ACEEE
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September 10, 2021

Mark Stewart
Program Manager
Climate Change Program

Maryland Department of the Environment
1800 Washington Boulevard
Baltimore, Maryland 21230

Re: Decarbonizing Buildings Subgroup Draft Recommendations

Dear Mr. Stewart:

The American Council for an Energy-Efficient Economy (ACEEE) welcomes the opportunity to provide comments to the Building Energy Transition Plan Discussion Draft (Discussion Draft). ACEEE is a nonprofit research organization based in Washington, D.C. that conducts research and analysis on energy efficiency. We have been active on energy efficiency issues for 40 years. In Maryland, we track energy efficiency policies as a part of our annual *State Energy Efficiency Scorecard* and provide technical assistance on energy efficiency and related topics to government agencies and stakeholders.

Below are ACEEE's comments on the Discussion Draft:

Core recommendation 1: Energy efficiency is core to building decarbonization and should be highlighted

ACEEE strongly encourages the inclusion of energy efficiency in the overall recommendation to require all-electric energy efficient new buildings by 2024. While Maryland generally has a strong track record of energy efficiency in its code adoption process, the Discussion Draft should affirm the need to embed efficiency in the overall framework. We recommend requiring approximately 30% energy use reductions relative to the current code by 2024, which is approximately the level of energy efficiency of "zero energy ready" buildings.[1]

[1] Zero-energy-ready buildings are sometimes called near-zero, and although there is no formal definition of "zero-energy ready," they commonly use around 50% less energy than standard construction.

Including efficiency in the recommendation can have multiple advantages. Energy efficiency can reduce certain construction costs and total cost to homeowners and businesses which can ease the transition to all electric construction. Efficient new homes and commercial buildings are more comfortable during temperature spikes such as extreme heat and cold while also reducing reliability issues associated with winter peaks, which has been a concern raised by subgroup participants.

ACEEE recommends training of industry professionals to help achieve all-electric and electric-ready buildings. Training should leverage existing training programs and efforts to accelerate the education process.

The Discussion Draft references examples of states that have adopted electric vehicle (EV) infrastructure in building codes but does not capture the breadth of state and municipal action in the Northeast and MidAtlantic region. In 2021 ACEEE released the *State Transportation Electrification Scorecard* which ranks state efforts to electrify transportation, including on EV building codes.[2] The *Scorecard* and information captured by the Southwest Energy Efficiency Project should be included as references to show greater regional activity as well as broader action on code adoption in this area. [3]

Core recommendation 2: Beneficial electrification and fuel switching should begin immediately

A and B:
Our research supports the recommendation to update the EmPOWER program and other state programs to support fuel switching and beneficial electrification efforts. Such efforts will help meet state goals to reduce greenhouse gas (GHG) emissions. However, there is no need to delay such action until 2024. According to analysis by E3, electric resistance heating accounts for approximately 20% of building space heating.[4] In advance of the future EmPOWER program cycle other state programs should aggressively target replacement of inefficient electric resistance heating with heat pumps. Developing solutions for customers to select the lowest carbon option at time of replacement will save money, reduce GHG emissions and support deployment goals right away.

Other state programs could also support electrification of propane and fuel oil heating and hot water heating in order to further expand heat pump markets in Maryland. ACEEE has seen other states use funds through the Regional Greenhouse Gas Initiative

[2] Howard, B., S. Vaidyanathan, C. Cohn, N. Henner, and B. Jennings. 2021. The State Transportation Electrification Scorecard. Washington, DC: ACEEE. https://www.aceee.org/sites/default/files/pdfs/t2101.pdf
[3] SWEEP local EV infrastructure building codes database available at: https://www.swenergy.org/transportation/electric-vehicles/building-codes#who
[4] Maryland Buildings Analysis Early Results E3 Presentation 07132021, slide 11. https://mde.state.md.us/programs/Air/ClimateChange/MCCC/Documents/MWG_Buildings%20Ad%20Hoc%20Group/Maryland%20Buildings%20Analysis%20Early%20Results%20E3%20Presentation%2007132021.pdf

(RGGI) to leverage fuel switching efforts. For example, Maine uses funding through RGGI to support switching from fuel oil to air source heat pumps.[5] We recommend such a model be used in Maryland as well.

The recommendation to evolve EmPOWER to a multiple goals structure matches the emerging best practices in others states documented in recent ACEEE research and is the general agreed upon framework of the Public Service Commission's EmPOWER Future Programming Work Group. In 2019, ACEEE reviewed the policies from states with an energy efficiency resource standard (EERS) to evaluate how they are expanding their EERS polices to do more than just deliver resource-specific energy savings in kWh or therms. *Next-Generation Energy Efficiency Resource Standards* documented the approaches states are taking to evolve their EERS to respond to policy changes and emerging priorities for decarbonization, equity, electrification, and demand flexibility. To meet these emerging objectives, this report recommends a multiple-goals approach, setting a portfolio of goals including fuel-neutral or greenhouse gas targets, resource-specific targets such as electricity savings, and carveouts or separate goals to address equity or underserved sectors.[6]

C:
ACEEE recognizes the value of having a deployment goal for residential air conditioning and water and space heating provided by heat pumps. While this adoption target would drastically expand the current rate of electric heat pump deployment in Maryland, rapid uptake is necessary to meet state GHG reduction targets. For this recommendation to meet its intended effect there will need to be additional actions taken to overcome deployment barriers. Establishing an on-bill financing program could address first cost challenges but options like low-interest financing options and incentives to manufactures and contractors to achieve these ambitious targets will likely be necessary as well. Other states have taken a similar market transformation approach. In 2020, New York initiated a statewide heat pump deployment effort to support energy-efficient electrified space- and water-heating technologies, through the NYS Clean Heat: Statewide Heat Pump Program. The general program provides customer and contractor incentives, with specific incentive amounts varying by utility territory.[7]

