

## I. Summary

The Maryland General Assembly should pass the Reclaim Renewable Energy Act of 2024,<sup>i</sup> which would eliminate trash incineration from Maryland's Renewable Energy Portfolio Standard (RPS). This bill will help the state meet its climate goals by supporting healthier energy choices with no cost to the state.

Including trash incineration in the RPS is very costly for Marylanders. Between 2012 and 2022, Maryland energy providers spent about \$100,000,000 subsidizing trash incinerators through Maryland's RPS. Unless the legislature acts now, these costs will get much worse. Our analysis projects that between 2023 and 2030, Maryland energy providers will waste an additional \$200,000,000 subsidizing trash incineration if trash incineration remains in Maryland's RPS. These costs are passed on to consumers, likely at marked-up rates.

In addition, burning trash to produce electricity also produces high levels of greenhouse gases, toxic air pollutants, and toxic ash, which disproportionately harm overburdened communities and undermines Maryland's climate goals. If the legislature acts now, these investments can be spent supporting real renewable energy that will help to clean the grid and clean our air instead.

Maryland must fix this costly problem during this legislative session before it continues to escalate by removing trash incineration from the RPS. Marylanders want clean air and effective climate solutions. That is why the Reclaim Renewable Energy Act is supported by Maryland's new Climate Pollution Reduction Plan, the Maryland Climate Commission's 2023 Annual Report, local governments, and more than 80 environmental justice, labor, religious, climate and community organizations across Maryland.

## II. Background

Maryland has ambitious climate goals. Under the Climate Solutions Now Act, passed in 2022, the state set a goal of reducing greenhouse gas emissions by 60 percent before 2031.<sup>ii</sup>

Maryland's RPS program is a vital part of enacting Maryland's climate plan. Maryland established the RPS program in 2004 to require electricity providers to subsidize increasing amounts of renewable energy and allow state residents to benefit from the lower costs of obtaining electricity from renewable sources.<sup>iii</sup>

Under Maryland's RPS, electricity suppliers must buy renewable energy credits (RECs) from qualifying energy sources to meet their required electricity sales. (See "What is a REC? It's Complicated!" below).<sup>iv</sup> Qualifying renewable energy sources under the RPS include energy sources such as wind, solar, geothermal, small-scale hydro, waste-to-energy, or trash incineration, and biomass.

Three waste-to-energy incinerators participate in Maryland's RPS program: the BRESCO trash incinerator in Baltimore, owned by WIN Waste; the Montgomery County Resources Recovery Facility; and the Covanta Fairfax Facility in Virginia. These facilities all burn municipal waste to produce electricity and harmful byproducts like ash and air pollution. Municipal waste includes everyday household items, such as product packaging, clothing, batteries, and food scraps.

### What is a REC? It's Complicated!

According to the United States Environmental Protection Agency, a renewable energy certificate, or REC is a market-based instrument that represents the property rights to the environmental, social, and other non-power attributes of renewable electricity generation. RECs are issued when one megawatt-hour (MWh) of electricity is generated and delivered to the electricity grid from a renewable energy resource.

Once electrons flow into the grid, they are indistinguishable from one another, making it impossible to know whether they were generated by solar, coal, or gas-fired power plants, trash incineration, or some other source. Issuing RECs helps address this tracking and accounting problem. PJM, the operator of the large electricity grid of which Maryland is a small part (about 8 percent), issues an electronic time, date, and power generating station ID Stamp for each unit (megawatt hour or MWh) of electricity generated within its purview. For sources designated as "renewable," this time, date and power station ID become a "Renewable Energy Credit" or certificate (REC). The definition of renewable energy varies by state.

In Maryland, electricity providers meet their renewable energy requirements through the purchase of "unbundled" RECs. A "bundled" REC is one sold with the electricity itself. That means the buyer of the REC— usually an electricity provider — gets both the electricity and the REC as a unit. If the electricity and RECs are "unbundled," the facility owner sells the electricity to one electricity provider and the RECs to another buyer. This legal scheme allows Maryland electricity providers to buy electricity produced from fossil fuels and RECs generated from trash incinerators to comply with the state's RPS requirements.

