Green & Healthy Homes Initiative®

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Delegate C.T. Wilson, Chair
House Economic Matters Committee
House Office Building, Room 231
Annapolis, Maryland 21401

Re: **FAVORABLE** – HB397 – Public Utilities – Thermal Energy Network Systems – Authorization and Establishment (Working for Accessible Renewable Maryland Thermal Hear (WARMTH) Act)

Dear Chairman Wilson and Members of the Committee:

On behalf of the Green & Healthy Homes Initiative (GHHI), I submit for the record our testimony in support of HB397. GHHI is a 501(c)3 national nonprofit and headquartered in Baltimore, MD. Our mission is to address the social determinants of health, opportunity and racial and health equity through the creation of healthy, safe and climate resilient homes.

Piloting geothermal projects across the state that will achieve these goals will provide important clarity to how the state can achieve this vision and provide immediate benefits to the communities served through this initiative.

GHHI is the nation's lead authority on the benefits of a whole-house approach that aligns, braids and coordinates energy efficiency, health and safety to create an integrated home repair and retrofit delivery model to improve health, economic and social outcomes in line with the state's climate goals. The GHHI model has been supported by the US Department of Energy (DOE) and the US Department of Housing and Urban Development (HUD) as well as numerous states, cities and counties throughout the US. By delivering a standard of excellence, GHHI's work aims to eradicate the negative impact of historic disinvestment, the legacy of ill-conceived and unjust housing by creating holistically healthy housing for children, seniors and families in Maryland's low wealth communities. GHHI's work has been recognized through national best practice awards from the US Environmental Protection Agency (EPA) and HUD. In 2023, GHHI was awarded the Buildings Upgrade Prize award from the DOE in recognition of its proposed initiative to complete electrification of low-income households in East Baltimore through a community-driven, whole home initiative with health and safety, workforce, and efficiency benefits.

<u>Impact of Fossil Fuel Appliances on Health</u>
Growing evidence has highlighted the negative health impacts of fossil fuels from residential usage. In September 2023, GHH, CASA, CCAN, and RMI published the report *Cutting Through*

*the Smog*[1] which highlighted that fossil fuel furnaces, HVAC systems, water heaters and other equipment emit more than three times as much health-harming nitrogen oxides as the Maryland's power plants. This disproportionately affects low-income residents and residents of color where pollution, environmental justice, and health issues are most likely to compound. The report highlights that outdoor pollution from fossil fuel equipment in Maryland caused an estimated 163 premature deaths in 2017 alone, driving about 3,500 cases of respiratory symptoms, 6,500 lost workdays, and $1.3 billion in public health impacts per year. That is just based on outdoor air pollution.

Furthermore, just last week the EPA and National Academies released a consensus study report, *Health Risks of Indoor Exposure to Fine Particulate Matter and Practical Mitigation Solutions*[2]. That report notes "natural gas combustion is a substantial source of UFPs [ultrafine particles]-, particularly if the particles are not properly exhausted above a stove or vented from appliances such as water heaters, dryers, or heating systems." The report concludes, "There is ample evidence that exposure to indoor fine particulate matter causes adverse health effects." These health impacts include respiratory effects, cardiovascular effects, neurological effects, and more.

Nitrogen oxides and fine particulate matter are just two of the major pollutants from fossil fuel combustion. Other pollutants include the carcinogen benzene, volatile organic compounds, and carbon monoxide. Moving to electric technologies such as electric heat pumps connected to geothermal systems eliminates the source exposure of fossil fuel combustion and toxic gas leakage from furnaces. A full electrification project further adds benefits from eliminating other sources of pollution including water heaters, stoves, dryers, and more.

Importance of Energy Affordability in Low-Income Households

This pilot can play a key role in advancing energy affordability in the state of Maryland. Geothermal heat pumps are one of the most efficient heating technologies available today. According to the EPA, geothermal heat pumps can reduce energy consumption up to 44% compared with air source heat pumps and up to 72% compared with electric resistance heating with standard air-conditioning equipment. They maximize the high efficiency of heat pump technologies while minimizing efficiency losses during colder temperatures thanks to the ground-sourced thermal energy.

