RMC_FAV_SB265
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Position: FAV

Rural Maryland Council

50 Harry S. Truman Parkway • Annapolis, MD 21401
Office: 410-841-5772 • Fax: 410-841-5987 • TTY: 800-735-2258
Email: rmc.mda@maryland.gov
Website: www.rural.maryland.gov

John Hartline, Chair
Charlotte Davis, Executive Director

POSITION STATEMENT
Senate Bill 265 – Clean and Renewable Energy Standards (CARES)
Senate Finance Committee
February 11, 2020

The Rural Maryland Council **SUPPORTS** Senate Bill 265 – Clean and Renewable Energy Standards (CARES). This Administration bill adds "clean energy" to the Renewable Energy Portfolio Standard (RPS), removes some currently eligible combustion sources, and replaces them with large hydroelectric. The modified program is renamed the Clean and Renewable Energy Standard ("CARES").

The Council is in support of the CARES program because clean and renewable energy creates a healthier environment as it does not produces greenhouse gas emissions and limits types of air pollution; diversifies energy supply and reduces dependence on imported fuels; and, creates economic development and jobs which is beneficial for Maryland's economy.

Presently, this bill's clean energy is heavily focused towards nuclear, solar, wind, and hydroelectric power. While forest resource products are highlighted in the bill, such as qualifying biomass generating station and combined heat and power systems, the Council would like to see an increase in the use of biomass to generate energy for Maryland. Presently, the forestry industry is ailing, and such an emphasis could aid in the resurgence of this renewable resource.

According to the Maryland Forests Association, Maryland is behind other states and countries in developing woody biomass markets. With recent closures of local mills throughout the State, smaller, more diverse markets are needed. However, forest fragmentation makes timber management difficult. Oftentimes, loggers prefer to work in other neighboring states that are less restrictive, but permitting varies greatly from county to county. Incentives to develop the market could revitalize a struggling industry.

Encouraging the development of forest or resource-based products could help the state meet its green energy goals. Retention of existing markets is just as critical as new business development. Ensuring a healthy, vibrant forest industry by supporting and developing markets will help improve local rural economies.

Sustainably harvested wood and biomass can play an essential role in ensuring the environmental health of our State. The State has set significant goals in the Renewal Portfolio Standard. In order to meet those Renewal Energy goals, we will need to diversify the current generation with additional sources. Thermal energy, and the use of wood biomass are an efficient and clean technology.

The Council respectfully requests your favorable support of SB 265 and encourages an increase use of Maryland's renewable forests to achieve the CARES goals.

The Rural Maryland Council (RMC) brings together citizens, community-based organizations, federal, state, county and municipal government officials as well as representatives of the for-profit and nonprofit sectors to collectively address the needs of Rural Maryland communities. We provide a venue for members of agriculture and natural resource-based industries, health care facilities, educational institutions, economic and community development organizations, for-profit and nonprofit corporations, and government agencies to cross traditional boundaries, share information, and address in a more holistic way the special needs and opportunities in Rural Maryland.

VicinityEnergy_FAV_SB265
Uploaded by: Fiastro, John
Position: FAV

Vicinity Energy Baltimore
6 S. Frederick Street
Baltimore, MD 21202

Senate Bill 265

Clean and Renewable Energy Standard (CARES)

Senate Finance Committee

February 11, 2020

Position: FAVORABLE

Vicinity Energy supports SB 265 as it expands the number of qualifying technologies under Maryland's energy standard to include cogeneration also known as combined heat and power (CHP).

Vicinity Energy Company Profile

Vicinity Energy is the largest district energy company in North America. It operates in 10 major metropolitan areas including Boston, Philadelphia, and Atlanta in addition to Baltimore. In Baltimore, Vicinity Energy serves over 80 Million square feet in downtown Baltimore, including Hospitals (UMMC and Mercy), the University of Maryland Baltimore campus, City, State and Federal office buildings, the Housing Authority, Ravens Stadium and Oriole Park at Camden Yards, the Baltimore Convention Center, and numerous hotels, office, retail and residential buildings.

Cogeneration - Technology Overview and Applications

Large buildings with large heating requirements like hospitals, universities, public safety buildings and hotels are very good candidates for CHP. These types of buildings have around the clock heating needs and cannot suffer interruption of service. These types of buildings typically burn natural gas for heat and also consume a great deal of electricity. Combined Heat and Power plants, (called CHPs or cogeneration), generate both electricity and heat with the same amount of fuel, making the process much more efficient and reducing the amount of greenhouse gases emitted. It is not unheard of to reach overall efficiencies of above 80%. Because the steam or hot water from a CHP is produced without any additional fuel being burned, the U.S. EPA considers it to be carbon-free energy.

Adding CHPs to district energy systems like Vicinity's in Baltimore reduces the carbon footprint of over 150 large buildings in the City with one or two projects. By including CHP in Maryland's energy standard, Maryland can increase energy efficiency and reduce greenhouse gases.

Cogeneration's Value to the Grid

Cogeneration has significant value to the grid in terms of resiliency. According to the Center of the New Energy Economy, "CHP systems are typically located closer to consumption, which decreases the likelihood of service interruptions and reduces strain on the local distribution grid. In some cases, these systems can disconnect from the grid, or "island". These attributes make CHP systems very resilient energy systems for users that require reliable heat and power and, CHP systems also contribute resilience benefits to the local or regional grid."[1]

Potential Applications in Baltimore

Currently, Vicinity Energy is exploring adding a 10 MW cogeneration plant to our downtown Baltimore steam system. The plant will provide electricity to a major campus, and lower the steam costs of all of our customers. By utilizing cogeneration, Vicinity Energy will help this campus meet 50% of its emission / sustainability goals. Including cogeneration in the Maryland energy standard will facilitate the final investment decision this summer.

Cogeneration in State Energy Standards

Maryland would not be alone by including CHP within its energy standard. In fact, at least 11 other states including New York, Massachusetts, Connecticut and Illinois include the technology within their standards.

[1] "Combined Heat and Power / Combined Heat and Power Incentives." https://spotforcleanenergy.org/. Center for the New Energy Economy, 2019. https://spotforcleanenergy.org/wp-content/uploads/2019/12/548b51975e971aa2fbb4037a0d94c8f3.pdf.

Including Biofuels in Biomass

Vicinity Energy also supports the inclusion of renewable fuels in the standard, in particular, renewable natural gas, methane from anaerobic digestion, and biomass. We encourage the State to include biofuels in the definition of “Qualifying Biomass” Vicinity has recently successfully tested biofuels in several of our district plants. Using biofuel provides a CO2 neutral alternative for our oil produced steam. We view biofuels as a critical step in achieving 100% carbon neutrality of our district heating system.

Conclusion

Vicinity Energy supports SB265 as it expands the number of technologies qualifying under Maryland’s energy standard.

By expanding Maryland’s energy standard to include cogeneration, Maryland would be elevating a key technology to increase efficiency, improve reliability and meet its clean energy goals. Expanding the definition of “Qualifying Biomass” to include biofuels would provide incentive for the development of additional carbon-neutral fuel sources to meet the energy needs of the State of Maryland.

Sincerely,

John C. Moore

Vice President, Operations

GovernorsOffice_FAV_SB265
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Position: FAV

STATE OF MARYLAND
OFFICE OF THE GOVERNOR

LARRY HOGAN
GOVERNOR

STATE HOUSE
100 STATE CIRCLE
ANNAPOLIS, MARYLAND 21401-1925
(410) 974-3901
(TOLL FREE) 1-800-811-8336

TTY USERS CALL VIA MD RELAY

Senate Bill 265 – Clean and Renewable Energy Standard (CARES)

SUPPORT

Senate Finance Committee
February 11, 2020

Testimony By:
Mathew Palmer, Deputy Legislative Officer

Senate Bill 265 - Clean and Renewable Energy Standard (CARES) will revolutionize the way Maryland has looked at building and growing clean and renewable energy in and around our State. The key tenets of CARES are to:

- Require 100% clean electricity by 2040,
- Create a technology-neutral, market-based approach to spur energy and environmental innovation,
- Focus on homegrown energy, environmental stewardship, economic growth, and jobs,
- And do this while minimizing the burden to Maryland's ratepayers.

The CARES program will save ratepayers more than $70 million by 2030. It is also estimated to create over 2000 jobs and over $420 million in economic benefits, over and beyond the Clean Energy Jobs Act.

The specifics of the CARES initiative include the addition of a Clean Energy requirement, which will layer on top of the existing Renewable Portfolio Standard (RPS). These clean energy sources would be required to be sourced in Maryland, and be zero- and low-carbon sources such as:

- Hydropower coupled with maintaining environmental stewardship
- Existing and new nuclear power (dependent on relicensing?)
- Efficient natural gas power with carbon capture, utilization and storage (CCUS) technology
- New efficient combined heat and power (CHP)/cogeneration systems
- Any other efficient technologies that are zero-carbon sources (hydro, small nuclear)

Similar to the existing RPS system, Maryland utilities would purchase Clean Energy Resource Certificates (CERCs) to meet the annual requirements, with the requirements growing over time to the 100% requirement in 2040.

CARES would remove "black liquor" (burning of paper residue left over from the milling process) and trash incineration from inclusion in Tier 1 resources. The only paper mill in the State was closed this past year, thus all of the "black liquor" RECs would be generated by out-of-state producers, thus not even providing the job benefits which Maryland was realizing.

Clean electricity by 2040 can be accomplished with very little, if any, increase to ratepayers, by replacing some RPS capacity with clean sources that are recognized through CARES.

All of these actions will place Maryland at the forefront of moving toward 100% clean energy, while doing it in an affordable and reliable way that also looks to create these jobs right here in Maryland.

For those reasons, we would ask for a favorable report of Senate Bill 265 – Clean and Renewable Energy Standard.

MEA Tung CARES testimony SB0265 02.11.2020 FINAL
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Position: FAV

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor
Mary Beth Tung, Director

MARYLAND ENERGY ADMINISTRATION
SB0265 CLEAN AND RENEWABLE ENERGY STANDARD

Testimony of Mary Beth Tung
Director

Maryland Senate Finance Committee
February 11, 2020

Thank you Madam Chair, Vice Chair, and committee members. With the legislation before the committee today, CARES, we are proud to be a part of a bold energy strategy that builds off of the existing RPS, and sets forth vital enhancements. The provisions in CARES will help to provide Maryland with the sort of rapid and meaningful reductions in harmful air emissions that contribute to climate change. MEA works closely with MDE and Sec. Grumbles, along with the PSC, to implement energy programs and develop policies that lower the air emissions that science tells us are contributing to climate change.

As a part of our mission, MEA also considers affordability, reliability, and resiliency along with emissions when drafting and implementing our programs. All of these concerns played a role in the language drafted for CARES. I'm happy to provide the committee with a brief overview of some important terms of the legislation.

I want to begin by highlighting a key component of CARES; there is a catch-all provision whereby the PSC may draft regulations to incorporate emerging clean energy technologies into the clean resource tier proposed by the legislation. This provision gives flexibility to incorporate technologies not yet developed into the program.

Other key components of CARES include:

1) The creation of a clean resource tier, which <u>complements</u> the existing RPS, and will increase the reliability and resiliency of Maryland's electrical grid. CARES incentivizes scalable generation

assets which utilize zero carbon technology, such as assets equipped with carbon capture utilization and sequestration, or reuse, technology. Adopting such technology helps to ensure that Maryland's electrical distribution grid stays energized during peak loads: such as during very hot summer days, or very cold winter days, when intermittent assets like solar and wind can't provide sufficient wattage.

2) One such technology that we believe should be awarded clean energy resource credits is any future nuclear energy generation facilities. Calvert Cliffs already achieves the equivalent of replacing hundreds of thousands of conventional fossil fueled vehicles with EVs in avoided air emissions annually. Nuclear power is the most reliable, safest, and cleanest source of baseload electricity in Maryland. I repeat, nuclear power is the most reliable, safest and cleanest source of baseload electricity in Maryland. New technology, which will be commercially deployed in the near future, will provide Maryland's demand for clean electricity with a solution that has much better financial flexibility than traditional nuclear power plants. By making **future** in-state nuclear facilities eligible for clean energy resource credits, and by accounting for the clean electrons already generated by our existing facilities, CARES provides a unique approach that recognizes the carbon- and greenhouse gas-free merits of clean and safe nuclear energy. Again, the goal of CARES is to clean up the electric grid as quickly as possible in a science-based, competitive, and smart manner that helps to protect Maryland jobs and ratepayers while keeping electricity affordable, reliable and as clean as possible. Lives depend on affordable and reliable energy.

3) Next I'll discuss distributed generation incentives for clean technologies, such as efficiency achieved through Combined Heat and Power (CHP). CHP generation heats and powers dwellings and other assets without line loss in an incredibly efficient and clean manner. MEA has long supported CHP, and we believe that the resiliency features of CHP will keep Maryland's residents safer from meteorological events such as Superstorm Sandy and others; while also keeping our businesses and employers competitive with our neighbors. In Maryland, we also have a large and robust efficiency program, EmPOWER, which other jurisdictions look up to as a model. That is why CARES requires that CHP assets meet minimum efficiency levels in order to earn clean energy resource credits. These CHP systems must be 60-90% efficient, while traditional generation assets are only 30-35% efficient. So, resiliency is built in and efficiency is mandated, which is a positive policy win for Maryland.

