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February 14, 2022

Senator Paul G. Pinsky, Chair
Senate Education, Health and Environmental Affairs Committee
2 West
Miller Senate Building
Annapolis, Maryland 21401

Re: **SUPPORT** – SB528 – CLIMATE SOLUTIONS NOW ACT of 2022

Dear Chairman Pinsky and Members of the Committee:

On behalf of the Green & Healthy Homes Initiative, I offer this testimony in support of SB528. GHHI is a member of Energy Efficient Maryland, the Maryland Public Health Association Advisory Committee, and the New York State Climate Action Council Energy Efficiency and Housing Advisory Panel. In addition, I represent GHHI as a member of the EPA Children's Health Protection Advisory Committee and the Maryland Lead Poisoning Prevention Commission. GHHI is dedicated to addressing the social determinants of health and the advancement of racial and health equity through the creation of healthy, safe and energy efficient homes. The Green & Healthy Homes Initiative (GHHI) has been at the frontline of holistic healthy housing for over three decades.

Over its 30-year history, GHHI has developed the holistic energy efficiency, health and housing service delivery model that is implemented in our nationally recognized, Maryland-based direct services program. The model was adopted by the U.S. Department of Housing and Urban Development and is currently being advanced in partner jurisdictions nationally. In addition, GHHI helped to elevate Maryland as a national leader in healthy housing by helping reduce childhood lead poisoning by 99% in the state and helping design over 45 pieces of healthy housing legislation that became law in the State of Maryland and local jurisdictions. By delivering a standard of excellence, GHHI aims to eradicate the negative health impacts of unhealthy housing to ensure better health, economic, and social outcomes for children and families with an emphasis on black and brown and low-income communities. Most recently, GHHI's holistic approach was specifically cited by HUD as model for effective coordination of federal healthy homes and weatherization programs and resources.

Through our own research and evidence-based practice, GHHI has found that a healthy and energy efficient home yields a multitude of energy and non-energy benefits for residents, particularly low-income residents who can benefit the most from such energy efficiency

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improvements in terms of economic mobility, housing stability and wealth attainment over the long-term. We are deeply committed to advancing racial and health equity, economic mobility and climate resiliency through efficiency standards, electrification and decarbonization for low-income housing, and write in support of SB528 which is critical in the effort to advance energy equity and reduce climate impacts as well as addressing home health and energy efficiency gaps for Maryland's low-income families and communities.

What will SB528 Do?

- Creates a **Climate Catalytic Capital Fund (Green Bank)** to:
 - support improvements in energy management and efficiency to reduce greenhouse gas emissions from the buildings sector
 - implement energy and weatherization measures for low- to moderate-income households

- Creates a **Building Energy Transition Plan Task Force** to:
 - study and make recommendations on complementary programs, policies, and incentives to reduce greenhouse gas emissions from buildings,
 - develop a plan for funding the retrofit of covered buildings to comply with building emissions standards

- As part of the **recommendations** from the Transition Plan TF, the following may be put into place:
 - commercial tax credits or direct subsidy payments for building decarbonization projects
 - financial incentives through EmPOWER and other state programs to support all aspects of the transition to electrified buildings
 - low-income household holistic retrofit targets and heat pump sales targets
 - use of options such as on-bill, low interest financing to spread out the up-front costs, associated with electrification retrofit upgrades

- In addition, several provisions of the bill call for standards and incentives to advance clean energy goals, including:
 - Building Emissions Standards for new construction
 - Requirement for state buildings, public schools and community colleges to meet high performance building standards
 - Personal property tax exemptions for solar equipment and shares in community solar

Why is SB528 Needed?

In Maryland, the building sector is responsible for about 90% of the energy consumption statewide. SB528 includes a broad array of policy solutions, innovative funding mechanisms and

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opportunities for alignment and collaboration, totaling nineteen separate actions that will advance racial equity and environmental justice and meet Maryland's climate goals. Based on our decades of work serving families and improving housing conditions in Maryland, GHHI recognizes the important role of housing in achieving the state's climate goals and improving health, economic and social outcomes for our most vulnerable families.