The Reclaim Renewable Energy Act would prevent trash incinerators from being eligible for Maryland’s RPS. This means these three incinerators would stop receiving subsidies provided by the sale of RECs used for Maryland’s RPS. It would not require these facilities to shut down. Rather, Maryland electricity suppliers would no longer be allowed to use RECs bought from trash incinerators to satisfy their renewable energy requirements under Maryland’s RPS. Under current Maryland law, electricity providers can buy trash incinerator RECs and pass the costs of buying these RECs on to the consumers. As a result, Maryland ratepayers are currently subsidizing these incinerators because ratepayers end up paying for the incinerators’ RECs through their utility bills.

### III. Trash Incineration Harms Public Health and the Environment

Tens of millions of dollars each year in subsidies are sent to trash incinerator companies that emit greenhouse gas emissions and air pollution in communities near the incinerator, many of whom are already overburdened with high pollution levels. This contradicts the foundational premise of the RPS and backtracks on key commitments established by the Maryland General Assembly in the Climate Solutions Now Act of 2022 regarding emissions reductions.

EPA’s 2020 Emissions Inventory reports annual emissions of over 2.5 million tons of CO2 released by the three incinerators.



EPA’s Emissions Inventory indicates that in 2020, the three incinerators profiting from Maryland’s RPS emitted 2.5 million tons of CO2 into the atmosphere – while the wind, solar, and geothermal power that could have been supported by those dollars instead would have emitted zero.

**Table 1. CO2 Emissions Per Year by Incinerator**

Facility	CO2 Emissions/Year
WIN Waste Baltimore (“BRESKO”)	690,033 tons
Montgomery Co. Resource Recovery	579,804 tons
Covanta Fairfax	1,271,801 tons

A 2023 peer-reviewed study in PLOS Climate found that “incinerators emit more greenhouse gas emissions per unit of electricity produced than *any* other power source” and that incineration emits 1.7 times as much greenhouse gasses and 4.8 as much nitrogen oxides as coal per megawatt-hour.<sup>v</sup>

Emissions from trash incinerators are so high that they decrease the effectiveness of the entire Renewable Portfolio Standard program. In its *Final Report Concerning the Maryland Renewable Portfolio Standard*, the Maryland Power Plant Research Program analyzed the

emissions profile of the RPS and found that “the Maryland RPS has resulted in modest greenhouse gas reductions but may be working at cross-purposes with the state’s efforts to reduce nitrogen oxides (NOx) and sulfur dioxide (SO2) emissions,” in part because of the emissions from trash incineration.<sup>vi</sup>

The report also analyzed the CO2 emissions per megawatt-hour of energy sources included in the RPS. This analysis showed that the trash incinerators in Maryland’s RPS produce the most CO2 per megawatt-hour, orders of magnitude more than anything else included in the RPS. In particular, the trash incinerators included in Maryland’s RPS emitted more than four times more CO2 per megawatt-hour than black liquor, which the General Assembly wisely eliminated from the RPS in 2021. In contrast, wind, solar, hydropower, and geothermal, of course, emit no CO2.

Lastly, including trash incineration in Maryland’s RPS program decreases the incentive to adopt more sustainable waste practices. The current RPS artificially cheapens the worst methods of dealing with our waste by handing extra profits to the companies that own trash incinerators. Waste alternatives like composting and recycling are competitors to trash incineration; those industries can create hundreds of high-quality green jobs that don’t pollute.<sup>vii</sup> Maryland’s RPS is creating a financial environment where the worst method of dealing with our waste, trash incineration, is artificially made more competitive against newer, safer alternatives like composting and recycling, which have significantly less environmental and community impact.