   The same virtues of clean CHP distributed generation apply to renewable distributed generation assets as well, which is why the state subsidizes those assets, and why CARES leaves those resources undisturbed. While distributed solar outperforms CHP in terms of fuel costs (it is $0 for sunlight); CHP outperforms renewable assets in terms of reliability, resiliency, and raw wattage versus geographic footprint.

4) Finally, I'd like to discuss carbon capture sequestration and utilization which another technology rapidly developing in the energy field. By augmenting existing generation facilities with carbon capture technology, we can convert certain assets to carbon-free facilities, with minimal dislocations to Maryland's electric grid. Following capture, carbon would be either permanently sequestered in an appropriate geologic formation or permanently utilized in industry. Either way, the carbon must be permanently sequestered in order to earn clean energy resource credits under CARES.

Under this strategy, we believe Maryland will meet its target of **100% clean electricity by 2040**, with greater in-state benefit and without sending jobs and dollars out of Maryland. As a result, we will meet our energy and carbon-reduction goals faster, at less-cost, and more reliably. Therefore, we strongly urge the committee to report favorably on CARES. I'm happy to answer questions.

NEI_FWA_SB265
Uploaded by: CSIZMADIA, CHRISTINE
Position: FWA

State of Maryland
Senate Finance Committee
CARES Proposal
Comments of the Nuclear Energy Institute

February 11, 2020

Bill Number: SB 265 and HB 363
Commenter: Nuclear Energy Institute
Position: Support with Amendments

The Nuclear Energy Institute appreciates the opportunity to provide comments on the Clean and Renewable Energy Standard (CARES) proposals in SB 265 and HB 363. This approach would assure Maryland will have a 100 percent carbon-free electricity system by 2040. This is an ambitious target and achieving this goal while minimizing the impact on Maryland consumers will require the state to draw upon all of the carbon-free sources of electricity available. To this end, the Nuclear Energy Institute applauds the inclusion of nuclear energy as part of the portfolio of non-emitting technologies. However, for this approach to be viable, these bills must be amended to more accurately value the contribution of Maryland's existing nuclear resource.

These bills create incentives for new nuclear technologies to be deployed in the future as part of the reconfiguration of the state's electricity system to one that is completely carbon-free. New nuclear designs are being developed to produce a suite of options that will be smaller, more cost-effective, and provide better capabilities to complement the expanded use of variable wind and solar generations across days and seasons. By including new nuclear as part of the path forward, the CARES proposal opens the door to a broader set of options for Maryland to reach its clean energy future. In order to reach this future, however, Maryland must not lose what it has on hand.

Today, nuclear energy provides the vast majority of Maryland's carbon-free electricity. This non-emitting generation provides the foundation for Maryland's clean energy future. The Calvert Cliffs Nuclear Power Plant generated 15,000,000 mega-watt hours in 2018. This is about 80 percent of Maryland's carbon-free electricity. Realizing the bold vision for Maryland's future begins with ensuring the continued operation of Calvert Cliffs.

The proposal counts the generation from the plant as part of meeting the state's carbon-free electricity requirement, but it does not place any value on doing so. This approach effectively takes for granted that the plant will always continue operation. This is a risky assumption as similar nuclear plants in the same PJM regional electricity market have closed or are facing the prospect of doing so.

The January 2020 report from the Maryland Power Plant Research Program (PRPP) titled Nuclear Power in Maryland: Status and Prospects presented information on plants that have retired early. Since 2013, nine nuclear units with 6,700 megawatts of capacity have closed. These nine reactors produced 55 million megawatt-hours of firm, carbon-free electricity. Beyond these units that have already ceased operation, plant owners have announced the intention to close an additional eight units by 2025. These plants have 7,500 megawatts of capacity and generation 60 million megawatt-hours in 2018.

The PRPP report essentially concluded that Calvert Cliffs will not be subject to these economic pressures and therefore does not need to be valued for its carbon-free attribute in the way that every other non-emitting generator would be under the CARES proposal as the state will essentially receive this for free. The basis of this decision was an analysis prepared by the Independent Market Monitor of PJM who has estimated that Calvert Cliffs will remain in operation for the next two years. The Market Monitor reaches this finding by subtracting estimated operational costs from forecasted market revenues. As Maryland plans for its long-term future there are at least two good reasons why it should not base its carbon-free energy plan on this assumption.

First, the cost data used by the Market Monitor was not collected to inform this kind of assessment. The Nuclear Energy Institute publishes data from the Electric Utility Cost Group (EUCG). EUCG is an industry association that collects data to facilitate benchmarking of nuclear plant operations. NEI publishes this data because it is the most comprehensive information that enables year-to-year comparisons of plant operations and in this way is superior to other public data sources. The data collection conducted through EUCG does not attempt to capture all of the factors that would inform a decision on whether to continue plant operation. Indeed, the report from which this data is pulled contains the following caution: “Data is collected by EUCG to perform benchmarking comparisons from nuclear power plant operators. The total generating cost does not include considerations for risk management or returns on investment that would be key factors in business decisions affecting a particular station.” Assessing plant viability without including risk tolerance or investment returns ensures that the forecast will be based on an incomplete understanding of business interests.

The second reason to question the assumption the Calvert Cliffs will continue to operate is that the revenue estimates will not be aligned with the economic landscape. The Market Monitor uses available market prices for 2020 and 2021. This presumes that the competitive future will be very similar to today’s conditions. This may be reasonable for a very short-term time horizon, but a poor guide to 2040. The CARES proposal itself will dramatically remake the competitive landscape for electricity in the future. Calvert Cliffs may receive slightly higher revenues today because it operates in a transmission-constrained area of the grid. If CARES were successful the transmission system will change dramatically. The deployment of offshore wind will necessitate the construction of transmission that will alleviate such constraints and could even lead to lower

relative market prices should the wind be deployed prior to the transmission upgrades. Beyond that, CARES would add dramatically more wind and solar to the mix which will further lower the wholesale power prices in the region. In the face of further depressed wholesale prices, Calvert Cliffs will be in an increasingly tenuous position as other generators will receive revenues that reflect their carbon-free attributes to offset the eroding electricity sales revenue.

Governor Hogan and the Maryland legislature are to be commended for showing leadership in creating a clean electricity future for the state. By including nuclear energy as part of the portfolio of carbon-free technologies, the CARES proposal recognizes that any carbon-free source of generation should be valued for its carbon-free attribute. The legislature should amend this proposal to apply this principle not just to new nuclear resources, but also to the existing nuclear energy that can be the foundation on which new clean resources can be added. Maryland has a difficult path ahead to reach its goals. Retaining its largest source of carbon-free electricity is one big step in realizing this future.

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Position: FWA

LARRY KASECAMP
Legislative Director

VACANT
Assistant Director

THOMAS CAHILL
Secretary

MARYLAND STATE LEGISLATIVE BOARD

SHEET METAL | AIR | RAIL | TRANSPORTATION
SMART
TRANSPORTATION DIVISION

ANNAPOLIS OFFICE
176 Conduit St., Suite 206
Annapolis, MD 21401-2597

PH: 301-697-2695
utusldmd@gmail.com

February 11, 2020

The Honorable Delores Kelley and
Members of the Senate Finance Committee

RE: SB 265 – Support with Amendments

As State Legislative Director for the Transportation Division of the International Association of Sheet Metal, Air, Rail and Transportation Worker's I am urging your committee to **amend SB-265**, "Clean And Renewable Energy Standard (CARES)," after which our organization could support the legislation.

Our organization represents the railroad workers who were employed by CSX and depended on the jobs provided by servicing the Verso Paper Mill. Those jobs entailed bringing in the products used in the paper making process, providing the rail yard switching services, and transporting and delivering the finished products to their customers.

The majority of those members reside in the Western Maryland counties, which are economically depressed areas of the state with low average wages and high unemployment. And over the years, this area of the state has been hit especially hard by the loss of manufacturing in this country.

The Luke Paper Mill was one of the top employers in Allegany County considering the number of employees and average wages paid. When you take this into account, plus the indirect jobs associated with the Luke Mill, it probably had the biggest economic impact in Allegany County before it was suddenly closed in 2019.

We believe SB-265 will do more harm to Western Maryland as the loss of the tax credits for Biomass under the Renewable Portfolio Standard (RPS) could be the making or breaking of a deal for any potential buyer of the facility that would be involved in the paper making process.

Our members also are employed by CSX in providing rail service to Covanta, the waste-to-energy facility in Montgomery County. We understand there are many other union members employed in the operations of other waste-to-energy facilities throughout the state whose jobs may also be on the line as a result of eliminating waste-to-energy from the RPS.

We understand renewable energy policies are important for Maryland's future, but we also believe energy derived from biomass and waste-to-energy should be a part of the state's programs for tradable renewable energy credits as Tier 1. The Environmental Protection Agency under President Obama declared biomass as carbon neutral and there are no feasible plans as an alternate to disposing of the waste handled by these facilities.

These facilities such as the Luke Paper Mill and Covanta and the jobs associated with their processes are family wage jobs and benefits that cannot be replaced easily, if at all. Moreover, they provide economic benefits for communities through suppliers, service providers, educational resources and tax payments.

The paper making industry is in serious competition from around the world. In places like Europe biomass energy gets generous carbon credits and in places like China they do not have the added environmental regulatory expenses associated with production. If we continue down this path, we may be looking at another manufacturing industry disappearing from the United States.

At a minimum we should delay the policy change related to biomass to see if any business actually purchases this facility. If one does, it would be a great benefit to the those that lost their jobs and can be reemployed, to the local businesses and to the County itself.

We therefore urge your committee to amend SB-265 by removing the references to eliminating biomass and waste-to-energy from the Renewable Portfolio Standard before moving the legislation.

Sincerely

Larry

Lawrence E. Kasecamp
MD State Legislative Director
SMART Transportation Division

Future of energy initiagive_FWA_SB0265
Uploaded by: Pavlak, Alex
Position: FWA

February 11, 2020

SB0265, Dr. Alex Pavlak, SUPPORT WITH AMMENDMENT

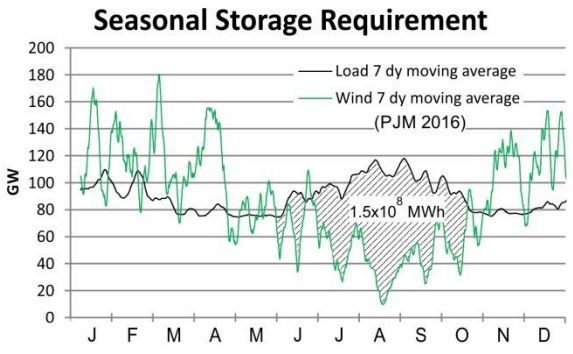
The professional development of an unprecedented system consists of three sequential steps:
1 Set the goal → 2 Quantify the options → 3 Choose one

Memorandum #1 notes that Maryland's RPS goal and the GGRA goals are inconsistent. In May 2019 Governor Hogan announced the goal of 100% clean electricity by 2040. Excellent! A clear and stable performance goal provides an invaluable constraint on system development.

Quantifying options is an engineering task. In building construction, this amounts to architectural sketches showing sizes, costs and the marketable features of different skyscraper configurations. In bridge building (e.g. the Wilson bridge), engineers estimate the cost of meeting requirements with a high bridge, low bridge, drawbridge, and tunnel. For the Apollo Moon Project, engineers estimated mass associated with three options: 1- A big rocket launched form the surface of the earth to land on the moon then return; 2 – building a rocket in earth orbit, landing on the moon, then return; 3 – a lunar-orbit-rendezvous: earth surface to lunar orbit, drop an astronaut to the lunar surface, pick him up, and return to earth. What is impressive about Apollo is that the program had the discipline to spend one year up front to clarify concepts before choosing. They made the correct choice and the rest is history.

For clean energy, concept definition starts with a blank sheet of paper and imagines what the world will look like without fossil fuel. Core carbon-free grid technologies are wind, solar, nuclear and storage. How do these concepts fit together in reliable affordable systems? Intermittency is a serious challenge to reliable system design because all the electricity generation from all generators of a particular technology type falls to zero at the same time. This happens every night for solar PV. Wind on the PJM system drops below 2% of nameplate capacity for a dozen hours per year, often during peak load.

Storage has been touted as a solution. For solar PV overnight storage flattens diurnal cycles, but it does not solve for the problem of sequential cloudy days. For wind, the adjacent figure shows that the storage requirement is seasonal and huge. Seasonal storage is theoretically possible but economically impractical. While intuition says that the wind is always blowing somewhere, a 2014 paper combined wind production data from PJM and MISO and found that wind production from the combined system still falls to almost zero.



Since peak loads determine installed capacity, it is important that models correctly portray the peaks and valleys; not just average production. Published models suppress volatility by assuming wind-load independence, and by spatial and temporal averaging. Only recently has enough good wind production data accumulated to rigorously validate models with real data from 5+ years.

