Because the baseline is needed to measure the improvements in greenhouse gas or energy emissions, we propose that the baseline years be 2023 and/or 2024 (instead of having reporting begin in 2025 in H831), in order to give buildings enough time to achieve a 20% improvement by 2030. An emissions standard is then set for each type of building either in energy units or greenhouse gases. Hospitals, for example, have much higher baseline emissions per square foot than multi-family housing.

In the case of Washington, DC and Montgomery County, a pathway is then laid out, typically in 4 or 5 year compliance periods, for buildings to reach the target emissions for each type of buildings, starting with each individual building's initial emissions rate. Other programs, including New York's, set out a greenhouse gas emission targets per square foot by building type, showing improvements for each compliance period. Consistent with these plans, we propose adding an interim reduction of 40% in direct emissions in 2035.

We support the provisions of HB831 that offer alternative compliance approaches by paying a penalty equal to the social cost of carbon emitted. The current bill also calls for all large commercial and residential buildings, including those paying alternative compliance payments, to make improvements needed to be ready for solar energy and electric vehicles.

The Sierra Club supports the proposed work of the Building Energy Transition Task Force to recommend approaches to finance the improvements needed for building owners to achieve the bills target reductions in direct production of greenhouse gases. We agree that on-bill financing should be explored. On-bill financing, which may require additional legislation, would encourage owners of rental properties to improve the efficiency of the fossil fuel burning

appliances in their buildings. Because owners of commercial and multifamily rental properties normally do not pay the utility bills on the property; therefore they are reluctant to invest in more efficient electric heat and water heating equipment. By financing the improvements through on-bill financing (as well as other incentives), the electrification investments are likely to happen more quickly. Another approach would re-allocate EmPOWER funds to convert low-income households to heat pumps. In 2020 the vast bulk of residential EmPOWER funds went to lighting and behavioral efforts and close to one-third of the budgeted residential funds were unspent. These could supply \$46 million to \$150 million annually.

HB 831 will be effective at reducing greenhouse gas emissions from directly burning fossil fuels in large residential and commercial buildings, but these direct emissions represent only about one-third of the emissions in buildings. 13% of total greenhouse gas emissions in Maryland come from direct combustion of fossil fuels, but another 27% of emissions come from the use of electricity in buildings. To reduce these emissions strong efficiency targets are also needed including improve electricity consumption as proposed in SB 528. A proposed amendment, included at the end of the testimony calls for standards for Energy Use Intensity (EUI) in large residential and commercial buildings.

#### Provisions to Reduce Greenhouse Gas Emissions in New and Substantially Renovated Housing and Commercial Buildings:

The Sierra Club of Maryland supports the provisions of this bill to eliminate the combustion of fossil fuels in newly constructed housing and commercial buildings effective 2024. It also requires that new buildings be net zero ready, with electric service and wiring for solar, electric vehicle chargers and grid integration. While a variance of these standards may be granted if an all-electric building is more expensive, including the social cost of carbon for fossil fuel to be consumed, our research suggests that this is rarely the case. We also propose energy efficiency targets, adopted by 10 other states for all electric buildings built under the provisions of this bill. Specific language is included in the amendments at the end of this testimony.

#### Impact on the Electric Generation and Distribution Grid:

Opponents of HB 831 and similar bills claim that more study is required before implementing electrification. These opponents argue that the electric grid cannot handle electrification. A Pepco study of its entire service territory by consultant Brattle Group last year came to a different conclusion. It showed the grid would need to grow 1.4% to 1.7% over the next 30 years (to 2050) to handle electrifying all new and existing buildings AND all transportation energy. (The study was sponsored by Pepco and was performed for a District of Columbia regulatory proceeding but based its load projections on the entire Pepco service territory.) If this were compressed to full electrification by 2040, the grid would need to grow 2.1% per year. In the early years limited or no growth would be needed as the installation of heat pumps shifts the peak electric load from Summer to Winter. Until Winter becomes the peak, additional capacity from electrification will not be required. The Brattle report offered a handy retrospective that at some points in the grid history, the growth rate has approached 10%. This can be done now, at a low cost to the consumer, if properly directed.