Core recommendation 3: Capturing GHG savings from existing buildings will be necessary

By 2050 nearly half of the nation's building stock will be buildings that are already standing today so reaching large reductions in residential and commercial building

[5]ACEEE. State Policies and Rules to Enable Beneficial Electrification in Buildings through Fuel Switching. April 2020, Pg. 8
[6] Gold, R. et al. 2019. Next-Generation Energy Efficiency Resource Standards. Washington, DC: ACEEE. https://www.aceee.org/research-report/u1905
[7] Nadel, S. Programs to Electrify Space Heating in Homes and Buildings. June 2020, Pg. 9

energy use will be necessary to cut GHG emissions.[8, 9] While states often look to improve standards for new construction, local governments and states are also beginning to seek out ways to reduce energy consumption and carbon emissions in existing buildings. For example, the District of Columbia and Washington State have both enacted requirements for large commercial buildings (e.g., 50,000 square feet and above in Washington State) to meet minimum performance standards. The standards require buildings to meet a minimum threshold—energy use intensity (EUI) in Washington state and ENERGY STAR score (which is based on EUI) in DC. Both standards permit alternative compliance pathways for buildings unable to meet these thresholds, allowing them to show that they are taking sufficient steps to reduce energy consumption.[10] The state of Colorado has enacted similar legislation and will begin their regulatory action this year to begin implementation of the law in 2024.[11]In addition, a bill is presently before the County Council to enact similar standards in Montgomery County, Maryland.

The Discussion Draft outlines important steps to implement a building emission standard but could be improved by connecting this effort with utility programs, ensuring that deployment is equitable and that resources and engagement is invested to support this transition in buildings such as large affordable multi-family buildings.[12],[13],[14]

Additional Recommendations:

6 Energy efficiency should be included in any above code incentive programs

As mentioned above ACEEE urges adding energy efficiency to the recommendation.

7 Strengthen leadership by example commitments

ACEEE research has demonstrated the value of states leading by example to demonstrate the feasibility and benefits of building practices to the private sector. We

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[8] Nadel, S., and L. Ungar. 2019. Halfway There: Energy Efficiency Can Cut Energy Use and Greenhouse Gas Emissions in Half by 2050. Washington, DC: ACEEE. aceee.org/research-report/u1907.
[9] Nadel, S., and A. Hinge. 2020. Mandatory Building Performance Standards: A Key Policy for Achieving Climate Goals. Washington, DC: ACEEE. www.aceee.org/white-paper/2020/06/mandatory-building-performance-standards-key-policy-achieving-climate-goals.
[10] Berg, W. et al. 2020. The 2020 State Energy Efficiency Scorecard. Washington, DC: ACEEE. aceee.org/research-report/u2011.
[11] https://leg.colorado.gov/sites/default/files/2021a_1286_signed.pdf
[12] Nadel, S. 2020. How Energy Efficiency Programs Can Support Building Performance Standards. Washington, DC: https://www.aceee.org/sites/default/files/pdfs/how_energy_efficiency_programs_can_support_building_performance_standards.pdf
[13] https://www.usdn.org/uploads/cms/documents/bps-framework_july-2021_final.pdf
[14] https://assets.ctfassets.net/ntcn17ss1ow9/DfMwmmfyH6WMEJvztff3X/1a1c54577f26253159d20451ba315f32/Mandating_Building_Efficiency_while_Preserving_Affordable_Housing_Nedwick_Ross.pdf

appreciate the recognition that public buildings are an important part of the process but encourage the recommendation go further by requiring state funded projects to go beyond the Maryland High Performance Building Act to ensure that all opportunities to reduce emissions are captured. For these buildings, "zero energy ready" levels of performance (approximately 30% beyond the current code) should be targeted.

10 Allow local government flexibility

Allowing local governments to adjust fines and penalties beyond a nominal limit would encourage greater compliance efforts with local energy efficiency efforts.

12 Additional federal programs can be used to support state building decarbonization efforts

The Discussion Draft is correct to prioritize the use of federal resources to support comprehensive investment in low-income housing. The recommendation could be improved by expanding the potential resources available to already approved funds like the state assistance funds in the American Rescue Plan Act, which specifically identifies weatherization as an eligible expense and the state Children's Health Insurance Program (CHIP), which has been used in Maryland to support a program to evaluate and remediate health impacting conditions in the built environment. [15],[16]

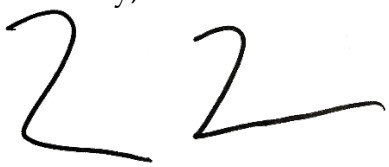
14 Rigorous, validated above-code programs can support building compliance activities

There are instances where governmental entities have used above code requirements as a proxy for code compliance. The U.S. Department of Housing and Urban Development and U.S. Department of Agriculture deems some above-code programs to comply with minimum housing standards as does the District of Columbia[17]. Such a recommendation could support compliance activities, reduce red tape in the building and construction process and better leverage preferred financing options for certain projects. The implementer of such a compliance effort must ensure that above code standards exceed state requirements and have rigorous third-party verification. The state or other entities should rely on multiple above-codes programs to demonstrate compliance which will support customer choice and investor preference.

Thank you for the opportunity to provide feedback on the important topics raised in the Draft Recommendations. Please contact me directly (bhoward@aceee.org) if you have any questions or would like to discuss these comments in greater details.

[15] https://home.treasury.gov/system/files/136/FRF-Interim-Final-Rule.pdf
[16] https://www.aceee.org/sites/default/files/pdfs/h2002.pdf
[17] https://www.hud.gov/sites/documents/EESTAND2015-10380.PDF

Sincerely,



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