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SB-0265 amendments:

1) *State Maryland's goal: 100% clean electric power.*
2) *Fund the development of a plan : a Concept Design Study*

Dr. Alex Pavlak; Future of Energy Initiative; www.pavlak.net; http://futureofenergyinitiative.org/
315 Dunham Ct., Severna Park, MD 21146; (410) 647-7334; (443) 603-3279(c); alex@pavlak.net

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Position: UNF

COVANTA
Powering Today. Protecting Tomorrow.

Frazier Blaylock

Senior Director

Government Relations

Covanta

4812 Drummond Avenue

Chevy Chase, MD 20815

Testimony by Frazier Blaylock
Before the Maryland Senate Finance Committee
February 11, 2020

Good afternoon, my name is Frazier Blaylock and I represent Covanta, the largest operator of waste-to-energy (WTE) facilities in the United States, that have provided safe, cost-effective trash disposal and the generation of clean, renewable energy in Maryland since 1995.

I am here today to express our opposition to a provision of SB 265 (CARES) which would remove waste-to-energy (WTE) from Tier 1 of Maryland's Renewable Portfolio Standard (RPS). The elimination of waste-to-energy as a Tier 1 renewable source would ignore the many benefits these facilities bring to their communities, and the environment.

WTE is a clean, local, renewable, efficient, and economical form of energy production and post-recycled waste disposal that helps Maryland divert waste from landfills while producing renewable energy to reduce our reliance on fossil fuels to generate electricity. WTE belongs in Tier 1 of the renewable portfolio standard, as it has been since 2011.

The process of converting waste into energy is a key part of an integrated materials management plan that focuses on waste reduction, reuse, recycling, and recovery of energy. The U.S. EPA has said that WTE facilities produce electricity "with less environmental impact than almost any other source of electricity" and "communities greatly benefit from dependable, sustainable capacity of municipal WTE plants."[1]

A study of WTE technologies by the Joint Institute for Strategic Energy Analysis for the U.S. Department of Energy concluded that WTE is a

"refined, clean, well-managed application for energy production."[2] WTE meets the two basic criteria for establishing what a renewable energy resource is—its fuel source (trash) is *sustainable* and *indigenous*. WTE facilities recover valuable energy from trash after efforts to "reduce, reuse, and recycle" have been implemented by households and local governments.

The facilities we operate are internationally recognized as GHG mitigation tools, even after accounting for our stack emissions of fossil-based CO2. The IPCC called waste-to-energy a "key GHG mitigation measure." We do this by diverting degradable organics from landfills, the 3rd largest source of methane globally and in the United States, displacing grid connected fossil-fuel fired electrical generation, and recovering metals for recycling. Alongside recycling, WTE has been a cornerstone of Europe's efforts to reduce GHG emissions from the waste management sector.

Our GHG benefits relative to landfilling have been recognized by California's air and waste regulatory agencies, U.S. EPA scientists, Columbia University's Earth Engineering Center, U.S. EPA, the Obama Administration's Clean Power Plan, the World Economic Forum, and the Joint Institute for Strategic Energy Analysis ("NREL"). EPA scientists, in a prominent peer reviewed paper, concluded WTE facilities reduce GHG emissions relative to even those landfills equipped with energy recovery systems.[3] EfW facilities generate carbon offsets credits under both the Clean Development Mechanism (CDM) of the Kyoto Protocol and voluntary carbon offset markets.[i,ii]

The benefits of diverting waste out of landfills to recycling and energy recovery are clearer than ever. As currently estimated, landfills are Maryland's 4nd largest source of methane. However, they would easily move up to #1 or #2 if the inventory was updated with the recent measurement data. Across a series of recent studies employing direct measurement of methane plumes via aircraft downwind of landfills, actual measured emissions from landfills have averaged twice the amount reported in GHG inventories, including Maryland's.

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[2] Joint Institute for Strategic Energy Analysis. 2013. Waste Not, Want Not: Analyzing the Economic and Environmental Viability of Waste-to-Energy (WTE) Technology for Site-Specific Optimization of Renewable Energy Options. Technical Report NREL/TP-6A50-52829.

Furthermore, Maryland's inventory downplays methane's role in the climate, using an outdated methane GWP. Today, scientists recognize methane as a potent short-lived climate pollutant that is more than 30 times stronger than CO_2 over 100 years, and 80 times stronger over 20 years, when all of its impacts are considered.[iii] States currently leading on climate, like New York and California, have adopted methane's 20-year GWP in planning and legislation.

The revenues, employment, and labor earnings derived from managing waste, producing energy, and recycling metals are the direct economic benefits of WTE.[4] In addition, these activities generate indirect impacts as well as induced impacts. Employees at WTE plants are technically skilled and are compensated at a high average wage. As a result, WTE facilities provide stable, long-term, well-paying jobs, while simultaneously infusing dollars into local economies through the purchase of local goods and services.

For the reasons stated in this testimony, Covanta opposes the removal of WTE from the RPS in SB 265. Thank you for your consideration of these remarks, I am glad to answer any questions.

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[i] Clean Development Mechanism: *Large-Scale Consolidated Methodology: Alternative waste treatment processes, ACM0022*. Available at: https://cdm.unfccc.int/methodologies/PAmethodologies/approved

[ii] Verified Carbon Standard Project Database, http://www.vcsprojectdatabase.org/ See Project ID 290, Lee County Waste to Energy Facility 2007 Capital Expansion Project VCU, and Project ID 1036 Hillsborough County Waste to Energy (WtE) Facility 2009 Capital Expansion Unit 4.

[iii] The IPCC concluded that "it is likely that including the climate-carbon feedback for non-CO_2 gases as well as for CO_2 provides a better estimate of the metric value than including it only for CO_2." See p714 & Table 8-7 of Myhre, G. *et al.* (2013) *Anthropogenic and Natural Radiative Forcing. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Stocker, T.F., *et al.* (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. https://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_Chapter08_FINAL.pdf

EnvironmentMaryland_UNF_SB265
Uploaded by: Breimann, Kate
Position: UNF

SB265: Clean and Renewable Energy Standard (CARES) Finance Committee Hearing February 11th, 2020

UNFAVORABLE

Environment Maryland is a citizen-based environmental advocacy organization. We work to protect clean air, clean water, and open space. We have thousands of members across the state and are based in Baltimore.

Maryland's reliance on polluting fuels puts our health and safety at risk. Our state energy policy must conserve more energy, use the energy we have wisely and efficiently, and rely only on sources of energy that are clean, renewable and tread lightly on our planet. SB 265 does not take the bold, progressive action that we need to mitigate climate change.

Because scientists agree that we must stop burning virtually all fossil fuels by mid-century to tackle climate change, Environment Maryland is committed to moving our state to 100% renewable energy as quickly as possible. With renewable energy prices falling and new energy-saving technologies coming on line every day, Maryland should work to obtain 100 percent of our energy from clean, renewable sources.

Since 2009, Maryland has seen an increase of 35,090% in the amount of electricity from solar, and a 550% increase in wind power production.[1] A decade ago, Maryland wasn't even on the map for solar production and now we are the 15th most productive state in terms of solar energy. The progress we've made in the last decade on renewable energy and technologies like battery storage and electric cars should give Marylanders the confidence that we can take clean energy to the next level.

[1] "Renewables on the Rise," Environment Maryland Research and Policy Center, Frontier Group. 2019. https://environmentmaryland.org/feature/ame/renewables-rise

However, instead of investing in truly renewable energy, this plan relies on expensive, antiquated and dangerous sources. Nuclear power plants are incredibly costly and they typically take a decade to construct. Since 2007, plans to build 30 new reactors have been announced across the U.S. All but two have been suspended, cancelled, or abandoned. It also relies on gas as a source of renewable energy, even though we know that gas is a huge emitter of greenhouse gases: the extraction, transport and distribution of “natural” gas make it nowhere near a truly renewable energy source.

We have the opportunity this session to create a better future. A future with clean air and a livable climate. A future with efficient public transit, solar power, wind turbines, and electric vehicles. We vote for an unfavorable report because we believe that this bill will not lead us to that future.

Thank you.

MAREC_UNF_SB265
Uploaded by: Burcat, Bruce
Position: UNF

Date: February 11, 2020

Testimony of Bruce Burcat, Executive Director
Mid-Atlantic Renewable Energy Coalition
Before the Senate Finance Committee

Senate Bill 265
Position: OPPOSE

I am Bruce Burcat the Executive Director of the Mid-Atlantic Renewable Energy Coalition (MAREC). I appreciate the opportunity to provide our comments to the Senate Finance Committee in opposition to Senate Bill 265.

MAREC is an organization representing many of the leading utility-scale wind and solar developers, including offshore wind developers, wind turbine manufacturers and public interest organizations that support the development of renewable energy in the region.

We first want to commend this Committee for its leadership in its role in helping pass the landmark Clean Energy Jobs Act (CEJA) last year, which has put Maryland at the forefront of states battling climate change and encouraging investment in renewable energy. One of the main problems with Senate Bill 265, the Clean and Renewable Energy Standard (CARES) Act, is that it would essentially amount to a major step backwards in encouraging the development of renewable energy.

SB 265 does two things that would turn the State's efforts back. First it removes the cap on hydroelectric power projects and consequently would allow out-of-state hydro certificates to flood the market in Maryland. Currently, Maryland caps projects in PJM counting towards the renewable portfolio standard to 30 MW projects. Renewable Portfolio Standards are designed to

encourage new renewable energy development. However, hydroelectric plants for the most part have been around for many years. By removing the cap, SB 265 would actually allow thousands of megawatts of out-of-state hydroelectric generation to count towards the RPS and would immediately counteract gains in new renewable generation created by the passage of the Clean Energy Jobs Act you just enacted.

Secondly, the CARES Act would explicitly allow nuclear generation produced in Maryland to count as an offset to the compliance requirements for clean and renewable energy in that bill. Again, like hydro, nuclear generation is an existing generation source and does not provide additional carbon emission reductions.

The hydro and nuclear generation provisions of CARES would set the State back from the gains it made by passing CEJA just last year. The bill would amount to a major setback to the State's efforts to combat climate change and encouraging the development of new renewable energy resources.

We respectfully request that the Committee vote to reject SB 265.

Ministers Conference of Balt_J L Cater _UNF_SB0265

Uploaded by: Carter, Bishop Dr. J.L.

Position: UNF

TO: The Honorable Delores G. Kelley, Chair
Members, Senate Finance Committee
The Honorable Larry Hogan Administration

FROM: Bishop Dr. J.L. Carter, Senior Pastor of the Ark Church, President of the Ministers Conference of Baltimore and Vicinity

DATE: February 11, 2020

RE: Wheelabrator's Commitment to Cleaner, Safer Baltimore Communities

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Good morning to the committee. Thank you for letting me submit comments regarding Wheelabrator's commitment to the Ark Church congregation and surrounding Oliver community, as well as the Ministers Conference of Baltimore and Vicinity.

In 2018, Wheelabrator Baltimore created the We Can Bmore campaign to reduce waste, promote recycling and clean up our streets from litter and debris. Soon after, the Ministers Conference of Baltimore and Vicinity worked with Wheelabrator's We Can Bmore campaign to create the Green Ambassador teams, a two-year commitment to hiring local workers from our congregation and community to clean litter off the streets surrounding the Ark Church in Oliver, Union Baptist Memorial in Upton, Liberty Grace Church in Ashburton and Bethany Baptist in Brooklyn.

Our dedicated workforce of four community members at each location show up to work two days every week to pick up trash off the streets. We know that cleaner streets are safer streets. And Wheelabrator's commitment allows us to join with our neighbors to reduce litter, increase recycling and ensure our communities reflect the sense of pride we take in them.

The Green Ambassador teams are not only helping beautify our neighborhoods by picking up trash. We are also work together with Wheelabrator to educate our neighbors about what can and can't be recycled. And provide residents with free recycling bins donated by Wheelabrator, so that everyone can do their part to help minimize waste and support the environment.

Prior to Wheelabrator's support through the We Can Bmore program, our community had a small group of volunteers that would gather to clean the block surrounding our church on Sunday's before worship. But with the weekly commitment from Wheelabrator, we reach many city blocks and can barely find trash on our streets. With the weekly commitment, our Green Ambassadors are able to speak with community members about reducing waste, and helping to clean the areas around their home, so that the movement grows beyond the Churches. The Green Ambassador teams are managed by two local landscaping and hauling companies that employ entry-level and returning citizens to break into the workforce. Just this week, one of our Green Ambassadors was offered a full-time, entry-level position at Wheelabrator where he will make a good wage, have opportunity for training and growth and receive benefits on day one. This is life-changing for a member of our communities who are starved for good-paying jobs and opportunity.

In addition to the Green Ambassador teams, Wheelabrator's We Can Bmore brought Wheelabrator employees, volunteers, dumpsters and trucks to clear dumped or bulk trash from alleys to the Oliver community where we paired with seven other churches in the area. On one fall day, we cleaned more than 18,000 gallons of trash throughout the Oliver and Johnston Square communities. We gathered after the cleanup for prayer and fellowship where members of the community felt like with the Company's support, they could see the path for cleaner, safer streets and vowed to take care of their own stoops and sidewalks. Our Green Ambassador movement continues to grow.

