From: Caroline Eader
To: Honorable Members of the Economic Matters Committee
Date: February 16, 2021 (Hearing date of 2/18/21)
Re: FAVORABLE WITH AMENDMENTS - HB 875, "Renewable Energy Portfolio Standard [RPS] – Qualifying Biomass."

Maryland's RPS has an objective to recognize "the environmental and consumer benefits associated with renewable energy," so, thank you for your consideration to remove "black liquor" from the definition of qualified biomass for RPS purposes.[1]

Further to this goal, and consistent with the Maryland Department of Natural Resource's, "Final Report Concerning the Maryland Renewable Portfolio Standard as Required by Chapter 393 by the Acts of the Maryland General Assembly of 2017," I respectfully request the Economic Matters Committee to vote in favor of House Bill 875 with amendments.

The DNR predicts that Maryland's **emissions profile may not decline** because its RPS-eligible sources include **combustion technologies such as trash incineration, biomass, black liquor, and LFG**.[2] [Emphasis added.]

First, consistent with this finding, trash incineration (waste-to-energy and refuse-derived fuel) should be removed from Maryland's RPS through amendment to HB 875/SB 65.[3]

Second, the definition of "qualified biomass" should be amended to also exclude "tree crops"[4] and to remove language that incentivizes tree removal solely for Renewable Energy Credits (RECs), "a plant that is cultivated exclusively for purposes of being used at a Tier 1 renewable source or a Tier 2 renewable source to produce electricity."[5]

Finally, the bill should be amended to provide RECs for anaerobic digestion facilities, instead of the "methane from the anaerobic decomposition of organic materials in a landfill or wastewater treatment plant."[6]

It is well known that burning trash is one of the dirtiest forms of energy generation, with SO2 and NOx emissions of Maryland RPS resources being higher than state and PJM

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1 Maryland Public Service Commission, "Maryland Renewable Energy Portfolio Standard Program - Frequently Asked Questions," https://www.psc.state.md.us/electricity/maryland-renewable-energy-portfolio-standard-program-frequently-asked-questions/.

2 Maryland Department of Natural Resources "Final Report Concerning the Maryland Renewable Portfolio Standard as Required by Chapter 393 by the Acts of the Maryland General Assembly of 2017," page 2-43, (December 2019), https://dnr.maryland.gov/pprp/Documents/FinalRPSReportDecember2019.pdf.

3 Maryland Code, Public Utilities § 7-701(r)(10-11).

4 Maryland Code, Public Utilities § 7-701(l)(1)(i)(1): "old growth timber" is excluded from the definition of qualified biomass for purposes of the RPS, and therefore more generally, "tree crops" could also be excluded from receiving RECs.

5Maryland Code, Public Utilities § 7-701(l)(1)(ii).

6Maryland Code, Public Utilities § 7-701(r)(4).

levels since 2010 due to the eligibility of black liquor, landfill-gas, and trash incineration to meet Maryland RPS requirements."[7]

The pollution emitted from trash incinerators has detrimental health effects on the citizens of Maryland, "Wheelabrator Baltimore...emits lead, which is implicated in a host of health effects, including developmental delays in children, and methane, a more potent greenhouse gas than carbon dioxide. A 2006 EPA analysis found that in 2000, incinerators were the fourth largest source of dioxins, highly toxic substances that the agency says can cause cancer."[8]

In regard to carbon dioxide emissions, please see Table 2-8 from the Maryland Department of Natural Resources report that shows emissions of **CO2 per Mwh:** [9]

MSW (trash) = 2368
Black liquor = 506
Wood Waste = 339
Landfill Gas = 111
Solar, Wind, Hydro, Geothermal = 0

