

Thank you for the opportunity to offer testimony in support of House Bill 1572, Renewable Energy Portfolio Standard – Eligible Sources – Waste to Energy.

I am Dr. Ashwani K. Gupta, Distinguished University Professor and also Professor of Mechanical Engineering at the University of Maryland, College Park. I have over 45 years of experience in the areas of clean energy harvesting from various kinds of hydrocarbon resources including MSW, combustion, air pollution, fuels, renewable fuels, energy, power, energy efficiency and energy sustainability and several other areas of national and international importance. I have taught courses on Combustion, Waste management and energy recovery, and Air pollution. I have published about 900 technical papers and several of them deal with waste to clean energy conversion and utilization. I have co-authored 3 books, edited 18 books and 22 book chapters on fuels, energy, environment, power and propulsion areas.

I am offering this testimony as a scientist whose work focuses on air quality and emissions, and as a peer reviewer of the report “The Truth About Waste-to-Energy,” authored by Dr. Marco Castaldi. My perspective is grounded in peer-reviewed research, decades of operating data, and measured environmental performance — not opinion.

The amount of trash humans produce continues to increase, despite increased recycling and composting availability. Across the world, waste-to-energy is a first-in-class, climate-sensitive method for managing that trash. It is the EPA’s preferred method of disposing of waste that can’t be recycled or composted. In other words, unless we have reduced waste so much that we no longer send waste to landfills, then we should be using waste-to-energy until that happens.

A critical issue in the public discussion of waste-to-energy is concern about air emissions. Much of this concern reflects outdated assumptions and does not align with the scientific evidence. Decades of emissions monitoring data from waste-to-energy facilities in the United States and Europe show that emissions are consistently well below federal and state health-based standards and have a negligible impact on the air we breathe, including the employees and neighboring residents.

Every ton of waste processed at a modern WTE facility, such as the one in Baltimore, roughly reduces 1.3 tons of carbon dioxide equivalent emissions, and the facility also reduces the volume of waste going to landfills by 90 percent.

This reduction in waste volume is critical in assessing WTE’s overall environmental value. As waste breaks down in landfills, it emits methane, a greenhouse gas with a warming potential of more than 84 times greater than carbon dioxide, thereby preventing future greenhouse gases from entering the atmosphere. Reducing the volume of waste going to landfills also lowers the number of tractor-trailer trips required to haul the remaining materials to local, regional, and out-of-state landfills. Fossil-fuel-powered vehicles are the primary source of the air toxins we breathe.

Energy generated at WTE facilities is produced through a highly regulated process. The U.S. Environmental Protection Agency and the Maryland Department of the Environment set and enforce strict emissions limits to safeguard public and environmental health here in Maryland.

Waste-to-energy is also a source of reliable, in-state, baseload renewable electricity, contributing to grid stability while displacing fossil-fuel generation. Facilities such as the one serving Baltimore convert unavoidable waste into energy that powers tens of thousands of homes annually.

Eliminating combustible waste-to-energy capacity without reducing waste generation does not reduce environmental impact. Instead, it shifts waste to landfills—often out of state — requiring long-haul transportation that increases traffic-related air pollution, fossil fuel consumption, and environmental burdens. From a scientific standpoint, this outcome is environmentally counterproductive. 52 out of the 76 operating waste-to-energy facilities located in various states in the USA classify solid waste incineration as Renewable energy source.

Waste-to-energy is one of Maryland's few in-state sources of energy generation. I respectfully ask that waste-to-energy not be evaluated in isolation, but in the context of the unavoidable reality that waste does not disappear and must be managed. When considered against the alternative of landfilling, waste-to-energy delivers clear environmental and public-health benefits. For these reasons, I encourage policymakers to recognize this reality and ensure waste-to-energy has a place in the state's Renewable Portfolio Standard.