Since the Ministers Conference and Wheelabrator's We Can Bmore formed our partnership, we've seen a world of difference in both the citizens and community. The greatest joy from our efforts has been seeing our neighbors' excitement and willingness to participate. Having the dedicated support of Wheelabrator to locally hire and manage a team that keeps our streets clean, engage neighbors to pitch in and build community on a

larger level is priceless. Please support companies, like Wheelabrator, that support Baltimore communities and our residents.

Thank you,

Bishop Dr. J.L. Carter
Senior Pastor, Ark Church
President, Ministers Conference of Baltimore and Vicinity
1263 East North Avenue
Baltimore, Maryland 21202
Phone: 410-539-1591

City College of New York_Marco Castaldi_UNF_SB0265
Uploaded by: Castaldi, PhD, Marco
Position: UNF

The City College of New York

Marco J. Castaldi, Ph.D.
Professor
Department of Chemical Engineering
Director, Earth Engineering Center|CCNY
Director, Earth System Science & Environmental Engineering

Tel: 212-650-6679
Fax: 212-650-6660
E-mail: mcastaldi@ccny.cuny.edu

Testimony of Professor Marco J. Castaldi, Ph.D.[1]
Director, Earth Engineering Center, City College of New York
Director, Earth System Science & Environmental Eng., City College of New York
February 11, 2020

OPPOSE – Senate Bill 265 – Clean and Renewable Energy Standard (CARES)

I am writing to provide testimony and support to allow Waste-to-Energy to remain eligible as a Tier 1 renewable source in Maryland. Specifically this is in response to Senate Bill 265.

Maryland is producing energy from Waste-to-Energy (WTE) with lower carbon emissions compared to coal fired power plants. The WTE facilities in Maryland State have also decreased their CO_2 intensity by 45% from 2009 to 2014. In fact, nation-wide use of the WTE technology can become one of the big contributors to America's carbon dioxide reductions, accounting for as much as 325 million tons of CO_2 or 6.3% of the total U.S. emissions in 2016. Importantly, the EPA concluded WTE produces electricity with less environmental impact than almost any other source (Horinko and Holmstead, 2003). Furthermore EPA and a 2013 report by the Department of Energy's National Renewable Energy Laboratory (NREL) conclude that WTE is the best for GHG emissions reductions compared to other power generating systems including landfill gas to energy (Funk et al. 2013). Even the California Air Resources Board (CARB) concluded that the MSW disposed of in the three California WTE facilities results in net negative GHG emissions, ranging between -0.16 and -0.45 MT CO_{2e} per ton of waste disposed. Figure 1 provides the individual savings for each WTE facility that was operating in California in 2014.

WTE facilities have been demonstrated to reduce CO_2 emissions. It has been proven through scientific carbon-14 methods (ASTM D6866 protocol) that typical MSW WTE stack emissions, that routinely meet the Maximum Achievable Control Technology (MACT) standards, contains up to 65% biogenic CO_2, i.e. renewable bio-carbon. This scientifically proves that nearly 2/3 of the CO_2 emissions from a WTE facility are from renewable sources. If the GHG savings from recycling 50 pounds of metal from every ton of MSW processed in a WTE facility are included it is evident that every ton of MSW processed in a WTE facility avoids a ton of CO_2 equivalent emissions(Brunner and Rechberger, 2004, 2015). When compared to the energy recovered using methane from landfills, it must be recognized that ½ of the carbon from the biomass fraction is released as CO_2 without any energy recovery. This same consideration must be given to fuel cells as well. Finally regarding sustainable waste management, a consensus was reached on a number of items but one stands

[1] I am a Professor of Chemical Engineering and the Director of the Earth System Science & Environmental Programs at The City College of City University of New York. I have been appointed as a Fulbright Global Fellow for two years for the research involved in transforming waste materials, such as municipal solid waste to energy and am a Fellow of the American Institute for Chemical Engineers and American Society of Mechanical Engineers. I have also been appointed by The National Academy of Engineering Frontiers of Engineering Education for the 2012-2013 academic year based on the work related to waste to energy. I have authored two books related to waste conversion technologies and over 90 peer reviewed journal articles related to waste prevention and reduction, waste to energy and utilization of waste materials for energy or materials production. It is through these experiences that I offer my comments respectfully.

out. It was "*On an overall LCA basis, WTE is environmentally preferable to landfilling*." Europe has long recognized the greenhouse gas mitigation achieved by WTE as well as many other respected organizations such as the IPCC, the Clean Development Mechanism under Kyoto Protocol and U.S. EPA. This is because WTE facilities have been demonstrated to reduce CO_2 emissions.

Table 5: ARB Staff Preliminary Estimates of Net GHG Emissions from California MSW Thermal Facilities*

(MTCO2e/Short Ton Waste)

Facility	Waste (TPD)	Non-biogenic MT CO2E Emissions	Energy Credit MT CO2E[1]	Metal Recycled (Tons)	Metal Recycling Credit MT CO2E[2]	Avoided Landfill Methane Emissions MTCO2e[3]	Net MT CO2E per Ton Waste
Covanta Stanislaus	800	79,590	-49,740	5,690	-10,240	-70,080 to -154,760	-0.17 to -0.46
Commerce Refuse to Energy	360	53,760	-26,000	920	-1,660	-31,540 to -69,640	-0.04 to -0.33
Long Beach SERRF	1380	115,790	-81,390	6,500	-11,700	-120,890 to -266,960	-0.19 to -0.48
Total	2,540	249,150	-153,740	13,110	-23,600	-222,500 to -491,360	-0.16 to -0.45

1 Uses 2009-2010 average CA grid emission factor of 668 lb. CO2e per MWh, and assumes facilities produce 85% of rated power capacity per Table 1.
2 Uses a metal recycling credit of 1.8 MT CO2e per short ton of ferrous metal.
3 Estimated avoided landfill methane emission 0.24 to 0.53 MTCO2e/MT

Figure 1. *CARB's analysis showing specific WTE facilities' ability to reduce GHG emissions*((CARB), 2013)

Importantly a recent UNEP report "District Energy in Cities: Unlocking the Potential of Energy Efficiency and Renewable Energy" states that Paris currently meets 50% of its heating needs using three WTE plants that results in avoidance of 800,000 tons of CO_2 emissions each year. These savings arise from electricity produced from the WTEs that offset electricity production from facilities that rely on fossil fuels.

WTE facilities also recover metals that are recycled. WTE plants recover nearly 700,000 tons of ferrous metal for recycling. That avoids CO_2 emissions and saves energy compared to the mining of virgin materials for manufacturing new metals. One under-appreciated aspect of the residual ash produced by WTE is the large amount of concentrated metals that can be recovered and put back into the material cycle. These metals range from common iron, aluminum and copper yet are in large amounts. For example in one MSW combustion facility there is approximately 6300 tons of aluminum, 3400 tons of iron and 440 tons of copper. Multiply this by the 76 plants currently operating in the US and it is obvious there is a significant driver to incorporate this into the recycling industry. Furthermore, the ash contains a significant amount of rare and critical materials such as silver (0.98 tons/year), rubidium (1.5 tons/yr), yttrium (1.4 tons/yr), neodymium (1.3 tons/yr), and gallium (0.40 tons/yr).

Therefore, it is clear that WTE makes a positive contribution toward GHG reduction (gaseous emissions and associated material recovery) and should be encouraged. It is shameful that the US has lagged so far behind Europe, and now China, in deploying WTE facilities to manage its waste. It is obvious that WTE should maintain its Tier 1 status for renewable energy and should be placed above other GHG friendly power generating technologies because it also manages the vast amounts of waste that citizens of the U.S. create every day.

Respectfully Submitted,

/mjc

Marco J Castaldi

140th Street and Convent Avenue Steinman Hall 307 New York, NY 10031

The City University of New York

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FWA_UNF_SB265
Uploaded by: Eckel, Rianna
Position: UNF

FOOD & WATER ACTION
Fight like you live here.

3121 St. Paul Street
Suite 28
Baltimore, MD 21218
T +410.394.7650
foodandwateraction.org

SB265 – Clean and Renewable Energy Standard (CARES)
Senate Finance Committee Hearing, February 11th, 2020

Unfavorable

On behalf of Food & Water Action and our 43,000 members in Maryland, I urge an unfavorable report on SB265, the Clean and Renewable Energy Standard (CARES) Act. Despite its name, CARES would increase the state's reliance on polluting, dangerous energy sources such as nuclear energy and fracked gas. Instead, Maryland must prioritize moving to truly clean, renewable energy for the health of our communities and climate.

If passed, CARES would allow new nuclear reactors, including small modular reactors, to qualify for Clean Energy Resource Credits and would also use the energy output from existing nuclear reactors to decrease the goals of the Clean and Renewable Energy Standard. These provisions would offset the development of real clean, renewable energy.

Experts have shown new nuclear reactors now cost three to four times more than onshore wind and utility-scale solar, and planning and building these reactors takes at least ten years. On top of the exorbitant costs and long construction times, over the last fifty years, more than half of all reactors planned in the US were cancelled. Small modular reactors, hailed as a cheaper and faster way to get nuclear power on line, are not available now and are many years away from approval and implementation.

Today, Calvert Cliffs produces 25 percent of the energy consumed in Maryland. The Peach Bottom reactor just over the Maryland line in Pennsylvania produces even more. Combined, the two produce over 60 percent of the energy Maryland consumes. Factoring their output would do nothing short of destroying our renewable energy goals.

Aside from the problematic economic risks, nuclear energy also produces radioactive waste that is extremely difficult to dispose of. Subsidizing and incentivizing nuclear power would be propping up an uneconomic, dangerous industry. This money would be far better spent on investments in wind, solar, and energy efficiency.

In the CARES legislation, fracked gas is also hailed as clean energy. Maryland banned fracking for a reason - fracking is never clean, even if accompanied by carbon capture and sequestration. It devastates frontline communities and pollutes our air, water, and climate. Methane leaks are also highly prevalent from extraction and transportation of fracked gas, fueling climate chaos.

While including the removal of incineration and black liquor from the list of qualifying energy sources is a good, long-overdue policy, we encourage the committee to pass standalone legislation that would remove these sources, SB560/HB438 and SB168/HB98.

Scientists say that we have 11 years to drastically reduce our emissions and move to truly clean, renewable energy. The provisions suggested in the CARES legislation would dramatically

undermine Maryland's climate leadership and would greenwash dirty, polluting energy. We can do better. Let's put our energy and investments towards the grid of the future.

We recommend an unfavorable report.

Rianna Eckel
Senior Maryland Organizer
Food & Water Action
reckel@fwwatch.org
410-394-7652

At What Cost: Why Maryland Can't Afford More Subsidies for Nuclear Power

When we subsidize the nuclear industry, we are left with aging facilities and nuclear waste we have no way to dispose of. When we invest in new renewable energy, we are building the energy of our future.

Nuclear power has relied on government subsidies for 60 years. Without billions of dollars in direct and indirect subsidies, and taxpayers on the hook to cover liability in case of an accident, the nuclear industry would not exist.

When we restructured Maryland's electricity markets twenty years ago, energy generators accepted the risks of competition and have earned substantial profits. As the Calvert Cliffs reactors near retirement, we must responsibly prepare for the inevitable shut down of our existing plants.

Nuclear Power: Costly & Wasteful

Subsidizing nuclear power is counterproductive to our energy goals.

Nuclear power already benefits from a large number of government subsidies. A 2011 report showed that subsidies for nuclear power have often cost taxpayers and consumers more than the value of the electricity that reactors generate. [1]

Every dollar we spend propping up aging reactors is a dollar we can't spend on the inevitable transition away from nuclear power to a clean, safe, and affordable energy economy. Energy efficiency, wind, and solar are all cheaper than continuing to invest in nuclear, and much faster to get online.

A National Trend of New Subsidies

Recently, Exelon has begun collecting new subsidies in several states:

In New York, Exelon is receiving over $540 million per year in subsidies that could cost ratepayers $7.6 billion by 2029--making nuclear power far more expensive than acquiring electricity from wind and solar.

In Illinois, Exelon blocked renewable energy programs until it got $2.5 billion for three reactors in 2016. Now, Exelon is demanding subsidies for eight more reactors.

In New Jersey, Exelon and PSEG are now receiving $300 million per year in subsidies for three already-profitable reactors.

CHESAPEAKE SAFE ENERGY COALITION

[1] Koplow, Doug. "Nuclear Power: Still Not Viable Without Subsidies. Union of Concerned Scientists." February 2011. https://www.ucsusa.org/nuclear-power/cost-nuclear-power/nuclear-power-subsidies-report

Rianna Eckel: reckel@fwwatch.org Emily Scarr: emily@marylandpirg.org Tim Judson: timj@nirs.org

New Reactors: Bad Bets & False Promises

Building nuclear reactors is too expensive, too slow, and too risky to be a viable climate solution.

Too Expensive: New reactors now cost 3-4 times more than onshore wind and utility-scale solar. Over the last ten years, the cost of nuclear has increased by 25%. The costs of wind and solar have decreased by 70% and 89%, respectively.