Table 2-8. Emissions Profile of Resources Used to Meet the Maryland RPS, 2017

	Fuel Source	RECs[1] (MWh)	Share	CO_2/ MWh[2]	NOx/ MWh[2]	SO_2/ MWh[2]
TIER 1	Agr. Biomass	345	0.0%	0.000	0.000	0.000
	Black Liquor	1,668,231	18.5	506.736	1.295	7.513
	Geothermal	1,880	0.0	0.000	0.000	0.000
	Hydro	882,114	9.8	0.000	0.000	0.000
	LFG	227,393	2.5	111.173	10.910	0.394
	MSW	732,424	8.1	2,368.188	4.135	0.493
	Biogas	11,284	0.1	55.556	0.000	0.000
	Solar (incl. Solar Thermal)	557,224	6.2	0.000	0.000	0.000
	Wood Waste	491,627	5.4	339.075	1.266	0.220
	Wind	3,002,388	33.3	0.000	0.000	0.000
TIER 2	Hydro	1,450,950	16.1%	0.000	0.000	0.000
	TOTAL	**9,025,860**				
	Weighted Average (Tier 1)			**366.008**	**1.095**	**1.728**
	Weighted Average (Tiers 1 & 2)			**307.170**	**0.919**	**1.451**

[1] ***Source:*** Maryland PSC 2018 ***Renewable Energy Portfolio Standard Report***.
[2] ***Source:*** PJM-GATS.

One of the common fear-tactics employed by the incinerator industry is that landfills emit more carbon dioxide and methane (a potent GHG), than what is emitted from

7 Maryland Department of Natural Resources, page ES-14.
8 Jochem, Greta, *Grist*, "Waste of Energy Burning garbage? Chicken poop? Your state could be getting renewable energy from nasty sources." Dec 12, 2018.
9 Department of Natural Resources report, Table 2-8 "Emissions Profile of Resources Used to Meet the Maryland RPS, 2017."

incinerators. However, although methane and carbon dioxide are natural byproducts of the decomposition of organic material in landfills, the gases emitted would be reduced by composting the organic waste instead of land-filling. (Organics typically are 25-40% of the municipal waste stream.) The incinerator industry fails to inform decision-makers of this beneficial use of organic materials. Compost benefits the climate by reducing greenhouse gas emissions at landfills, and in promoting the uptake of carbon dioxide by vegetation.[10]

Amending HB 875 will not require the closure of the existing trash incinerators in Maryland (the contracts exist, and will continue to be in effect), however, removing trash incineration from the RPS will remove those subsidies that are paid by Maryland ratepayers.

Changing trash's designation to a Tier 1 fuel was a windfall for the incinerator industry - it was (and still is) free money that comes from the pockets of Maryland ratepayers.

> "Tier 1 non-solar generators produced fewer than 760,000 RECs in 2011. In 2015, generators in Maryland produced approximately 1.3 million Tier 1 non-solar RECs. While it might appear that there was a significant addition of Tier 1 non-solar facilities between years 2011 and 2012, it was actually a reclassification of certain technologies, **namely municipal solid waste [trash], which led to the illusory increase—not the development of new generation sources."**[11] [Emphasis added]

Also, keeping trash incineration in Maryland's RPS trash is not replacing fossil fuel use, but is replacing clean energy like solar and wind from receiving Maryland RECs.

For the reasons above, in furtherance of reasonable environmental, climate, and fiscal policy for the benefit of the citizens of Maryland, I give my support to HB 875 with amendments in alignment with the Department of Natural Resources 2019 Report to remove the most egregious combustion sources from receiving Maryland ratepayer subsidies.

Sincerely,

Caroline Eader
Master of Energy Regulation and Law, Juris Doctor

Zero Waste for Zero Loss
Clean Energy & Zero Waste Policy Support and Implementation

10 U.S. Compost Council, "Compost – Combating Climate Change," https://www.compostingcouncil.org/page/ClimateChangeBenefits.
11 Maryland Energy Administration. Maryland's Renewable Energy Portfolio Standard, "An Insider's Perspective - What You Should Know", Jan. 30, 2017.