

February 22, 2024

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

Re: HB 0397, Working for Accessible Renewable Maryland Thermal Heat (WARMTH) Act

Dear Chair Wilson and Members of the Economic Matters Committee:

Good afternoon Chair Wilson and committee members, for the record, my name is Jamal Lewis, and I am a Director of Implementation Learning and Integration for Rewiring America, the leading electrification nonprofit working to help families and communities achieve energy efficiency, improve health, and save money while tackling nationwide emission goals by swapping out inefficient fossil fuel appliances for clean electric alternatives. I'm also writing to you today as a member of the Maryland Commission on Climate Change (MCCC) Mitigation Working Group (MWG). Thank you for the opportunity to provide testimony. Today, we urge a favorable report on HB0397, which would promote better, more efficient, and more sustainable buildings in Maryland.

Thanks to the efforts of the General Assembly, we have a nation-leading requirement to reduce our state's greenhouse gas (GHG) emissions by 60% by 2031 and achieve net-zero emissions by 2045. Electrification is essential to achieving these climate goals, as underscored by Maryland's Climate Pathway Report which supports a zero-emission appliance standard for space and water heating, a zero-emissions construction standard for all new residential and commercial buildings, and strengthened energy efficiency standards. This plan will rapidly accelerate the pace of residential and commercial building electrification in the state so that by 2045 electricity accounts for 83% and 94% of the total energy consumption in residential and commercial buildings, respectively.

To hit the pace of residential electrification outlined in the Climate Pathway Report, we must invest in the clean, electric machines available on the market today. When it comes to space and water heating and cooling, heat pumps are the gold standard. Heat pumps are 2-4x more energy-efficient than gas furnaces and do not emit any of the harmful onsite pollutants their fossil fuel counterparts do. In particular, geothermal heat pumps are the most efficient space heating appliance, produce the least amount of GHG emissions, and generate the most energy savings. [Geothermal heat pumps use half as much energy as air-source heat pumps \(ASHPs\) and just 15-25 percent of the energy of gas furnaces. Similarly, total emissions from the electricity used to power geothermal heat pumps are just 15-30 percent of gas furnaces](#). In addition, the efficiency of geothermal heat pumps, especially when connected to a networked system, can maximize energy bill savings for homeowners by minimizing peak energy demands and preventing investments in expensive energy generation.

Energy peaks represent the most amount of energy demand over the course of a time period and occur most often in the winter and summer due to heating and cooling needs. Energy peaks are not efficient for the system since costly energy is deployed to meet the additional demand. It is more efficient for the amount of power generation to be relatively level at all times of day/year because that means the same lower cost power generators like solar and wind power can be used all year without additional costly power. If the peak demand is much higher than the average demand, typically new generation is only needed for a relatively short period of time, meaning that we are building and deploying really costly energy, which is then passed down to ratepayers on their bills. Geothermal heating and cooling is able to level the demand during summer and winter peak periods because the ground temperature is relatively level, meaning that it doesn't take as much energy to heat and cool.

Though the benefits are immense, these technologies can be more difficult to access given the high upfront costs. Still, these technologies are well worth the investment. A [recent DOE study](#) found that widespread deployment of geothermal system heat pumps can lead to \$1 trillion in savings for electricity grid services, \$19 billion per year in consumer heating bill savings, 11-13 percent less electricity generation needed, 33-38 percent less electricity transmission expansion needed, and 24,500-43,500 miles of avoided transmission investments, nationally.

As we push to electrify everything in Maryland, it is critical that we are maximizing emissions reduction while also minimizing energy costs, especially for low-and-moderate income households in the state [who pay an average of 14% of their income on energy costs \(compared to the 12% average statewide\)](#). If passed, HB 0397 will require that 80% of the networked geothermal pilot participants are low and moderate income households and ensure that no participant pays more for utilities as a result of the pilot. prioritizes low and moderate income households. We urge a favorable report on HB0397 and help Maryland communities move closer to a more resilient, healthier, and cleaner future. I am available for any questions.

Thank you,



Jamal Lewis

Director of Implementation Learning & Integration
Rewiring America