I am Dr. Vivian Thomson, retired Professor of environmental policy at the University of Virginia, Charlottesville, where I was on the faculty in the Department of Environmental Sciences and the Department of Politics. My three books are about trash transport, climate change policy, and air pollution policy. I have also been an environmental regulatory official at the US EPA, and from 2002 to 2010 I was member and Vice Chair of the Virginia State Air Pollution Control Board, a citizens' regulatory body. I was appointed to the Board by Governors Mark Warner and Tim Kaine and the Virginia General Assembly. Now I live in Silver Spring.

I have studied waste management in the US and elsewhere since my EPA days, when I helped to establish the first Clean Air Act rules for air pollution from landfills. I was appointed to a local waste management committee in Charlottesville. Even so, I don't know right now what the best waste management strategy is for the County.

My colleague, Kit Gage, and I have written that the County lacks vital pieces of information to make a well-considered decision. Further, Mr. Elrich's budget proposal is undermined by environmental, equity, and cost information presented in County reports. Consequently, we oppose the County Executive's waste management budget, which proposes to close our resource recovery facility (RRF) in FY27 and long-haul our trash to an out-of-state landfill, for the following reasons.

EPA's longtime waste hierarchy says landfilling is the least preferred option.

In the EU, landfilling has long been discouraged, and there are about 500 RRFs in the EU. RRFs dominate waste treatment in Japan, where there are over 1,000 incinerators and where the proximity principle--jurisdictions should take care of their own trash and not ship it to someone else's backyard--is an important factor in waste management. China is moving away from landfilling and toward RRFs, a shift that researchers say is leading to lower greenhouse gas pollution from waste management.

Arlington County and the City of Alexandria extended the life of their RRF to 50 years, saying that "the Facility was determined to be the most environmentally sustainable means of disposing of waste generated by the Jurisdictions after reduction, reuse and recycling."

Landfills produce methane, an especially potent greenhouse gas that is also explosive and contributes to ambient ozone, which harms public health and causes crop losses. Climate scientists say that, because of methane's relatively short atmospheric life, reducing methane is one of the "biggest and most important controls we have to turn down the rate at which our planet warms." Over 20 years a pound of methane is 82.5 more potent than a pound of carbon dioxide at trapping heat.

According to the Global Methane Pledge website, "Rapidly reducing methane emissions from energy, agriculture, and waste…is regarded as the single most effective strategy to keep the goal of limiting warming to 1.5˚C within reach while yielding co-benefits, including improving public health and agricultural productivity."

Recent work shows that methane emissions from US landfills are much higher than previously thought, in part because of lower-than-expected gas collection efficiency. The County Executive

promises to capture much of our organics stream, which constitutes about two-thirds of the County's trash and causes landfill methane production. But a concrete, cost-effective path to reaching the stated waste diversion goals has not been clearly articulated, and, even then, uncaptured organics would be landfilled and produce methane.

Landfilling the County's waste could produce much higher amounts of greenhouse gases than burning the County's waste in the RRF. This is a common finding of life cycle models, including one run by Zero Waste Scotland.[1] Even a 2024 scientific study cited by DEP in its February 2026 Council briefing materials concluded that landfilling has higher (worse) impacts than incineration in seven of nine public health/environmental impact categories, including global warming. EPA's contractor, RTI International, estimated that we would increase our waste-related greenhouse gas pollution substantially when they ran the County's waste data through EPA's peer-reviewed life cycle waste model, MSW DST.

The results of such comparisons revolve in part (not wholly) around the fuel mix of the electricity that would replace the RRF's electricity. But a large part of Maryland's electricity comes from fossil fuels and we import an estimated 40 percent of our electricity from the PJM grid. Almost half of PJM's electricity comes from fossil fuels.[2]

The County Executive claims that aggressive waste diversion plus landfilling would reduce our waste-related greenhouse gas pollution by "the equivalent of taking nearly 100,000 passenger vehicles off the road each year." This comes to over 400,000 MgCO2eq/year, according to EPA's online carbon calculator. It's unclear how the County Executive arrived at this figure, since the County's official greenhouse gas inventory shows the RRF's 2020 greenhouse gas pollution to be 191,540 MgCO2eq/year and because the RRF's electricity generation would likely be replaced at least in part by fossil fuel generation.

DEP's 2025 Arcadis report on waste management options concluded that, over the long term, continuing to use the County's RRF would be cheaper and impose fewer public health and environmental costs than long hauling our residual waste to an out-of-state landfill. The report estimated that the landfilling option would produce slightly less greenhouse gas pollution overall than the RRF option. However, the report's authors expressed a lack of confidence in the models they used, saying that they likely underestimated landfill greenhouse gases and overestimated RRF greenhouse gas pollution.

With respect to the RRF's air pollution, including dioxins and furans, the County's 2025 waste management plan says: "Several health-risk assessment studies have concluded that there are no measurable influences on ambient air concentrations attributable to RRF source emissions

[1] See, e.g., Anshassi et al. (2022), Nabavi-Pelasarei (2017), Dasterji et al. (2022), Ouedraogo (2024). Anshassi et al. (2022) estimated that, per Mg of waste treated in the United States, landfilling produces 17 to 21 Mg more greenhouse gas pollution (CO2eq) than an RRF, over 30 years of disposal. EPA has attached a social cost of about $200 to each MgCO2eq.