Too Slow: Planning and building a new nuclear power plant takes at least 10 years. And multi-year delays are common. In the US, completion of Vogtle 3&4 is now slated to take at least 15 years. Completion of the Flamanville and Olkiluoto reactors in Europe is also delayed to 15 years or more.

Too Risky: Building reactors has a high risk of failure. Over the last fifty years, more than half of all reactors planned in the US were cancelled. That failure rate has worsened. Since 2007, plans to build 30 new reactors were announced. All but two have been suspended, cancelled, or abandoned construction.

New Designs, Same Problems: New reactor designs are unlikely to reverse these trends. Small Modular Reactors (SMRs) would require mass-scale, factory production to achieve lower costs. No private parties have lined up to order large numbers. That means that high costs and reliance on government are likely to continue with SMRs, and may get even worse

Other proposed designs ("advanced" reactors) are considered even more speculative, based on decades-old concepts that have not proved to be commercially feasible.

CHESAPEAKE SAFE ENERGY COALITION

New Subsidies for Old Reactors: Maryland Deserves a Better Plan

Calvert Cliffs is an aging nuclear power plant, which will eventually need to be shut down. Subsidies would only delay closure--investing in wind, solar, and efficiency, instead, is far more cost-effective.

Old Technology: Currently operating reactors in the US are among the oldest in the world. The average age is 39 years old—and half of reactors are over 40. The reactors at Calvert Cliffs are among the oldest: 44 and 42 years, respectively.

Subsidies Unjustifiable: Subsidizing old reactors has proven expensive. Based on the record in other states, Maryland can expect nuclear subsidies to cost about $1.5 billion by 2030, in addition to the cost of electricity from Calvert Cliffs. Acquiring wind and utility-scale solar would be a surer, economical way to reduce emissions and protect Marylanders' pocketbooks.

Lax Regulation: "Relicensing" of aging reactors is lightly regulated in the US. Reactors receive 20-year license extensions, with no physical inspections or safety tests. By comparison, every ten years, France requires months of physical inspections and safety tests. Under pressure from the industry, the Nuclear Regulatory Commission is proposing to weaken safety inspections and enforcement.

Climate Risks: Reactors were not sited with climate disruption in mind. Yet, relicensing does not require addressing the dire conditions that are emerging, even for coastal sites like Calvert Cliffs.

Water Impacts: Calvert Cliffs withdraws 3 billion gallons from the Chesapeake Bay every day to cool the reactors, heating the water and disrupting the ecology of the Bay.

Nuclear Waste: Calvert Cliffs stores over 1,500 metric tons of high-level radioactive waste. Continued operation adds 30 more tons every year, containing enough plutonium for 50 nuclear warheads, if extracted from the spent fuel. The waste is essentially hazardous forever, posing a variety of safety and ecological risks.

Rianna Eckel: reckel@fwwatch.org Emily Scarr: emily@marylandpirg.org Tim Judson: timj@nirs.org

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Position: UNF

Bill No: **SB 265 — Clean and Renewable Energy Standard (CARES)**

Date: **2/11/2020**

Position: **Oppose**

The Apartment and Office Building Association of Metropolitan Washington (AOBA) represents members that own or manage more than 23 million square feet of commercial office space and 133,000 apartment rental units in Montgomery and Prince George's counties.

Senate Bill 265 replaces the Renewable Portfolio Standards (RPS) with a new Clean and Renewable Energy Standard (CARES). The new standards that are proposed would have two important impacts on buildings operated by AOBA members. First, the bill significantly increases the number of RECs that must be purchased to be in compliance. Second, the bill seeks to remove certain long existing eligible sources of Renewable Energy Credits (RECs) that are currently used for Tier 1 RPS compliance in Maryland.

As drafted, AOBA cannot support this bill. The current RPS was adopted in last year's Clean Energy Jobs Act to set a path towards a goal of 100% renewable energy supply by 2040. AOBA members acted accordingly to ensure compliance with the existing standards. AOBA supports this goal based on the timeline that was established last year. Our members will be unjustly burdened if such a steep increase is implemented this year.

Grandfathering Provision Is Necessary

SB 265 does not contain a "grandfathering" clause which would protect existing competitive energy supply contracts that AOBA members have entered with third party competitive suppliers with the understanding that their properties would be in compliance with the existing RPS standard. As a result, AOBA members would be forced to either renegotiate or prematurely terminate their existing, multi-year, competitive energy supply contracts or bear an unexpected increase in charges to a fixed price contract under a typical "change in law or regulation" provision contained in the majority of energy supply contracts. Thus, these new RPS standards will cause substantial unbudgeted increases in energy supply costs for early termination of existing contracts, as well as procurement of additional RECs in a market that will be provided little time to adjust to these requirements. This will drive market prices for RECs noticeably upward. These additional RPS requirements were not known when AOBA members' existing

contracts were entered, and absent a grandfathering clause, our members contractual rights will be impaired.

Further, the costs of existing competitive energy supply contracts would be magnified by: (1) requirements that would increase the number of RECs an electricity user must purchase to be in compliance with the new CARE Standard; (2) the strain the new requirements will place on the existing supply and demand balance for renewable energy sources. Should this legislation move forward, AOBA urges the inclusion of a grandfathering provision to permit any contract entered into before the legislation is passed to be exempted from this increase through the contractually established term of each contract. Previous renewable energy legislation has provided for such grandfathering. The grandfathering provisions included in the past legislation have stated, "***That a presently existing obligation or contract right may not be impaired in any way by this Act***." AOBA submits that comparable grandfathering provisions are necessary and appropriate for SB 265.

Increased RECs

SB 265 proposes that in 2021 the Renewable Energy Standard will be increased by 25%. The Renewable Energy percentage in 2021 increases from 30.8% to 55.8% and will increase annually until the standard reaches 100% in 2040. The increase in SB 265 impacts the former Tier 1 renewable sources, now called Clean Energy Resources and Renewable Energy Sources, illustrated in the chart below.

	Existing RPS	Less Solar Carve Out	Less OREC Carve Out	Tier 1 RPS		SB 265	Less Solar Carve Out	Less OREC Carve Out	Tier 1 RPS
2021	30.8%	-7.5%	-2.50%	20.80%		**55.8%**	**-7.5%**	**-2.50%**	**45.80%**
2022	33.1%	-8.5%	-2.50%	22.10%		**58.1%**	**-8.5%**	**-2.50%**	**48.10%**
2023	35.4%	-9.5%	-2.50%	23.40%		**60.4%**	**-9.5%**	**-2.50%**	**50.40%**

Eliminating Tier 1 Sources

The RPS was established in Maryland as a mandate to increase the amount of clean energy used to serve customers in the State. As part of the current RPS, each supplier (including Standard Offer Suppliers) must be in compliance with RPS on an annual basis. Suppliers must file annual reports with the Maryland Public Service Commission that detail the total number of megawatt hours (mWh) that they supplied to their customers and, based on the RPS standard for that year, the number of RECs that were purchased to serve their energy requirements. The RPS includes three types of renewables: Solar, Off-Shore Renewable Wind (ORECs) and Tier 1 renewable sources (wind, landfill to energy, geothermal, small hydroelectric, black liquor, municipal solid waste and wood and waste solids).

SB 265 proposes to eliminate certain resources that were included in Tier 1 in the Clean Energy Jobs Act. Previously, waste-to energy, refuse-derived and black liquor fuels were eligible Tier 1 resources from which competitive suppliers could purchase RECs for compliance with RPS. In 2018, these Tier 1 resources represented roughly one third of the RECs that were retired by suppliers for compliance with

RPS.[1] The elimination of these resources could create a supply imbalance and artificially drive up the price for qualifying RECs . Furthermore, SB 265 does not address the potential penalties that would be imposed if there are not enough RECs to meet demand. If the market cannot meet the new mandated requirements, suppliers would be forced to pay the Alternative Compliance Penalty (ACP) of $30 per REC and energy costs to Maryland consumers would rise even further.

The example below shows the impact on an office building in Pepco MD service territory. This assumes that the additional RECs needed would be priced at the Alternate Compliance Payment price (ACP) of $30 per REC. The proposed legislation doubles the compliance cost annually for our members.

Exisiting RPS									
	Annual Usage in mWh	Existing RPS	Less Solar Carve Out	Less OREC Carve Out	Tier 1 RPS	RECs Needed	ACP Price per REC	RPS Tier 1 Cost	
2021	1,598	30.8%	-7.5%	-2.50%	20.80%	332	$ 30.00	$ 9,975	
2022	1,598	33.1%	-8.5%	-2.50%	22.10%	353	$ 30.00	$ 10,598	
2023	1,598	35.4%	-9.5%	-2.50%	23.40%	374	$ 30.00	$ 11,221	
	4,795							$ 31,794	
SB 265									
	Annual Usage in mWh	SB 265	Less Solar Carve Out	Less OREC Carve Out	Tier 1 RPS	RECs Needed	ACP Price per REC	RPS Tier 1 Cost	
2021	1,598	55.8%	-7.5%	-2.50%	45.80%	732	$ 30.00	$ 21,963	
2022	1,598	58.1%	-8.5%	-2.50%	47.10%	753	$ 30.00	$ 22,587	
2023	1,598	60.4%	-9.5%	-2.50%	48.40%	774	$ 30.00	$ 23,210	
	4,795							$ 67,760	
								$ 35,966	Increase cost

For the reasons stated above, AOBA urges an unfavorable report on SB 265.

For more information, please contact Frann Francis, Senior Vice President and General Counsel, at ffrancis@aoba-metro.org.

[1] Maryland Public Service Commission Renewable Energy Standard Report with Date for Calendar Year 2018

AWEA_UNF_SB265
Uploaded by: Gohn, Andrew
Position: UNF

Testimony of Andrew Gohn, Eastern Region Director of State Affairs
American Wind Energy Association
OPPOSE – Senate Bill 265
Before the Maryland Senate Finance Committee
February 11, 2020

Chair Kelley, Vice Chair Feldman and Members of the Committee,

My name is Andrew Gohn and I am the Eastern Region State Affairs Director of the American Wind Energy Association, or AWEA. Thank you for the opportunity to testify today in opposition to Senate Bill 265 due the negative effects the legislation would have on wind energy development.

The American Wind Energy Association (AWEA) is the national trade association for the U.S. wind industry – the country's fastest growing energy industry. With thousands of wind industry members and wind policy advocates, AWEA promotes wind energy as a clean source of electricity for American consumers. As the premier organization representing the interests of America's wind energy industry, AWEA counts hundreds of organizations in its membership program. Our members are wind power project developers and parts manufacturers; utilities and researchers – organizations at the forefront of the wind energy industry.

AWEA recognizes the leadership this committee has shown in advancing renewable energy. We also are grateful to the Hogan administration for their work towards the state's clean energy goals. However, the bill as written would have serious adverse impact on the development of new renewable resources, including wind energy.

Per the fiscal note, "this Administration bill adds 'clean energy' to the Renewable Energy Portfolio Standard (RPS), removes some currently eligible combustion sources, and replaces them with large hydroelectric." Counting existing large hydroelectric plants toward the state's renewables commitment, without a commensurate and concurrent increase in those goals, would effectively be a significant step back for the state and would result in deployment of less new renewable energy than current law. While there is an increase in the requirement, it is not nearly sufficient to offset the sudden diversion of renewable funding into legacy. The standard in this bill would therefore represent a major step backwards in Maryland's commitment to renewable energy.

Maryland's RPS has been carefully developed by the General Assembly for many years to create a market for the incentivization of new renewable energy. It may be possible to transform that into a broader market that values legacy renewables like hydropower as well as other non-emitting resources. But to do so requires carefully balancing the value in the existing RPS

renewables market to development of new resources, with the cost of maintaining existing resources. The standards in this bill do not represent that balance.

While maintaining existing zero-carbon generation is consistent with the state's climate goals, the General Assembly has wisely provided for separate tiers within the RPS to accommodate the distinct policy goals of both maintaining those legacy assets and driving investment in new renewable projects. Any restructuring of the RPS should keep the state's commitments to driving new clean energy deployment.

Thank you for the opportunity to testify before you this afternoon. AWEA looks forward to providing any resources or assistance this Committee may seek in evaluating opportunities to drive economic development, protect Maryland citizens' health and environment, and advance a sustainable and prosperous clean energy future for the state.

Andrew Gohn, Eastern Region Director of State Affairs
American Wind Energy Association
agohn@awea.org

CCAN Action Fund_UNF_SB265
Uploaded by: Hershkowitz, Steven
Position: UNF

Testimony in Opposition to Senate Bill 265
Clean and Renewable Energy Standard (CARES)
Senate Finance Committee | February 11, 2020

Steven Hershkowitz, CCAN Action Fund Maryland Director

The Chesapeake Climate Action Network (CCAN) Action Fund strongly opposes Senate Bill 265, legislation that masquerades as a path to 100% clean electricity by 2040, but in reality would make Maryland ratepayers subsidize dirty electricity and make it harder for renewables like wind and solar to expand. Governor Hogan's CARES energy plan is nothing short of false advertising.