The need for energy solutions for Maryland's low-to-moderate income housing stock is clear. Throughout our state, low-income residents face disproportionately higher utility bills. As a proportion of total income, low-income residents in the state of Maryland pay 550% more as a portion of income for energy than non-low-income residents in the state. Some low-income Marylanders devote such an extremely high share of their income to energy services that up to 42 cents out of every dollar is spent on energy bills (APRISE: Applied Public Policy Research Institute for Study and Evaluation, 2018). Every dollar that low-income residents allocate to costly utility bills is a dollar that cannot be used on other household essentials ranging from affording medical bills and school supplies to food (APRISE: Applied Public Policy Research Institute for Study and Evaluation, 2018).

Approximately 55% of Maryland's low-income households include Asian, Hispanic or Black residents. These residents have less access to affordable, energy efficient and healthy homes (Lucy Laflamme, N.D.). These disparities persist across the state, characterized by energy inefficient homes and health hazards like lead-based paint, leaky roofs, poor indoor air quality and mold. These conditions often cause DHCD to defer energy efficiency service delivery until all health and safety hazards are addressed. Deferral technically means that the services will be delivered eventually but most deferred cases never get the upgrades because there are not sufficient resources to help low-income households address the hazards themselves. EmPOWER has a \$1,000 health and safety budget per unit that can be used to perform pre-energy efficiency hazard remediation, but in many cases, this budget is not large enough to address all health and safety issues.

Though the Climate Solutions Now bill presents specific actions across a number of sectors, GHHI is mission-driven to support the following specific elements of the bill:

- Development of energy efficiency and electrification requirements for certain buildings
- Establishment of certain personal property tax requirements
- Establishing the Climate Catalytic Capital Fund
- Requiring the Department of the Environment to establish building emissions standards for certain buildings
- Requiring the Maryland Department of Labor to update the Maryland Building Performance Standards
- Altering the duties of the Maryland Green Building Council
- Establishing the Building Energy Transition Implementation Task Force to study certain matters and develop a plan for funding the retrofit of certain buildings.

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Specifically, GHHI is in support of the following proposed actions, in direct alignment with our mission and vision to create healthy, safe, energy efficient and decarbonized homes for Maryland families:

Climate Catalytic Capital Fund (Green Bank; page 5 of bill)

- Funding will be allocated from the state budget, private funds, federal grants and programs, profits from collateral and interest and other sources, to sustainably support this fund.
- The purpose of the fund related to buildings includes:
 - o Enabling improvements in energy management and efficiency to reduce greenhouse gas emissions from the buildings sector
 - o Target the implementation of energy and weatherization measures for low- to moderate-income households

Building Emission Standards (page 46 of bill)

- Develops building emissions standards that achieve specific reductions in greenhouse gas emissions, including:
 - o State-owned buildings:
 - 50% reduction in net greenhouse gas emissions before 2030
 - net-zero greenhouse gas emissions before 2035
 - o Private buildings
 - 20% reduction in net greenhouse gas emission before 2030
 - 40% greenhouse gas emission before 2035
 - Net-zero before 2040
 - o Requires owners to measure and report direct emission to department beginning 2025
 - o Provides maximum flexibility to owners to comply
 - o Includes alternative compliance pathways by paying a fee greater than equal to the social cost of carbon
 - o Puts forward financial incentives as recommended by Building Energy Transition Implementation task force

Building Energy Transition Plan Task Force (page 49 of bill)

- Mandates creation of the task force staffed by Government positions, governor appointed positions in non-profit, business, and contracting
- Charges the task force with:
 - o Studying and making recommendations on complementary programs, policies, and incentives to reduce greenhouse gas emissions from buildings by 2023
 - o Developing a plan for funding the retrofit of covered buildings to comply with building emissions standards
- Potential recommendations listed in the bill include:

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- Commercial tax credits or direct subsidy payments for building carbonization projects
- Creation of financial incentives through EmPOWER and other state programs to support all aspects of the transition to electrified buildings
- The establishment of low-income household holistic retrofit targets and heat pump sales targets
- The use of options such as on-bill, low interest financing to spread out the up-front costs, associated with electrification retrofit upgrades

Additional provisions in the bill that GHHI supports include:

Buildings Emissions Standards (page 23 of bill)