(p. 3-32)." DEP has reportedly hired a contractor to assess how recent dioxins and furans releases might have affected local air quality. That information should be communicated quickly and clearly to the public and to Council members. If the County believes that these leaks, which are alleged to be episodic, reflect a continuing pattern, DEP should present evidence of those ongoing problems to Council members and to the public and analyze the implications for air quality.

DEP reports that the RRF's air pollution levels fall far below permitted limits, and the Maryland Department of the Environment says that, except for one pollutant, the facility is currently meeting the stricter standards for RRFs that EPA proposed in 2024. The RRF's reported emissions of sulfur dioxide, particulate matter, carbon monoxide, and nitrogen oxides are swamped by County-wide emissions from mobile and non-points (small) sources.

RRFs and landfills produce harmful pollutants and both can catch on fire, which pose special dangers to workers and nearby residents alike. But the County Executive has not acknowledged the risks posed by landfills. With RRFs, pollutants of concern include carbon dioxide, fine particulate matter, dioxins, and furans. Toxic metals are concentrated in the ash, which is treated with the aim of immobilizing those metals before the ash is landfilled.

Miami-Dade County, which is building a new RRF after its old one burned down, is exploring the idea of reusing RRF ash in construction materials. Miami-Dade County sees ambitious waste diversion as compatible with using an RRF, as do Arlington County and Fairfax County.

Landfills produce noxious fumes and, for decades, they emit a variety of toxic organic gases, including carcinogens like benzene, chloroform, tetrachloroethane, trichloroethylene, and vinyl chloride. Landfill gas collection systems aim to reduce gas volatilization. But, as indicated above, recent studies indicate that many such systems are much less effective than has previously been thought.

Landfills harbor pathogens while incinerators kill such microorganisms. Landfills produce contaminated leachate, and the US EPA has said that even the best protected landfills will eventually leak. One Virginia landfill (Shoosmith) mentioned in the 2025 Arcadis Report as a potential recipient of the County's trash produces 400,000 gallons of leachate per week, according to a notice of violation issued by the Virginia DEQ. That particular landfill has been cited for numerous permit violations and is in bankruptcy proceedings.

The diesel-fueled trash trucks that would long-haul our trash emit exhaust that is carcinogenic. According to the 2025 Arcadis report's environmental justice analysis, the Derwood transfer station is in an area with levels of diesel exhaust exceeding the nation's 50th percentile.

The RRF is in an affluent, disproportionately white part of Montgomery County, while the RRF's ash currently goes to a Virginia landfill whose surrounding community is majority African American. But the 2025 Arcadis report also says that, in landfilling trash at any of nine potential sites in Virginia or Pennsylvania, the County would be transferring its trash treatment from an area with no

environmental justice strikes against it (Dickerson) to a more vulnerable area. Many of Virginia's landfills are in marginalized communities. Maryland already contributes more waste to Virginia's landfills than any other state. A fierce fight has erupted over plans to build another huge landfill near an historically African American Rosenwald school in rural Cumberland County.

Fairfax County, Arlington County, and the City of Alexandria use an ash monofill in Fairfax County for their RRFs' ash. All indications are that taking Montgomery County's ash to this monofill, which accepts only incinerator ash, could be safer, cheaper,[3] and more equitable than the current situation. But we need to understand more about that monofill, its site, and its operation.

The County Executive's proposed FY27 budget indicates that the long-haul landfill option is more expensive than the RRF option. Still, we need a full long-term cost comparison that includes various waste disposal, diversion, and composting options and that says whether those costs would be predictable or unpredictable. For the FY27 proposal, a back-of-the-envelope calculation shows one year's worth of projected long-haul costs ($95.1) million) to be far higher than one year's worth of RRF costs ($60.5 million). Over the long term, we don't know how fuel prices might affect long-haul costs and or how much debt service would cost for the RRF. We need cost estimates for decommissioning the RRF and site cleanup, and those costs are on the landfill side of the ledger.

We don't know: The costs of operating the RRF over the long term or of building a new RRF; the full costs of closing down the RRF and cleaning up its site; the exact implications of sending the RRF's ash to the Fairfax County monofill; whether our RRF's ash could be reused along the lines of what Miami-Dade County is considering; if the recent dioxins and furans leaks from the RRF indicate ongoing problems or how those problems might affect air quality; anything about alternative RRF financing arrangements, such as those adopted by jurisdictions in northern Virginia; the effect of increased tractor trailer traffic on County air quality, neighborhoods, and roads; how the costs of long hauling our waste to landfills would change with fuel prices; whether the landfills under consideration have had permit violations, have contaminated waterways, or lie over aquifers; the potential liability implications of sending our trash to a landfill whose management is out of our control; the specific characteristics of communities near landfills where our trash would go; how various waste reduction and composting approaches could be implemented, including composting at "Site 2;" how recent work on methane leaks from landfills would affect analyses that compare landfilling our waste with sending it to the RRF; and, the results of the County's pilot save-as-you-throw pilot program.

Council needs: An objective, comprehensive assessment based on peer-reviewed, up-to-date techniques that compares the public health, equity, environmental, cost (long- and short-term), and liability implications of using an RRF vs. landfilling, in combination with various realistic, clearly described, cost-effective strategies for increasing our waste diversion and composting rates.

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[3]According to the County Executive's budget submission, Republic Services' charge for ash disposal comes to $66/ton (assuming 150,000 tons/year of ash disposed). The publicly available tipping fee for ash at the Fairfax County I-95 ash monofill is $34.26/ton (for FY27). The latter figure does not include transportation costs.