CCAN Action Fund and our grassroots network throughout Maryland is dedicated to achieving a net zero greenhouse gas emission economy by 2045, as is recommended by the United Nations Intergovernmental Panel on Climate Change (IPCC). To create this future, we must invest in frontline and historically disadvantaged communities, protect workers, create good-paying union jobs, and result in greater wealth and income equality.

Not only does our electricity sector make up about 30% of the state's climate pollution, but it is the key to reducing emissions in the other two large sources of greenhouse gases: transportation and buildings. Climate scientists have championed the concept of "electrify everything" as a way to eliminate the use of fossil fuels to power our cars and heat our buildings. But "electrify everything" is dependent on a zero emissions electricity grid.

The General Assembly took a huge step forward when it passed the Clean Energy Jobs Act last year, requiring 50% clean electricity by 2030. The legislation included a study, due back to the General Assembly in 2023, to examine how the state could reach 100% clean electricity by 2040. According to the National Council of State Legislatures, California, Colorado, Hawaii, Maine, Nevada, New Mexico, New York, Washington State, Washington, D.C., and Puerto Rico have passed 100% clean electricity requirements.

CARES would not just halt the General Assembly's progress in joining these other states. It would prevent us from ever getting there. When you look beyond the Governor's press release headline, his legislation subsidizes large hydroelectricity, combined heat and power (CHP), new nuclear, and fracked gas and biomass with carbon capture and storage (CCS) technology.

In a briefing before the House Transportation and Environment Subcommittee on January 16, Maryland Environment Secretary Ben Grumbles, a member of the Hogan Administration, indicated that both CCS technology and new nuclear modular reactors would not be reliable before 2030 and possibly 2040. It is premature, to say the least, to put ratepayer-funded subsidies in place for technology that the Hogan Administration admits is currently unreliable.

There is great skepticism within the climate science community about the CCS technology that the fossil fuel industry claims can capture emissions and store them underground. According to Stanford Civil and Environmental Engineering Professor Mark Jacobson, “The technology reduces just about 10.8 percent carbon equivalent emissions over a 20-year time frame and about 20 percent over a 100-year time frame. At the same time, it increases air pollution and land degradation compared with no carbon capture by up to 50 percent.” It is hard to see how carbon capture is anything other than cigarette filters for fossil fuels -- a public relations ploy to continue profiting from dire externalities.

That leaves existing combined heat and power and large hydroelectricity, which would immediately be eligible for subsidies under CARES. According to the U.S. Department of Energy, there are 46 CHP facilities in Maryland: 85% run on fracked gas, 11% run on biomass gas, and 4% run on coal. All of them are climate polluters and none of them can be objectively considered clean. It is also unclear if the hydroelectricity boosted by CARES is clean. A 2019 study from the Environmental Defense Fund found that emissions vary depending on vegetation in the hydro facility reservoirs, where in many cases both methane and carbon dioxide can form and be released. The state should assess whether the 3,200 megawatts of hydroelectricity made available for subsidies in this bill, most of which are out-of-state, are generated at facilities that create greenhouse gas pollution.

CCAN Action Fund does support two important provisions in CARES: the removal of black liquor and trash incineration from the RPS. The legislature has known for quite some time that neither electricity generator is clean nor renewable. While we welcome the governor’s support for eliminating these pollution subsidies, we urge the Committee to move stand alone bills enacting these changes: SB168 sponsored by Chair Kelley and SB560 sponsored by Sen. Michael Hough.

When the General Assembly passed the Clean Energy Jobs Act last year, you included $15 million in funding for job training and to support small, minority, women, and veteran-owned businesses in the clean energy industry. This was an initial down payment on an equitable and just transition to a clean energy future, especially for impacted workers, neighborhoods that rely on fossil fuel jobs, and frontline and historically under-supported communities. CARES does nothing to build on these first steps to create a fairer energy economy.

CCAN Action Fund urges the Committee to ignore the distraction that is SB265.

CONTACT
Steven Hershkowitz, Maryland Director
steven@chesapeakeclimate.org or (310) 941-7886

NIRS_UNF_SB265
Uploaded by: Judson, Timothy
Position: UNF

Nuclear Information and Resource Service
6930 Carroll Ave., Suite 340 • Takoma Park, MD 20912
(301) 270-NIRS (6477) • Fax: (301) 270-4291
www.nirs.org • nirs@nirs.org • @nirsnet

SB265: Clean and Renewable Energy Standard (CARES)
Finance Committee Hearing
February 11th, 2020

OPPOSED

Nuclear Information and Resource Service (NIRS) is based in Takoma Park, Maryland. Since 1978, we have served as a national center for organizations and individuals concerned about nuclear power, sustainable energy, radioactive waste, and the environmental and public health effects of radiation. We provide policy expertise and informational resources and we monitor policy developments on the national and state levels. Our mission is to advance a rapid, equitable, and socially just transition to a nuclear-free, carbon-free sustainable energy supply; to advocate for responsible and environmentally just solutions to radioactive and toxic waste; and to assure the greatest possible protections from the health and environmental effects of radiation.

Maryland has the opportunity to achieve a safe, sustainable, healthy, affordable energy future, and build a robust and dynamic clean energy economy before the youngest Marylanders graduate high school. We can provide thousands of good jobs to families, making sure that our children grow up breathing clean air and drinking clean water, that their parents never have to choose between paying the rent or keeping the heat on, and that their homes and communities are as safe and secure as possible from extreme weather, sea-level rise, and the environmental pressures of the changing climate. We can do all this by making the right choices – and adopting the right policies – now.

But we will not be able accomplish any of that with SB265. This legislation is a collection of fundamentally flawed policies, which would only result in continued reliance on dirty energy sources and prevent Maryland from meeting our climate, energy, and economic goals. You will hear from many others today, detailing these concerns. I am going to focus on two, in particular: the promotion of new nuclear reactors, and the provision to include a "credit" for aging nuclear reactors within the Clean and Renewable Energy Standard targets.

SB265's inclusion of a "credit" against the CARES targets for existing nuclear power plants is especially problematic. The bill replaces the existing Tier 1 renewable portfolio standard and its annual targets with a CARES target, but increased by 25 percent from 2021 forward. However, Section 7-704(f) allows for a deduction in this annual CARES target equal to the average amount of electricity produced by "nuclear generation assets connected to the distribution system in the state." This provision would be toxic to Maryland's renewable energy and climate goals:

- **SB265 places a perpetual cap on renewable energy in Maryland.** The purpose of the RPS is to develop new, environmentally sustainable energy sources. Simply "crediting" currently operating reactors does nothing to reduce emissions in Maryland, but building a cap on new energy sources into the CARES targets would only create obstacles to developing the real climate solutions we need.
- **SB265 opens the door to expensive and counterproductive subsidies for old nuclear power plants.** The bill does not include any provisions for how Maryland would meet the CARES targets if Exelon were to decide that a nuclear power plant were not profitable enough to continue operating. This would leave the state in a position to subsidize the

nuclear plant, or else fall short of the CARES targets. Exelon has exploited such concerns in other states to extract massive ratepayer subsidies. Such subsidies for nuclear reactors in other states have proven to be extremely costly, diverting billions of consumer dollars that could be spent on cost-effective climate solutions, like energy efficiency, solar, and wind.

SB265's nuclear deduction could also eliminate Tier 1 entirely for several years, and damage the entire renewable energy industry for over a decade. The provision to restrict eligibility to nuclear power plants connected to the distribution in Maryland applies not only to the Calvert Cliffs Nuclear Power Plant on Chesapeake Bay. It would also include Exelon's Peach Bottom Nuclear Power Plant just north of the border in Pennsylvania. Peach Bottom is connected to Maryland's distribution system by a transmission line directly from its switchyard across the state line to BGE's Conastone Substation in Harford County.

If this provision were adopted, the nuclear deduction would eliminate Tier 1 and all renewable energy (or CARES) credits for at least three years, through 2023. Peach Bottom is a much larger power plant than Calvert Cliffs, generating about 50 percent more electricity. While Calvert Cliffs typically generates about 25 percent of the amount of electricity consumed in Maryland, the two plants together generate over 60 percent. The CARES targets do not reach that level until 2024. That means all Tier 1 RECs, even those currently benefitting existing solar, wind, and other resources, would be eliminated in 2021. It is not clear how many of these existing businesses would survive a sudden cancellation of Tier 1 credits, which are a significant revenue source.

Also, Tier 1 credits would not become available to support new solar energy projects until at least 2026, because existing Tier 1 resources would likely consume them. Existing law reserves up to 6 percent of Tier 1 credits for solar in 2020. So as soon as the REC target exceeds the nuclear deduction, existing solar will likely consume those credits until the CARES target exceeds 66% in 2026. This would likely put local solar installers out of business, and drive much of the rest of the solar industry out-of-state until the middle of the decade. Thereafter, the solar carveout will drive all renewable energy development into just that one sector, until 2030, when solar would reach 14.5 percent of the electricity supply. This not only means that no other renewables would be developed, sell their electricity, or potentially even operate in Maryland during this time. If that were the case fossil fuel generation and electricity sector emissions would likely continue, unabated, and make it difficult, if not impossible, to meet greenhouse gas reduction goals in 2030.

Furthermore, SB265's inclusion of the Conowingo Dam in Tier 1 would likely prevent further renewable energy development until at least 2032. Conowingo generated about 4.6 percent of Maryland electricity in 2018, so no Tier 1 credits would be available for any further development of renewables until the CARES target surpasses 80 percent in 2033. The currently proposed offshore wind projects would be deferred until the mid-2030s, guaranteeing that Maryland will have missed the boat on one of the most promising new energy industries on the east coast.

Similarly, the inclusion of new nuclear reactors in SB265 is counterproductive and misinformed. Constructing new reactors has consistently proven to be costly and wasteful, for decades. Over half of all nuclear reactors proposed in the United States in the last fifty years were cancelled, despite extremely generous subsidies and incentives. In fact, the industry's track record has worsened with time. Since 2007, thirty new reactors were proposed, with generous loans, tax credits, financing, and cost-sharing, as well as a streamlined licensing process. All but two have been canceled.

Before construction even began on any of these proposed reactors, original cost projections were proven to be unrealistic, evidenced by billions of dollars in increases before projects even broke ground. Only four reactors actually began construction: two each in South Carolina and Georgia, using identical designs by Westinghouse, designer of more than half the reactors in the world. By 2017, costs of both projects had ballooned to $25 billion each, and they were more than 5 years behind schedule. South Carolina utilities pulled the plug on Summer 2 and 3, after spending $9 billion and increasing consumers' bills by 20%. Georgia utilities have continued with Vogtle 3 and 4, the costs of which have increased to approximately $28 billion. If the project is completed on schedule, it will have taken 15 years to plan and build. In both cases, utilities would have reduced greenhouse gas emissions far more, far faster, and far more cost-effectively if they had invested in wind, solar, and energy efficiency a decade ago.

The Power Plant Research Program's recent report on nuclear power contains a number of significant errors in its representations and assessment of new reactor designs. While there is much independent research which shows that the feasibility and cost of new reactor designs is unfavorable, PPRP does not seem to have availed itself of it. Nevertheless, the report does note that the designs currently being developed are likely to be even more expensive than those currently under construction, and that they are not likely to be available until after 2030. SB265 pins our hopes on choosing technologies that simply will not meet Maryland's needs.

Maryland does not need nuclear power to reduce greenhouse gas emissions. The costs and performance of renewables have improved dramatically over the last decade, and are on track to continue doing so for the foreseeable future. That is the path we should choose.

We recommend an unfavorable report on SB265.

Timothy L. Judson
Executive Director
Nuclear Information and Resource Service
timj@nirs.org
301-270-6477

NWRA_Pam Kasemeyer_UNF_SB0265
Uploaded by: Kasemeyer, Pam
Position: UNF

wasterecycling.org

Maryland-Delaware Solid Waste Association
a chapter of the
National Waste & Recycling Association℠
Collect. Recycle. Innovate.

TO: The Honorable Delores G. Kelley, Chair
Members, Senate Finance Committee
The Honorable Larry Hogan Administration

FROM: Pamela Metz Kasemeyer
J. Steven Wise
Danna L. Kauffman
Richard A. Tabuteau

DATE: February 11, 2020

RE: **OPPOSE UNLESS AMENDED** – Senate Bill 265 – *Clean and Renewable Energy Standard (CARES)*

The Maryland Delaware Solid Waste Association (MDSWA), a chapter of the National Waste and Recycling Association, is a trade association representing the private solid waste industry in the State of Maryland. Its membership includes hauling and collection companies, processing and recycling facilities, transfer stations, and disposal facilities. MDSWA and its members **oppose** Senate Bill 265 unless amended to retain waste-to-energy as a Tier 1 source in Maryland's Renewable Energy Portfolio Standard (RPS).

Waste-to-energy is not only a renewable source of energy, it is regarded by the U.S. Environmental Protection Agency as a reliable and responsible method of waste disposal, and is subject to stringent state and federal air, water, and solid waste regulations. As the Association representing the entire private solid waste industry, we are deeply concerned about how this bill will affect the waste-to-energy facilities in the State of Maryland and the jurisdictions that rely on them for management of their solid waste. For example, Wheelabrator operates a waste-to-energy facility servicing the City of Baltimore, Baltimore County, and numerous commercial clients. It processes up to 2,250 tons of post-recycled waste each day resulting in 64 megawatts of clean electricity while also providing steam for downtown Baltimore's heating and cooling system.