**If trash incineration remains in the RPS, between 2023 and 2030, Maryland energy providers will waste an additional \$200,000,000 to buy REC’s from trash incinerators.**



#### **IV. Removing Incineration Will Provide Real Benefits to Maryland Consumers**

Removing incineration from the RPS will help spur better and more effective climate solutions.

##### **A. Subsidizing Trash Incinerators is Very Costly**

Subsidizing trash incineration under Maryland’s RPS is a costly business. In fact, trash incineration is more costly to subsidize than wind or small hydropower facilities.

In 2022, the average price for a REC in 2022 from trash incineration was \$22.96, while the price of a REC from onshore wind was \$19.54 and from hydroelectric was \$18.75.<sup>viii</sup> The price of RECs from trash incinerators nearly tripled between 2020 and 2022, the last year these prices are publicly available, and have risen over seven-fold in the previous ten years.

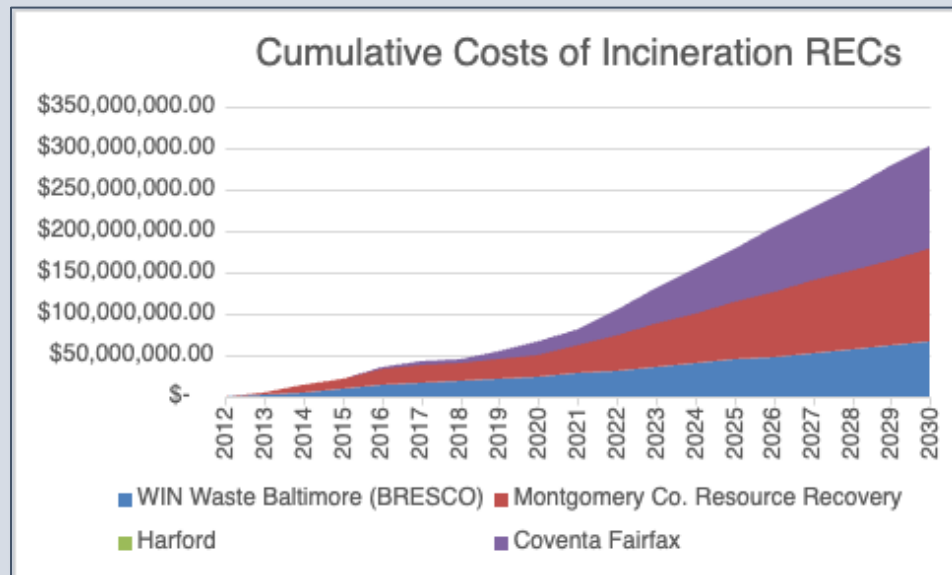
The Public Service Commission’s latest report on the RPS says that in 2022, Maryland energy companies spent millions buying RECs from three incinerators to satisfy Maryland’s RPS:

- \$8,776,070 for 382,233 RECs from the Montgomery County incinerator
- \$4,203,999 for 183,101 RECs from Wheelabrator in Baltimore
- \$11,733,532 from 511,045 RECs from Covanta Fairfax

These wasteful subsidies will continue to add up unless the Maryland General Assembly acts now to pass the Reclaim Renewable Energy Act.

Between 2012 and 2030, we estimate that Maryland ratepayers will spend about 300 million dollars subsidizing dirty trash incinerators under the state’s RPS.<sup>ix</sup> (See Appendix A)

**Graph 1: Costs of Subsidizing Incinerators (Past, Current and Projections into the Future)**



	Cumulative Costs
Montgomery County Incinerator	\$112,811,439.87
WIN Waste Baltimore (BRESKO)	\$66,542,246.60
Harford Plant	\$28,611.94
Covanta Fairfax Incinerator	\$124,473,487.85
<b>Total</b>	<b>\$303,855,786.26</b>

