



SB0590

Renewable Energy Portfolio Standard - Eligible Sources - Alterations (Reclaim Renewable Energy Act of 2023)

Education, Energy, and the Environment

February 28, 2023

FAVORABLE (SUPPORT)

Chesapeake Physicians for Social Responsibility supports of SB0590 because it would stop subsidizing polluting energy sources that are currently subsidized through the Renewable Portfolio Standards (RPS) and that are making Marylanders sick.

SB0590 alters the definitions of "qualifying biomass", "thermal biomass system", and "Tier 1 renewable source" for purposes of excluding energy derived from certain forest-related resources, animal manure, waste, and refuse and gas produced from the anaerobic decomposition of animal waste or poultry waste from being eligible for inclusion in the renewable energy portfolio standard.

Chesapeake Physicians for Social Responsibility (CPSR) is statewide evidenced-based, organization of over 900 physicians, other health professionals and supporters, that addresses the existential public health threats: nuclear weapons, the climate crisis and the issues of pollution and toxics' effect on health as seen through the intersectional lens of environmental, social and racial justice. As an organization founded by physicians, we understand that prevention is far superior to treatment in reducing costs; death, illness, injury, and suffering.

Incineration must come out of the RPS portfolio and should never have been there in the first place. Waste-to-energy incineration is more polluting and produces more CO<sub>2</sub> per unit of energy than even coal fire power plants.<sup>1</sup> Why should ratepayers pay for an inefficient, climate forcing, health compromising incineration just because it is called "renewable."

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[https://web.archive.org/web/20131217055632/http://www.environmentalintegrity.org/documents/FINALWTEINCI\\_NERATORREPORT-101111.pdf](https://web.archive.org/web/20131217055632/http://www.environmentalintegrity.org/documents/FINALWTEINCI_NERATORREPORT-101111.pdf)

Baltimore's BRESKO municipal waste incinerator was identified as the single largest industrial polluter in Baltimore in 2017.<sup>2</sup> It emits mercury, dioxin, nitrogen oxides and is an important source of the fine and ultrafine particulate matter (PM2.5). One year's direct and indirect health costs from PM2.5 in Maryland was estimated to be nearly \$22 million.<sup>3</sup> In 2016, it was the 5th largest stationary source of nitrogen oxides (NOx) emissions in the State.<sup>4</sup> Incinerators, including BRESKO release several times more mercury per unit energy as Maryland's largest coal fire power plants.<sup>5</sup>

There are other dirty energy sources that should come out of the RPS and are excluded with this bill which would end ratepayer subsidy under RPS for health-harming pollutants from dirty energy sources. For example, biomass generating plants emit high levels of particulate matter (PM), nitrogen oxides (NOX), carbon monoxide (CO), sulfur dioxide (SO2), lead, mercury, and other hazardous air pollutants.<sup>6</sup>

One form of biomass generation is anaerobic decomposition which generates methane a more potent greenhouse gas emitter than Co2. <sup>7</sup> It makes no sense to call any source of energy clean that produces significant greenhouse gases if we are trying to mitigate the climate crisis with the RPS.

Poultry waste to energy emits pollutants that include: dioxins, nitrogen oxides, and sulfur dioxide.<sup>8</sup>

Though we may be reducing CO2 approximately 0.8% with the current RPS, how well are we reducing methane and we are not reducing air pollutants such as nitrogen oxides and sulfur dioxide.<sup>9</sup>

HEALTH EFFECTS of POLLUTANTS that are emitted from waste-to-energy sources that do not belong in the RPS

1) PM2.5: Hundreds of articles<sup>10</sup> have established an association between PM2.5 and poor health outcomes, including asthma, ischemic heart disease, lung cancer and all-cause mortality especially in urban populations. <sup>10</sup> These very small particles combine with carcinogenic chemicals and heavy metals and can deliver them, once inhaled, deep into the lungs and cross into the bloodstream where they are carried around the body and cause damage. Heavy metals attached to fine particulate matter have been found to travel up to the frontal lobe in animals and

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<sup>2</sup> <https://www.baltimoresun.com/news/environment/bs-md-trash-incineration-20171107-story.html>

<sup>3</sup> <https://www.cbf.org/document-library/cbf-reports/thurston-wheelabrator-health-impacts-2017.pdf>

<sup>4</sup> [https://www.who.int/water\\_sanitation\\_health/medicalwaste/en/smincinerators4.pdf](https://www.who.int/water_sanitation_health/medicalwaste/en/smincinerators4.pdf)

<sup>5</sup> <https://web.archive.org/web/20131217055632/http://www.environmentalintegrity.org/documents/FINALWTEINCI NERATORREPORT-101111.pdf>

<sup>6</sup> [https://peer.org/wp-content/uploads/2021/01/1\\_28\\_21-Maryland-Dirty-Energy-Report-Final.pdf](https://peer.org/wp-content/uploads/2021/01/1_28_21-Maryland-Dirty-Energy-Report-Final.pdf)

<sup>7</sup> <https://www.epa.gov/anaerobic-digestion/basic-information-about-anaerobic-digestion-ad>

<sup>8</sup> <https://journals-sagepub-com.proxy1.library.jhu.edu/doi/abs/10.2190/NS.21.1.g>

<sup>9</sup> <https://dnr.maryland.gov/pprp/Documents/FinalRPSReportDecember2019.pdf>

