



Testimony Supporting HB11
House Economic Matters Committee
March 4, 2022
Position: SUPPORT

Chesapeake Physicians for Social Responsibility strongly supports of HB11 because it would stop subsidizing polluting energy sources that are currently subsidized through the Renewable Portfolio Standards (RPS) and that are making Marylanders sick.

HB11 would exclude qualifying biomass, methane from the anaerobic decomposition of organic materials, certain fuel cells, poultry litter-to-energy, waste-to-energy, refuse-derived fuel, and thermal energy from a thermal biomass system from being eligible for inclusion in the renewable energy portfolio standard; and generally relating to 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.

Some of these sources like anaerobic decomposition generate methane a more potent greenhouse gas emitter than Co2. ¹ 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. Though we may be reducing CO2 approximately 0.8% with the current RPS, how well are we reducing methane and we are not doing such a good job reducing air pollutants such as nitrogen oxides and sulfur dioxide.²

These are some of examples of why we need HB11 to clean up the current RPS.

¹ <https://www.epa.gov/anaerobic-digestion/basic-information-about-anaerobic-digestion-ad>

² <https://dnr.maryland.gov/pprp/Documents/FinalRPSReportDecember2019.pdf>

Poultry waste to energy potentially emits pollutants that include: dioxins, nitrogen oxides, and sulfur dioxide.³

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.⁴

DC's Blue water waste treatment facility, an RPS Tier 1 waste to energy incinerator cited by Sierra Club report is source of material used for fertilizer that is contaminated with PFAS.⁵

Baltimore's BRESKO municipal waste incinerator was identified as the single largest industrial polluter in Baltimore in 2017.⁶ It emits mercury, dioxin, nitrogen oxides and is an important source of the fine and ultrafine particulate matter (PM_{2.5}). One year's direct and indirect health costs from PM_{2.5} in Maryland was estimated to be nearly \$22 million.⁷ In 2016, it was the 5th largest stationary source of nitrogen oxides (NO_x) emissions in the State.⁸ Incinerators, including BRESKO release several times more mercury per unit energy as Maryland's largest coal fire power plants.⁹

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

1) PM_{2.5}: Hundreds of articles¹⁰ have established an association between PM_{2.5} and poor health outcomes, including asthma, ischemic heart disease, lung cancer and all-cause mortality especially in urban populations.¹⁰ 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 raise the possibility that they may be a factor in degenerative brain diseases in humans like Parkinson's and Alzheimer's disease.¹¹ Recent studies have found a positive association between historic pm_{2.5} levels and mortality from Covid-19.¹²

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

³ <https://journals-sagepub-com.proxy1.library.jhu.edu/doi/abs/10.2190/NS.21.1.g>

⁴ https://peer.org/wp-content/uploads/2021/01/1_28_21-Maryland-Dirty-Energy-Report-Final.pdf

⁵ <https://www.sierraclub.org/sites/www.sierraclub.org/files/PFA-Garden-Sludge-Report.pdf> and <https://peer.org/maryland-renewable-energy-programs-dirty-rip-off/>

⁶ <https://www.baltimoresun.com/news/environment/bs-md-trash-incineration-20171107-story.html>

⁷ <https://www.cbf.org/document-library/cbf-reports/thurston-wheelabrator-health-impacts-2017.pdf>

⁸ https://www.who.int/water_sanitation_health/medicalwaste/en/smincinerators4.pdf

⁹ https://web.archive.org/web/20131217055632/http://www.environmentalintegrity.org/documents/FINALWTEINCI_NERATORREPORT-101111.pdf

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

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

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

asthma.¹³ This is important in Baltimore where we have more than double the emergency room and hospitalization rates for asthma as the rest of Maryland.¹⁴ Reducing NOX emissions is an important way to reduce ozone pollution. Both ozone and nitrogen oxide have been associated with increased mortality.¹⁵ 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.¹⁶

3)DIOXIN: Dioxin is created in the smokestack and is one of the most notorious families of toxic substances.¹⁷ It has been designated by the World Health Organization as a known human carcinogen: capable of causing cancer.¹⁸ 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.¹⁹

4)SULFUR DIOXIDE: Children exposed to SO₂ 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.²⁰ It contributes to particulate matter pollution which of course has very serious health effects.²¹

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.²²

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

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

¹³ [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)

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

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

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

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

¹⁸ https://www.who.int/ipcs/assessment/public_health/dioxins/en/

¹⁹ https://www.who.int/water_sanitation_health/medicalwaste/en/smincinerators4.pdf (page 28)

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

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

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

²³ http://ugspace.ug.edu.gh/bitstream/handle/123456789/31420/The_Lancet_Commission_on_pollution_and_health.pdf?sequence=1

birth weight, reduced immune response including reduced response to vaccines after exposure in utero.²⁴

These are just a few of the notorious elements of the toxic stew emitted in the air from dirty energy sources considered Tier 1 by the RPS. We are paying for these sources not only with our pocketbooks but also with our health. Let's clean up the RPS for all Marylanders this year.

Chesapeake Physicians for Social Responsibility strongly supports HB11.

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