Removing waste-to-energy would be a step backward toward increasing the availability of renewable energy in Maryland and would negatively impact the jurisdictions for which waste-to-energy is a critical component of their solid waste management infrastructure. Absent an amendment to preserve waste-to-energy as a Tier 1 renewable energy source, an unfavorable report is requested.

For more information call:
Pamela Metz Kasemeyer
J. Steven Wise
Danna L. Kauffman
Richard A. Tabuteau
410-244-7000

Meyer_UNF_SB265
Uploaded by: Meyer, Isaac
Position: UNF

UTILITY-SCALE SOLAR ENERGY COALITION OF MARYLAND

Clean and Renewable Energy Standard (CARES)
February 11, 2020

CARES (SB 265)

Opposed

Chair Kelley and members of the Committee, the Utility-Scale Solar Energy Coalition of Maryland (USSEC) comprises solar energy developers dedicated to responsible development of solar energy generation in Maryland.

While we commend the Hogan Administration for joining in the General Assembly's ongoing effort to clean up our electricity grid, USSEC urges that you **OPPOSE** SB 265 in its current form for two reasons.

First, SB 265 actually represents a reduction in new renewables versus current law. By including hydroelectric power and in-state nuclear power in the calculation of the annual renewable mandate, SB 265 would represent a reduction in annual clean energy demand. For example, under current statute, Maryland requires ~30.8% of its power come from renewable sources in 2021. Under CARES, once existing nuclear and in-state hydroelectric power are deducted from the now higher topline renewable requirement in 2021, the comparable renewable energy required under SB 265 would be ~25% vs. ~30.8% under current law. This dynamic, which extends through the full term of the current RPS in 2030, is further exacerbated to the extent that existing out-of-state hydroelectric power qualifies under CARES currently structured. In short, SB 265 represents a reduction in clean energy vs. current law while appearing to increase clean energy requirements over the next decade.

Secondly, by linking nuclear power production to the state's existing Renewable Portfolio Standard (RPS), SB 265 would make Maryland's clean energy goals a function of the amount of nuclear power generated in any particular year, adding uncertainty and complexity to a well-functioning and high-fidelity RPS mechanism and weakening the stimulating effect Maryland's RPS construct has on the annual addition of new renewable energy sources.

While USSEC acknowledges there is debate about the environmental and climate benefits of nuclear power, we urge the Committee to oppose any policy that would allow existing nuclear generation to become intertwined with the RPS Tier 1 compliance market mechanism. And while we applaud the Hogan Administration's stated desire to bolster clean energy additions, SB 265 does the opposite vs. current law and should thus be OPPOSED.

We thank you for your consideration.

Submitted on behalf of USSEC:

Isaac Meyer, Compass Government Relations Partners

Energy Recovery Council_Ted Michaels_UNF_SB0265
Uploaded by: Michaels, Ted
Position: UNF

2200 WILSON BOULEVARD
SUITE 310
ARLINGTON, VA 22201

WWW.ENERGYRECOVERYCOUNCIL.ORG

Testimony of Ted Michaels
President, Energy Recovery Council
Before the Maryland Senate Finance Committee
February 11, 2020

Re: Senate Bill 265, the Clean and Renewable Energy Standard (CARES)

My name is Ted Michaels and I serve as President of the Energy Recovery Council (ERC). On behalf of the ERC, I strongly oppose Senate Bill 265, as they relate to removing waste-to-energy as a Tier 1 renewable energy source. The elimination of waste-to-energy as a Tier 1 renewable source ignores the many benefits of WTE and adversely affects the continued viability of WTE as a renewable energy resource and solid waste disposal solution in the State of Maryland.

ERC represents those engaged in the waste-to-energy (WTE) industry, including municipalities that rely upon this important technology for safe, effective trash disposal and the generation of clean, renewable energy. ERC members that operate facilities in Maryland are Covanta Energy and Wheelabrator Technologies Inc. Maryland's two existing waste-to-energy facilities, located in the City of Baltimore and Montgomery County, generate 123 megawatts of electricity from the disposal of more than 4,050 tons of trash per day.

WTE is Locally-Generated Renewable Power

WTE is a clean, renewable, efficient, and economical form of energy production and post-recycled waste disposal that helps the U.S divert waste from landfills while producing renewable energy to reduce our reliance on fossil fuels to generate electricity. WTE belongs in Tier 1 of the renewable portfolio standard, as it has been since 2011.

Modern WTE facilities use proven technology to take every day post-recycled waste and convert it into clean, renewable energy through controlled combustion of mixed municipal solid waste in large power boilers. The resulting heat energy produces steam, which turns a turbine-generator to produce electricity. The process of converting waste into energy is a key part of an integrated materials management plan that focuses on waste reduction, reuse, recycling, and recovery of energy. The U.S. EPA has said that WTE facilities produce electricity "with less environmental impact than almost any other source of electricity" and "communities greatly benefit from dependable, sustainable capacity of municipal WTE plants."[1] A study of WTE technologies by the Joint Institute for Strategic Energy Analysis for the U.S. Department of Energy concluded

[1] US Environmental Protection Agency. Letter from Assistant Administrators Marianne Horinko, Office of Solid Waste and Emergency Response, and Jeffery Holmstead, Office of Air and Radiation to Integrated Waste Services Association (2003).

that WTE is a "refined, clean, well-managed application for energy production."[2] WTE meets the two basic criteria for establishing what a renewable energy resource is—its fuel source (trash) is *sustainable* and *indigenous*. WTE facilities recover valuable energy from trash after efforts to "reduce, reuse, and recycle" have been implemented by households and local governments. WTE facilities generate clean renewable energy and deserve the same treatment as any other renewable energy resource under the RPS, which is the basis of our opposition to SB 265.

WTE has been recognized as renewable by the federal government for approximately forty years under a variety of statutes, regulations, and policies, including the Public Utility Regulatory Policies Act of 1978; the Biomass Research and Development Act of 2000; the Federal Energy Policy Act of 2005; Executive Order 13423 of 2007; Executive Order 13514 of 2009; the Clean Power Plan; the Pacific Northwest Power Planning and Conservation Act; and Section 45 of the Internal Revenue Code.

Many other states have also recognized WTE as renewable. Thirty-one states, the District of Columbia, and two territories have defined WTE as renewable energy in various state statutes and regulations, including renewable portfolio standards. The renewable status has enabled WTE plants to sell credits in renewable energy trading markets, as well as to the federal government through competitive bidding processes, which helps sustain WTE as a viable solid waste disposal option for Maryland municipalities. In the case of publicly owned facilities, the sale of renewable energy credits creates revenue for local governments that own WTE facilities, helping to reduce a community's cost of processing waste and promoting recycling.

WTE Generates Baseload Electricity with High Availability

WTE plants supply much needed base load renewable electricity to the nation's power grid. WTE facilities operate 365 days a year, 24 hours a day and can operate under severe conditions. For example, WTE facilities have continued to operate during hurricanes. In the aftermath of the storms, they have provided clean, safe and reliable waste disposal and energy generation. WTE facilities operate at an average of greater than 90% availability, which is higher than many forms of energy production.[3]

WTE Reduces Greenhouse Gases

EPA scientists, in a prominent peer reviewed paper, concluded WTE facilities reduce GHG emissions relative to even those landfills equipped with energy recovery systems.[4] In addition, many other governmental and nongovernmental organizations have formally recognized WTE for its role in reducing world-wide GHG emissions including the:

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[2] Joint Institute for Strategic Energy Analysis. 2013. Waste Not, Want Not: Analyzing the Economic and Environmental Viability of Waste-to-Energy (WTE) Technology for Site-Specific Optimization of Renewable Energy Options. Technical Report NREL/TP-6A50-52829.

[3] Energy Recovery Council. Waste Not, Want Not. www.wte.org/userfiles/file/Waste%20Not%20Want%20Not.pdf (last accessed 01.31.14)

[4] Kaplan, P.O., J. DeCarolis, S. Thorneloe, Is It Better to Burn or Bury Waste for Clean Electricity Generation? *Environ. Sci. Technol.* 2009, 43, 1711-1717. http://pubs.acs.org/doi/abs/10.1021/es802395e

- Intergovernmental Panel on Climate Change ("IPCC") called WTE a "key GHG mitigation technology",[5]
- World Economic Forum (WEF) which identified WTE as one of eight renewable energy sources expected to make a significant contribution to a future low carbon energy system,[6]
- European Union, [7,8]
- U.S. Conference of Mayors, which adopted a resolution in 2005 endorsing the U.S. Mayors Climate Protection Agreement, which identifies WTE as a clean, alternative energy source which can help reduce GHG emissions. As of today, 1,060 mayors have signed the agreement.
- Clean Development Mechanism of the Kyoto Protocol,[9]
- Voluntary carbon markets,[10] and
- Center for American Progress, which promotes the use of WTE as an important waste management method that can decrease greenhouse gases by reducing emissions that would otherwise occur from landfills and fossil-fuel power plants.[11]

WTE GHG reductions are quantified using a life cycle assessment (LCA) approach that includes GHG reductions from avoided methane emissions from landfills, WTE electrical generation that offsets or displaces fossil-fuel based electrical generation, and the recovery of metals for recycling. Life cycle emission analysis show that WTE facilities actually reduce the amount of greenhouse gases expressed as CO_2 equivalents (GHGs or CO_2e) in the atmosphere by approximately 1 ton for every ton of municipal solid waste (MSW) combusted.

New energy from waste capacity is eligible to generate carbon offsets based on a Clean Development Mechanism offset methodology through the Verified Carbon Standard (VCS). To date, two facilities in North America have progressed through the carbon offset generation process, successfully validating and verifying their projects in accordance with the standard. The Lee County, Florida facility began generating carbon offsets with the 2007 emissions year, and the Hillsborough County, Florida facility has verified carbon offsets beginning with the 2009

[5] WTE identified as a "key mitigation measure" in IPCC, "Climate Change 2007: Synthesis Report. Contribution of Work Groups I, II, and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change" [Core Writing Team, Pachauri, R.K and Reisinger, A. (eds.)]. IPCC, Geneva, Switzerland, 104 pp. Available at: http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm

[6] WTE identified as a key technology for a future low carbon energy system in World Economic Forum. *Green Investing: Towards a Clean Energy Infrastructure.* January 2009. Available at: http://www.weforum.org/pdf/climate/Green.pdf

[7] EU policies promoting WTE as part of an integrated waste management strategy have been an overwhelming success, reducing GHG emissions over 72 million metric tonnes per year, see European Environment Agency, *Greenhouse gas emission trends and projections in Europe 2009: Tracking progress towards Kyoto targets* *http://www.eea.europa.eu/publications/eea_report_2009_9*

[8] European Environmental Agency (2008) Better management of municipal waste will reduce greenhouse gas emissions. Available at: http://www.eea.europa.eu/publications/briefing_2008_1/EN_Briefing_01-2008.pdf

[9] Clean Development Mechanism Executive Board: "Approved baseline and monitoring methodology AM0025: Avoided emissions from organic waste through alternative waste treatment processes." Available at: http://www.cdm.unfcc.int/methodologies/DB/3STKBX3UY84WXOQWIO9W7J1B40FMD

[10] Verified Carbon Standard Project Database, http://www.vcsprojectdatabase.org/ See Project ID 290, Lee County Waste to Energy Facility 2007 Capital Expansion Project VCU, and Project ID 1036 Hillsborough County Waste to Energy (WtE) Facility 2009 Capital Expansion Unit 4.

[11] Center for American Progress (2013) *Energy from Waste Can Help Curb Greenhouse Gas Emissions* http://www.americanprogress.org/wp-content/uploads/2013/04/EnergyFromWaste-PDF1.pdf

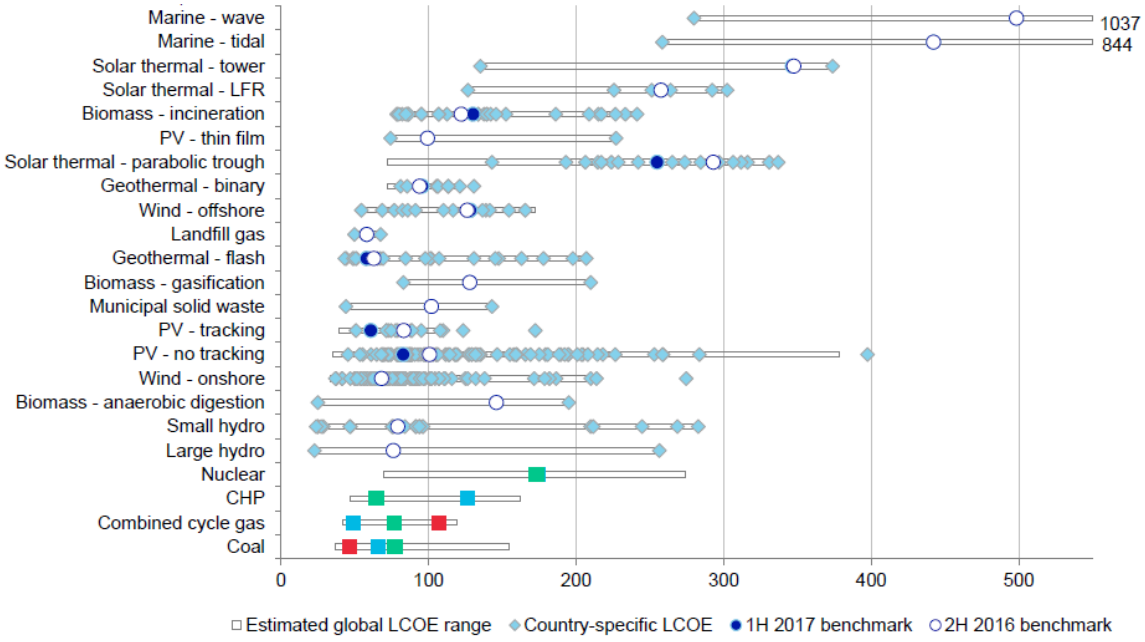
emissions year. The credits are associated with the avoidance of landfill methane and displaced grid-connected fossil fuel electricity generation.