In the Brattle Study on the electrical distribution systems submitted to the General Assembly this past December, ground source heat pumps are noted as the technology with the lowest per-

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[1] CASA, Green & Healthy Homes Initiative, Chesapeake Climate Action Network, and RMI, *Cutting Through the Smog: How Air Quality Standards Help Solve the Hidden Health Toll of Air Pollution From Maryland's Homes and Businesses* (September 2023), available at https://www.greenandhealthyhomes.org/publication/cutting-through-the-smog/

[2] National Academies of Sciences, Engineering, and Medicine. 2024. *Health Risks of Indoor Exposure to Fine Particulate Matter and Practical Mitigation Solutions*. Washington, DC: The National Academies Press. https://doi.org/10.17226/27341

customer electrification peak impact—even lower than the impact of hypothetical air source heat pump with fossil fuel-back-up equipment[3]. This efficiency during peak demand has the dual benefit of reducing energy costs to the household (thus reducing energy burden), while also minimizing the demand on the electrical distribution system (thus reducing the need for increased capacity and electrical generation).

Reducing demand on the electrical distribution system will reduce infrastructure costs that often are borne by ratepayers. Given the already high statewide energy burdens (the percentage of household income used to pay for utility costs) and the expected rise in gas infrastructure costs from STRIDE, minimizing electric infrastructure costs is an especially important equity priority. GHHI is the lead facilitator of the Maryland Energy Efficiency Advocates (MEEA) coalition that participates in the EmPOWER proceedings and various PSC and DHCD workgroups. In those spaces, MEEA and others have consistently raised concerns about how energy cost burdens create inequities for low-income communities, and disproportionate burdens on communities of color. In our recent comments to the PSC on Limited Income Mechanism for Utility Customers (Public Conference 59), we noted that Marylanders with incomes 185% – 200% of the Federal Poverty Level had energy burdens of 8%.[4] Another analysis of residential energy affordability found that around 400,000 Marylanders have an energy burden over 6%, which is the threshold researchers use to define high burden.[5] Maximizing energy efficiency both in energy burdened homes and system wide, as this pilot will support, is essential to an equitable transition to Maryland's clean energy future.

Benefits of Weatherization and Housing Interventions Pre-Electrification

In completing this pilot, the initiative will deliver layered intentions that ensure homes are healthy, safe, energy efficient, and energy resilient. As noted earlier, GHHI has developed the holistic energy efficiency, health and housing service delivery model that is implemented in our nationally recognized, Maryland-based direct service program. The model was adopted by the US Department of Housing and Urban Development and is currently being advanced in partner jurisdictions nationally. The pilot will create an opportunity to deliver this model as homes are weatherized before electrification.

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[3] The Brattle Group, 2023. *An Assessment of Electrification Impacts on the Maryland Electric Grid.* Prepared for the Maryland Public Service Commission. Available at https://www.psc.state.md.us/wp-content/uploads/Corrected-MDPSC-Electrification-Study-Report-2.pdf

[4] Fisher, Sheehan & Colton, *The Home Energy Affordability Gap 2022, Maryland (April 2023)*, available at http://www.homeenergyaffordabilitygap.com/.

[5] Arjun Makhijani, et al, Energy Affordability in Maryland: Integrating Public Health, Equity and Climate, Executive Summary (Feb. 2023), available at https://www.psehealthyenergy.org/wp-content/uploads/2023/02/Energy-Affordability-in-Maryland-2023_-Final-Report-1.pdf.

Studies for the US Department of Housing and Urban Development have shown the benefits of GHHI's whole house approach in Baltimore as follows:

- 66% reduction in asthma related hospitalizations
- 62% increase in school attendance by addressing chronic absences due to asthma
- 88% increase in parental work attendance related directly to healthier children
- 30% reductions in asthma related ER visits
- 99% reductions in childhood lead poisoning
- Reductions in household injuries for children and trip and fall injuries for seniors
- Increased mobility and accessibility in the home for older adults who are able to Age in Place in the homes and communities where they choose to live
- Reductions in greenhouse gas emissions, energy consumption and overall energy costs.

Cost Savings and System Change

- Improved service delivery to low-income households and reductions in deferral rates from housing program services that clients are otherwise eligible to receive
- Program and government cost savings from efficiencies in implementing comprehensive assessment and housing intervention models utilizing cross-trained assessors and contractors
- Government innovation through the utilization of an integrated, comprehensive housing intervention model by state agencies that attracts new federal and philanthropic investment
- Reductions in medical costs including Medicaid costs
- Reductions in energy consumption and energy costs
- Reductions in housing maintenance costs

Between the federal government passing historic investments in climate, infrastructure, and housing through the Bipartisan Infrastructure Law and the Inflation Reduction Act, and the state of Maryland's leadership in climate commitments and planning, we are looking at a historic intersection of need, opportunity, and funding. Meeting this moment for climate, health, and equity will require innovative approaches and comprehensive solutions. This pilot program will help Maryland lead in the housing and energy transitions that are necessary to create a sustainable future. I urge the Committee to support the passage of H3B97.

Respectfully Submitted,

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Ruth Ann Norton
President and CEO