- Sets a deadline of January 1, 2023 for new buildings to meet all water and space heating demands without the use of fossil fuels
- Requires new buildings meet electric-ready standards, including
 - Installation of solar energy systems
 - Installation of electric vehicle charging equipment
 - Building-grid interactions
- Exemptions if local jurisdiction determines in state-approved cost effectiveness test that incremental cost of constructing the building to standards would be greater than the social cost of greenhouse gas reduction.
 - Requires the use of a specific cost effectiveness test:
 - Use greater of either the rate by the MD Dept of Environment or US EPA
 - Account for projected utility costs rates and emission rates based on the most recent final green house gas emission reduction plan adopted
 - Requires that buildings granted variances must still be electric ready
- Requires localities to adopt International Green Construction Code 2018 and subsequent updates within 18 months after issue

High Performance Buildings (page 37 of the bill)

- Adds criteria of Silver LEED certification or school or public safety building that achieves certified rating and based on location, including 5 pts or fewer in the combined credits for access to quality transit and surrounding density and diverse uses
- Requires buildings to meet or exceed requirements for certification under US green buildings councils LEED zero energy program OR achieves net zero by MD standards.
- Sets a state project standard for capital projects are those funded at least 25% with state funds (previous standard was those solely funded)
- Requires state buildings, public schools, and community colleges to meet high performance building requirements
- Develops guidelines for evaluating the energy balance and achieving a net-zero energy balance in buildings subject to statute 3-602.1

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Personal Property Tax (page 46 of the bill)

- Exempts property that is machinery or equipment that is
 - o Installed on rooftops, parking lots, roadways, or brownfield sites and is part of a community solar energy generating system that serves more than 51% of Kw/h to LMI customers

Benefits of providing low-income households with energy efficiency upgrades and building decarbonization

Energy efficiency, weatherization and decarbonization interventions provide not only energy benefits, related to reductions in energy usage and costs, but also non-energy benefits as well. Non-energy benefits are “the wider socio-economic outcomes that arise from energy efficiency improvement, aside from energy savings”. Studies have shown that energy efficiency and weatherization can improve housing conditions relating to thermal comfort, indoor air quality, pest management, and fire safety. Furthermore, household energy efficiency upgrades can spur community benefits such as economic growth, neighborhood revitalization, and resilience. These investments can help to support and stimulate the local economy by providing families and individuals with greater disposable income, which can help alleviate poverty and increase purchasing power while generating more local jobs (Bell 2014; IEA 2014). One study found that between 9 and 13 gross jobs are generated per every \$1 million investment. By targeting energy efficiency upgrades at low-income households with SB528, all Marylanders will benefit.

The Climate Solutions Now Act also has tangible implications for racial equity. In the US, Black households have the greatest likelihood of residing in older homes with compromised energy systems, aging or ineffective appliances and other assorted structural deficiencies, all of which contribute to making the home energy inefficient (Diana Hernández Yumiko Aratani Yang Jiang, 2014; Diana Hernández, Yang Jiang, Daniel Carrión, Douglas Phillips, and Yumiko Aratani, 2016). Residential segregation, racist housing policies and intentional disinvestment in communities of color, including in Maryland, result in conditions that contribute to poor health and high energy burdens, including inadequately sustained and inefficient ventilation (HVAC), cooling and heating systems, drafts or air leaks, and poor insulation (Ariel Drehobl and Lauren Ross, 2016; Diana Hernández and Douglas Phillips, 2015; Tony Gerard Reames, 2016; United States Census Bureau, 2015).

These structural conditions, coupled with a household’s inability to obtain energy – independent systems within higher quality homes, all contribute to increased costs for fundamental home utilities such as cooling and heating systems and lighting, through inefficient household energy usage (Jamal Lewis, Diana Hernández & Arline T. Geronimus, 2019).

In addition, data demonstrates that Black households are disproportionately subjected to trade-offs, for instance choosing between paying energy expenses or food and medicine, with 28% of

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Black households reporting having waived food and medicine monthly in order to pay for energy, (James Berry, Independent Statistics & Analysis: U. S. Energy Information Administration, 2018). Investigations have revealed how challenges central to energy insecurity, including difficulties paying energy bills or experiencing reduced thermal comfort, were connected to raised stress levels, known to be damaging to long term health when chronically sustained (Arline T. Geronimus, 2000; Diana Hernández, 2016).