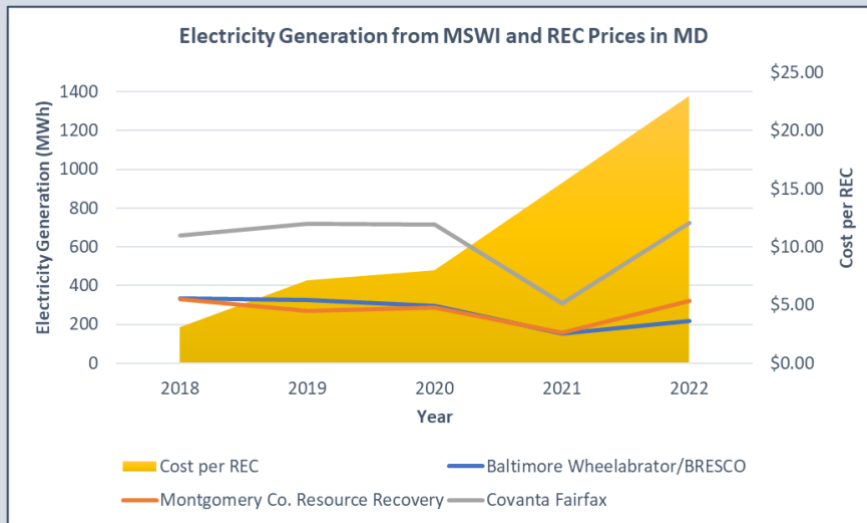
The good news is that by acting now, the General Assembly can avoid most of that waste. Maryland energy providers spent \$106,146,492 buying RECs from trash incinerators between 2012 and 2022. Our analysis shows that if trash incineration remains in the RPS, between 2023 and 2030, that amount will more than double: Maryland energy providers will spend at least an additional \$200,000,000 to buy RECs from trash incinerators unless the General Assembly acts now to eliminate trash incineration from the Renewable Portfolio Standard.

These figures are likely to underestimate the costs to Maryland consumers. This is because the prices of the RECs reported by the PSC reflect the costs of the RECs to the electricity supplier, not the costs passed on to the consumer.<sup>x</sup>

## B. These Subsidies Could be Better Spent

Increasing investments in waste-to-energy has not and will not lead to increasing returns of energy. Despite the ballooning value of the subsidies, there has been little to no additional generation of energy, and in some cases, production has decreased dramatically. From 2018-2022, the price per REC for RECs from incinerators rose over sevenfold, increasing from \$3.12/REC in 2018 to \$22.96/REC in 2022. Concurrently, electricity generation from Baltimore’s incinerator decreased by 35% from an annual output of 335 MWh to 219 MWh.<sup>xii</sup>

**Graph 2: Cumulative Costs of Trash Incinerator (MSWI) RECs in Maryland Renewable Portfolio Standard**



	2018	2019	2020	2021	2022
<b>WIN Waste Baltimore (BRESCO) (MWh)</b>	335.277	324.221	297.347	151.773	218.645
<b>Montgomery Co. Resource Recovery (MWh)</b>	331.086	271.601	288.310	157.780	322.651
<b>Covanta Fairfax (MWh)</b>	658.618	718.267	716.327	309.763	724.286
<b>Cost of REC MSWI</b>	\$3.12	\$7.14	\$7.99	\$15.46	\$22.96

If the General Assembly acts now to eliminate trash incineration from the RPS, these hundreds of millions of dollars can instead be used to support clean energy projects that create increasing amounts of clean energy with greater benefits to Maryland consumers and help fight climate change.

## v. **Support is Overwhelming, and the General Assembly Must Act Now**

There is more good news. Removing trash is widely supported by Maryland political leaders, community groups and environmental and public health organizations.