#### **Proposed Amendments:**

**Baseline Reporting:** Section 2-1602B establishes a 2025 baseline for the emissions reductions under HB831. The baseline may be used to measure the greenhouse gas reductions included in the bill. We recommend that the baseline be for 2023 or 2023 and 2024 in order to provide building owners and managers sufficient time to achieve the targeted 2030 goal of 20% reduction in direct emissions. The language in 1602-2(B)(1)(I) on page 2, line 24 should be removed and the following should be included:

(I) 2023 and 2024 LEVELS; OR

and in 1602-2 on page 3 line 4, the date “2025” shall be changed to “2023”.

**Interim BEPS Targets:** We recommend a 2035 interim target of: a 40% reduction in direct building emissions on or before January 1, 2035. This should be inserted after 2-1602 (B) (1).

Most of the building emissions plans that have published targets operate in 5 year periods with progressively tighter targets each 5 years. With this addition, the bill would target a 20% reduction in 2030; a 40% reduction in 2035 and net zero in 2040.

**Definition of Building:** HB 831 BEPS defines a Covered Building as a commercial or multifamily residential building in the state of over 25,000 gross square feet excluding the parking garage area. The bill excludes historic property under state, federal or local law. Other House bills cover schools and government buildings. We recommend modifying the definition of building to cover “all buildings of 25,000 gross square feet excluding parking garage area and also excluding any buildings owned by or with 25% or greater financing by a local, county, or state government.” It should continue to exclude historic property. The prior definition would have excluded industrial buildings and buildings owned by non-profits which the Sierra Club believes should be covered by this legislation.

#### **Energy Efficiency for Newly Constructed Commercial and Residential Buildings:**

To minimize greenhouse gas emissions from electricity consumption, it is critical that newly constructed covered buildings be energy efficient. After 2-1602(B)(2) on page 2, line 29.

For covered buildings

- A 40% reduction in modeled energy use consumption over the 2018 International Energy Conservation Code for permit applications received between Jan 1 2025 and Dec 31 2027
- A 60% reduction in modeled energy use consumption over the 2018 International Energy Conservation Code for permit applications received after December 31, 2027.

#### **Energy Efficiency Standards for Renovated Buildings:**

“Major Renovation” means a renovation project: For which the total projected cost exceeds 50% of the assessed value of the existing building; or Involving a change of use, if the change involves the application of different requirements of the standards.

**G. Except as provided in subsection ( ) of this section, if a covered building is undergoing a major renovation, the building shall be renovated to achieve:**

A 40% reduction in the building’s average annual energy use; or

A 20% reduction in modeled energy use consumption over the current Energy Code.

**Electricity Use for Existing Commercial and Multi-Family Buildings Over 25,000 Gross Square Feet:**

To achieve our climate goals, it is critical that buildings increase energy efficiency (measured as kWh/square foot) in the use of electricity, which accounts for about two-thirds of the greenhouse gases generated by buildings. To take account of this, after the Building Energy Performance Standards, Section 2-1602(B)(2), the following language should be inserted:

The Building Energy Transition Task Force shall develop standards for improvement in Energy Use Intensity of 20% in 2030; 30% in 2035; and 40% in 2040.

**Provisions for Low Income Multi-Family:** The Building Energy Transition Task Force needs to identify sources of funding to supply heat pumps to low-income households. Low-income households and renters have the least resources available to electrify their homes. One contributing option would be to re-allocate EmPOWER residential funds from lighting and behavioral efficiency efforts to focus on subsidizing heat pumps for low-income residents. In addition, unused EmPOWER funds could be used for this purpose. This would require legislation to allow fuel switching from gas heat and hot water to electric heat pumps.

We also recommend that Section 2-1603B add a tenant representative to the Building Energy Transition Task Force.

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