Decarbonization slows the pace of climate change which affects the health, safety, and economy of the entire population. As a coastal state, Maryland is on the front lines of many of the project dangers of climate change, and within the state these impacts are projected to affect the most vulnerable populations disproportionately (Maryland 2030 GGRA Plan 2021). Over the next 30 years, the increased flood risk from climate change is modelled to disproportionately affect low-income Black communities in Maryland and across the country (Wing et al. 2022). Furthermore, extreme heat and weather events are projected to have the most severe health impacts (e.g. increased hospitalizations from asthma and heart attacks) in the low-income and minority population centers of the state such as Baltimore City (Maryland Climate and Health Profile Report 2016).

Buildings are significant emitters of greenhouse gases that contribute to global climate change as well as particulates that have significant effects on local health. In 2017, buildings accounted for 18% of direct greenhouse gas emissions in Maryland (The 2030 GGRA Plan 2021). Numerous studies have demonstrated a link between particulate (PM_{2.5}) levels and premature loss of life. Decarbonization is an essential step to reducing this burden because both nationally and within Maryland, gas emissions have passed coal as the energy source with the largest impact on human health from pollutant emissions (Buonocore et al. 2021). Because buildings emit pollution where people live and work, humans are acutely affected. In a major 2012 paper, researchers looked at 35 years of data collected across six US cities and found a statistically significant 14% increase in all-cause mortality for a 10- $\mu\text{g}/\text{m}^3$ annual increase in local PM_{2.5} measures, confirming the findings of previous studies (Lepeule et al. 2012; Dockery et al. 1993; Laden et al. 2006). Thankfully, researchers find that community health improves quickly with reductions in PM_{2.5}. On the other hand, energy infrastructure is often a long-term investment for both buildings and for municipalities. Beginning the process of decarbonization immediately is the best way to reduce total harm caused to residents' health.

Finally, recent studies have highlighted the health impacts of indoor air pollution from gas appliances. A team of researchers at Stanford University found that stoves emit significantly more methane emissions than previously understood because most of their emissions occur when in their steady state off position (Lebel et al 2022). Furthermore, families who do not use their range hoods or who have poor ventilation can surpass the 1-h national standard of acute NO₂ (100 ppb) within a few minutes of stove usage, particularly in smaller kitchens. Because many

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people live in small, older housing, and most appliance remain in use for long periods of time, both the contributions to greenhouse gas emissions and unhealthy levels of indoor air pollution point to a need to prioritize gas-free appliances in most buildings. Preparing buildings for a gas-free operation promotes improvements in indoor and outdoor air quality, as well as allowing a transition off the gas infrastructure which will reduce costs both for energy and gas system maintenance.

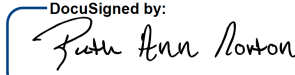
How Does Maryland Compare with Other States and Federal Actions?

SB528 presents an opportunity to place Maryland in a position of national leadership in advancing racial, health and energy equity and supporting economic mobility by meeting the critical housing and energy needs of Maryland’s most vulnerable families and seniors. State and local governments around the country are moving toward setting clear, statewide standards for building energy efficiency and electrification, and putting in place innovative funding mechanisms to support these standards. In January, 2022 the federal government launched a Coalition of State and Local Governments to Strengthen Building Performance Standards, with the understanding that,

“When building performance standards are designed in partnership with frontline communities and key stakeholders, innovative and equitable solutions can address multiple needs in a community. Energy efficiency improvements and electrification in multifamily buildings improve indoor air quality, eliminate drafts, and protect residents from extreme heat– delivering health benefits and lower health care costs. For businesses, high-performing buildings are not only good for the world, they are good for the bottom line – attracting higher occupancy rates and generating more revenue.”

Maryland can realize these benefits for families, older adults, workers and our environment by enacting the suite of innovative policies within the Climate Solutions Act. In addition, Maryland will follow states including Connecticut and New York, which have successfully established ‘Green Banks’ to provide a mechanism for cross-sector private, public and philanthropic investment in clean energy solutions. In each of these states, Green Banks have generated millions in additional capital for building improvements, deep energy efficiency retrofits and clean energy retrofits. We request a favorable report on SB528.

Respectfully Submitted,

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Ruth Ann Norton
President and CEO