At the end of 2023, Maryland’s Department of the Environment published the Governor’s climate plan known as the Climate Pollution Reduction Plan (CPRP) which explicitly recommends removing trash incineration from the RPS.<sup>xi</sup> This is in addition to Maryland’s Commission on Climate Change recommending the same in its 2023 Report.<sup>xii</sup>

In the past few months, several community organizations have worked together to host community meetings and a rally, which have educated and empowered hundreds of impacted residents to take action through advocacy by testifying to their lived experiences and engaging their elected leaders, calling for the passage of the Reclaim Renewable Energy Act. Over 80 climate, environmental, environmental justice, community and business organizations have signed a letter supporting the Reclaim Renewable Energy Act.

With broad public support and support from a bipartisan group of governmental and environmental justice leaders across Maryland, now is the time for the General Assembly to act and prevent even more money being wasted subsidizing trash incinerators.

Maryland’s Climate Pollution Reduction Plan “calls for the definitions of qualifying resources in the RPS program to align with definitions of clean power resources under the forthcoming Clean Power Standard, including the elimination of eligibility for municipal solid waste incineration.” (pg. 21)

Maryland’s Commission on Climate Change states, “Due to the energy source’s contributions to the state’s GHG emissions, the General Assembly should adopt legislation to remove municipal solid waste incineration as an eligible generating source from the RPS.” (pg. 15)

## **[Appendix A.](#)**

## FOOTNOTES

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<sup>i</sup> House Bill 166, Senate Bill 146

<sup>ii</sup> See,

<https://mde.maryland.gov/programs/air/ClimateChange/Pages/index.aspx#:~:text=Maryland%20has%20set%20the,net%20zero%20emissions%20by%202045>.

<sup>iii</sup> [https://www.psc.state.md.us/electricity/renewable-energy/#:~:text=Maryland's%20Renewable%20Portfolio%20Standard%20\(RPS,electricity%20generated%20from%20renewable%20sources](https://www.psc.state.md.us/electricity/renewable-energy/#:~:text=Maryland's%20Renewable%20Portfolio%20Standard%20(RPS,electricity%20generated%20from%20renewable%20sources).

<sup>iv</sup> If electricity suppliers fail to acquire sufficient RECs to satisfy the RPS requirement, they are required to make an Alternative Compliance Payment (ACP) to the state, which uses the money to support the creation of new renewable energy sources in the State.

<sup>v</sup> <https://journals.plos.org/climate/article?id=10.1371/journal.pclm.0000100>

<sup>vi</sup> <https://dnr.maryland.gov/pprp/Documents/FinalRPSReportDecember2019.pdf>

<sup>vii</sup> <https://ilsr.org/wp-content/uploads/2017/03/Why-Should-Baltimore-Recycling-More-Report-final.pdf>

<sup>viii</sup> [https://www.psc.state.md.us/wp-content/uploads/CY22-RPS-Annual-Report\\_Final-w-Corrected-Appdx-A.pdf](https://www.psc.state.md.us/wp-content/uploads/CY22-RPS-Annual-Report_Final-w-Corrected-Appdx-A.pdf) Page 43. This is the latest publicly available information on REC prices by fuel source.

<sup>ix</sup> In 2012, waste-to-energy was moved from a Tier 2 energy source to a Tier 1 energy source. See Appendix A for costs and prices from 2008-2022 and Maryland's Annual RPS report for a distinction between the Tier 1 and Tier 2 energy sources. The prices for RECs are much higher for Tier 1 sources than Tier 2 sources.

<sup>x</sup> This is because the electricity providers are required to report the cost of "retired" RECs, which RECs used to comply with the RPS, not any costs passed on to the consumer. These costs are not disclosed in consumers' electricity bills.

<sup>xi</sup>

<https://mde.maryland.gov/programs/air/ClimateChange/Maryland%20Climate%20Reduction%20Plan/Maryland%27s%20Climate%20Pollution%20Reduction%20Plan%20-%20Final%20-%20Dec%2028%202023.pdf>

<sup>xii</sup>

<https://mde.maryland.gov/programs/air/ClimateChange/MCCC/Documents/MCCC%20Annual%20Report%202023/MCCC%20Annual%20Report%202023.pdf>