<sup>10</sup> <https://www.nejm.org/doi/full/10.1056/NEJMe1706865>

raise the possibility that they may be a factor in degenerative brain diseases in humans like Parkinson's and Alzheimer's disease.<sup>11</sup> Recent studies have found a positive association between historic pm2.5 levels and mortality from Covid-19.<sup>12</sup>

2)Nitrogen Oxides (NOX): Increase in nitrogen oxide levels are associated with worsening of asthma, emergency room visits and hospitalization. Nitrogen oxide is an important component of ozone. Ozone pollution can put active children who play outside at increased risk of developing asthma.<sup>13</sup> This is important in Baltimore where we have more than double the emergency room and hospitalization rates for asthma as the rest of Maryland.<sup>14</sup> Reducing NOX emissions is an important way to reduce ozone pollution. Both ozone and nitrogen oxide have been associated with increased mortality.<sup>15</sup> Nitrogen dioxide and fine and very fine particulate matter (PM2.5) have been associated with reduced lung function in children and most importantly with improvement in lung function when levels of these two pollutants are reduced.<sup>16</sup>

3)DIOXIN: Dioxin is created in the smokestack and is one of the most notorious families of toxic substances.<sup>17</sup> It has been designated by the World Health Organization as a known human carcinogen: capable of causing cancer.<sup>18</sup> It is considered one of the "dirty dozen" persistent organic pollutants because of its long half-life. It accumulates in the environment where animals graze, it gets concentrated up the food chain where we are on top. It is concentrated in our body fat as we eat: meat, fish and dairy products. In addition to being a carcinogen, it is linked to diseases of the immune system, endocrine system, nervous system and reproductive system.<sup>19</sup>

4)SULFUR DIOXIDE: Children exposed to SO<sub>2</sub> pollution may have breathing problems as they get older, make more emergency room visits for asthma treatment, and may get more respiratory illnesses than other children.<sup>20</sup> It contributes to particulate matter pollution which of course has very serious health effects.<sup>21</sup>

5)MERCURY: It gets into streams and lakes and is concentrated in fish which we then eat. Mercury is toxic to the developing brain of fetuses, infants and children and is associated with abnormalities in cognition, thinking, memory, and language that can be severe if exposure is significant.<sup>22</sup>

6)LEAD: Lead is associated with hypertension and cardiovascular disease in adults and in children in causes neurological deficits including loss of cognitive function, reduced IQ,

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<sup>11</sup> <https://www.jstor.org/stable/j.ctt5vjr8g> <https://www.cbf.org/document-library/cbf-reports/thurston-wheelabrator-health-impacts-2017.pdf>

<sup>12</sup> <https://projects.iq.harvard.edu/covid-pm/home>

<sup>13</sup> [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(02\)07597-9/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(02)07597-9/fulltext)

<sup>14</sup> <https://www.environmentalintegrity.org/wp-content/uploads/2017/12/Baltimore-Asthma.pdf>

<sup>15</sup> <https://www.hsph.harvard.edu/news/press-releases/permmissible-concentrations-air-pollution-mortality-risk/>

<sup>16</sup> <https://www.nejm.org/doi/full/10.1056/NEJMoa1414123>

<sup>17</sup> <https://phys.org/news/2014-09-unforeseen-dioxin-formation-incineration.html>

<sup>18</sup> [https://www.who.int/ipcs/assessment/public\\_health/dioxins/en/](https://www.who.int/ipcs/assessment/public_health/dioxins/en/)

<sup>19</sup> [https://www.who.int/water\\_sanitation\\_health/medicalwaste/en/smincinerators4.pdf](https://www.who.int/water_sanitation_health/medicalwaste/en/smincinerators4.pdf) ( page 28)

<sup>20</sup> <https://www.atsdr.cdc.gov/toxfaqs/tfacts116.pdf>

<sup>21</sup> <https://www.epa.gov/so2-pollution/sulfur-dioxide-basics>

<sup>22</sup> <https://docs.house.gov/meetings/IF/IF02/20190521/109556/HHRG-116-IF02-Wstate-LandriaganMDMScP-20190521.pdf>

attention deficit, anti-social behavior. There is no safe level of lead and the damage can be irreversible.<sup>23</sup>

7)PFAS: PFAS in the blood of nearly the entire population in developed countries, with health effects reported globally”. It crosses the placenta and is found in breast milk. It is very slow to degrade and is considered a “forever chemical” for that reason. High certainty health effects include: kidney cancer, liver damage, alteration in thyroid hormone levels, high cholesterol (increase serum total cholesterol and the fraction we usually associate with heart disease, low birth weight, reduced immune response including reduced response to vaccines after exposure in utero.<sup>24</sup>

These are just a few of the notorious elements of the toxic stew emitted in the air from waste-to-energy sources considered Tier 1 by the RPS but also from the other sources, biogas produced from the anaerobic decomposition of animal waste or poultry.

Chesapeake Physicians for Social Responsibility supports SB0590, removing poultry-to-waste sources of energy in addition to removing waste-to-energy incineration from the Maryland RPS. We will save ratepayers money and more importantly we will protect their health and the environment.

Gwen L. DuBois MD, MPH  
President Chesapeake Physicians for Social Responsibility  
gdubois@jhsph.edu

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<sup>23</sup>[http://ugspace.ug.edu.gh/bitstream/handle/123456789/31420/The Lancet Commission on pollution and health.pdf?sequence=1](http://ugspace.ug.edu.gh/bitstream/handle/123456789/31420/The%20Lancet%20Commission%20on%20pollution%20and%20health.pdf?sequence=1)

<sup>24</sup> <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7906952/>