WTE is a Cost-Competitive Source of Renewable Energy and GHG Reduction

The U.S. Department of Energy's Energy Information Administration (EIA) uses Levelized Cost of Energy (LCOE) to measure the competitiveness of a particular energy resource. EIA defines LCOE as:

> *"Levelized cost is often cited as a convenient summary measure of the overall competitiveness of different generating technologies. Levelized cost represents the present value of the total cost of building and operating a generating plant over an assumed financial life and duty cycle, converted to equal annual payments and expressed in terms of real dollars to remove the impact of inflation. Levelized cost reflects overnight capital cost, fuel cost, fixed and variable O&M cost, financing costs, and an assumed utilization rate for each plant type."*

Global levelized costs of electricity, 1H 2017 ($/MWh)



Source: Bloomberg New Energy Finance/Business Council for Sustainable Energy *Sustainable Energy in America 2018 Factbook.*

Based on EIA data, the average LCOE from a new WTE facility is approximately $85 per megawatt hour, making it cheaper than or competitive with other sources of electricity. This figure is comparable to other recently published values for WTE's levelized cost, including those in a recent peer-reviewed article by Duke University scientists ($94 / MWh)[12] and a 2018 report

[12] Chadel, MK, G Kwok, LB Jackson, LF Pratson (2012), The Potential of waste-to-energy in reducing GHG emissions, *Carbon Management* (3)2, 133-144.

coauthored by Bloomberg and the Business Council for Sustainable Energy ($48 - $130 / MWh) (see figure above).[13]

WTE Provides Green Jobs and Boosts Local Economies

The revenues, employment, and labor earnings derived from managing waste, producing energy, and recycling metals are the direct economic benefits of WTE.[14] In addition, these activities generate indirect impacts. Employees at WTE plants are technically skilled and are compensated at a relatively high average wage. As a result, WTE facilities provide stable, long-term, well-paying jobs, while simultaneously pumping dollars into local economies through the purchase of local goods and services and the payment of fees and taxes.

THE PROPOSED LEGISLATION LIMITS THE RENEWABLE MARKET AND HARMS MARYLAND CITIZENS BY:

- Arbitrarily advancing specific energy technologies above others, distorting clean energy markets;
- Removing the potential for existing and innovative renewable energy technologies to participate in the clean energy market;
- Reducing and eliminating overall support for Tier 1 renewable technologies that have created high-quality, diverse renewable energy jobs and contributed to greenhouse gas reductions in the state of Maryland;
- Curtailing diversification of renewable energy resources in Maryland's energy portfolio by favoring a few technologies that lack the reliability of WTE;
- Relying heavily on out-of-state generation to meet Maryland's RPS goals; and
- Threatening the continued operation of Maryland's existing waste-to-energy facilities, which avoid the environmental impact of landfilling in Maryland and expensive long-haul transporting of waste to other states.

For the reasons stated in this testimony, the Energy Recovery Council urges the committee to strike the provisions that remove WTE from the RPS from Senate Bill 265, otherwise we strongly oppose SB 265.

[13] Global levelized cost range, estimated from figure 18 of Bloomberg New Energy Finance, Business Council for Sustainable Energy (2018), *Sustainable Energy in America Factbook*, http://www.bcse.org/sustainableenergyfactbook.html.
[14] Berenyi, E. "Nationwide Economic Benefits of the Waste-to-Energy Sector." Governmental Advisory Associates, Inc. August, 2013.

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Position: UNF

MDV-SEIA

SB 265 Rec'd 2/13

Before the General Assembly of the State of Maryland
Senate Finance Committee
February 11, 2020

Testimony of David W. Murray
Executive Director
Maryland-DC-Delaware-Virginia Solar Energy Industries Association (MDV-SEIA)
SB 265 Clean and Renewable Energy Standard (CARES)

Unfavorable

Thank you for the opportunity to provide testimony on SB 265. My name is David Murray and I serve as Executive Director of MDV-SEIA, the local solar trade association representing over 4,500 solar installers, developers, manufacturers, and other solar workers in Maryland.

MDV-SEIA applauded Governor Hogan for letting the Clean Energy Jobs Act go into law, acknowledging the urgency of the climate crisis and need for new solar jobs in Maryland. The association was eager to review the Administration's plan for reaching 100% clean energy by 2040, yet was disappointed to read the legislation spurs fossil infrastructure, provides excessive support to existing resources, and slows our state's demand for new utility-scale wind and solar projects in the region.

First, MDV-SEIA recognizes that CARES does not impact the in-state solar carveout of 14.5% by 2030. In this manner, CARES will not impact distributed generation in the state and keeps our ambitious carveout in place through 2030. However, the legislation will have an impact on the regional deployment of solar energy, which in turn makes our own goals of building a regional solar workforce more challenging.

In-state resources meet just 60% of Maryland's electricity needs; thus, a variety of out-of-state gas and coal generators currently supply power to Maryland homes and businesses. Air and water pollution know no state boundaries, thus Maryland's Renewable Portfolio Standard (RPS) serves as a mechanism to curb our demand for fossil generation in exchange for clean, renewable power like wind in Pennsylvania or solar in Virginia.

The RPS uses Renewable Energy Credits (RECs) to track clean energy generation, and in turn spur demand for new renewable resources on the regional grid, known as PJM. The price of REC depends on supply (existence of utility-scale renewable resources) and demand (obligations through state RPS programs, corporate procurement targets, etc). REC prices are not only affected by the size of RPS programs, but the scope. Should new resources participate in the Maryland REC market, the REC price will fall, in turn lowering demand for new wind and solar resources in the region. Furthermore, by removing nuclear generation from the RPS, CARES adds significant uncertainty to the REC market, especially should Maryland's nuclear generation increase over time.

600 14th St NW #400
Washington, DC 20005
Maryland-DC-Delaware-Virginia
Solar Energy Industries Association
info@mdvseia.org
(202) 780-9563

CARES will cause REC prices to crash by providing similar incentives to resources like existing large hydroelectric facilities, nuclear and gas. MDV-SEIA questions the value of providing revenue to resources that have received decades of federal and local subsidies, and have far greater environmental impacts than wind or solar. The General Assembly made clear in the 2019 Clean Energy Jobs Act of its intent to build new wind and solar resources - not subsidize existing facilities or build new gas infrastructure.

Thank you for your consideration.

600 14th St NW #400
Washington, DC 20005

Maryland-DC-Delaware-Virginia
Solar Energy Industries Association

info@mdvseia.org
(202) 780-9563

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SB265: Clean and Renewable Energy Standard (CARES)
Finance Committee Hearing
February 11th, 2020

UNFAVORABLE

Maryland PIRG is a state based, non-partisan, citizen funded public interest advocacy organization with grassroots members across the state and a student funded, student directed chapter at the University of Maryland College Park. For forty five years we've stood up to powerful interests whenever they threaten our health and safety, our financial security, or our right to fully participate in our democratic society.

Maryland's reliance on polluting fuels puts our health and safety at risk. The growth of cleaner technologies in Maryland benefits both our environment and our economy. We thank Governor Hogan for including a phase out of dirty energy sources like incineration and black liquor from our state's RPS, but otherwise think SB265 falls short. We hope the Committee will move stand alone bills forward that clean up the RPS.

SB265 continues Maryland's reliance on dirty and dangerous energy sources, including nuclear power and gas. Economically risky, at best, investing in and relying on nuclear and gas undermines our efforts to address climate change and provide safe, affordable energy for Marylanders.

Nuclear power has relied on government subsidies for 60 years. Without billions of dollars in direct and indirect subsidies, and taxpayers on the hook to cover liability in case of an accident, the nuclear industry would not exist. In 2009 the Maryland PIRG Foundation released a report "The High Cost of Nuclear Power: Why Maryland Can't Afford a New Reactor," which still rings true. This bill doubles down on nuclear power, both by propping up our existing nuclear reactors at Calvert Cliffs and by providing subsidies for new nuclear power plants.

When we restructured Maryland's electricity markets twenty years ago, energy generators accepted the risks of competition and have earned substantial profits. As reactors across the northeast near retirement, including nearby Peach Bottom and Maryland's Calvert Cliffs, we must responsibly prepare for their inevitable shut down.

This bill includes references to building new nuclear power plants, an idea which makes no economic sense. Historically, new nuclear power plants take more than a decade to construct, cost billions of dollars, and the industry is plagued with cost-overruns and failure to finish construction on time. Since 2007, plans to build 30 new reactors have been announced across the U.S. All but two have been

suspended, cancelled, or abandoned. While one may hope the modular reactors will have a different outcome, the time and money to test, build and licence them would be better invested in alternatives like energy efficiency, wind and solar power.

This bill also supports gas, calling it a “clean energy resource.” Over its life cycle, the global warming impacts of gas are basically the same as other fossil fuels, like coal and oil. Methane leaks, in particular, from extraction, transmission, and distribution are a huge source of greenhouse gas emissions.

In addition, it will soon be cheaper to build new wind farms and solar arrays than to operate gas fired power plants, making investment in gas infrastructure a bad choice for consumers. [1]

Nuclear and gas are neither clean nor renewable sources of energy, and should have no place in our state’s plans to move towards 100% renewable energy. While an “all of the above” strategy might sound good - nuclear and gas just can’t deliver. Dollar for dollar, energy efficiency, wind, and solar are all cheaper than invest in these energy sources, and much faster to get online. .

Whether it’s old nukes, new nukes, or gas, every credit we give, or dollar we spend propping up the energy of our past is a dollar we can’t spend on the transition to a clean, safe, and affordable energy economy.

Let’s do better.

We recommend an unfavorable report.

[1] The Economics of Clean Energy Portfolios, Rocky Mountain Institute, Dyson, Engle, Farbes, 2018. https://rmi.org/insight/the-economics-of-clean-energy-portfolios/

AFPA_UNF_SB265
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Position: UNF

American Forest & Paper Association

American Forest & Paper Association (AF&PA)
Testimony in Opposition to Senate Bill 265

Clean and Renewable Energy Standard (CARES)

February 11, 2020

The American Forest & Paper Association (AF&PA) appreciates the opportunity to share concerns with Senate Bill 265. The bill would remove black liquor (liquid biomass) from the definition of "Qualifying Biomass" and would create a "Clean and Renewable Energy Standard" (CARES) with certain specified clean energy resources. Because the bill is inconsistent with the goals of the Renewable Portfolio Standard (RPS), unfairly discriminates against the bioenergy produced at paper and paper-based manufacturing facilities, and does not appropriately recognize bioenergy as "clean energy," we must respectfully ask the Committee to give SB 265 an unfavorable report.

Introduction

AF&PA serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy. AF&PA member companies make products essential for everyday life from renewable and recyclable resources and are committed to continuous improvement through the industry's sustainability initiative, *Better Practices, Better Planet, 2020* (BPBP2020). The forest products industry accounts for approximately four percent of the total U.S. manufacturing GDP, manufactures nearly $300 billion in products annually and employs approximately 950,000 men and women. The industry meets a payroll of approximately $55 billion annually and is among the top 10 manufacturing sector employers in 45 states.

AF&PA' s sustainability initiative — *Better Practices, Better Planet 2020* — comprises one of the most extensive quantifiable sets of sustainability goals for a U.S. manufacturing industry and is the latest example of our members' proactive commitment to the long-term success of our industry, our communities and our environment. We have long been responsible stewards of our planet's resources. We are proud to report that our members have already achieved the greenhouse gas reduction and workplace safety goals. Our member companies have also collectively made significant progress in each of the following goals: increasing paper recovery for recycling; improving energy efficiency; promoting sustainable forestry practices; and reducing water use.

Industry Presence in Maryland

The forest products industry in Maryland operates 44 manufacturing facilities employing more than 6,000 individuals with an annual payroll of over $321 million and produced $2.5 billion in products. The estimated annual state and local taxes paid by the Maryland forest products industry totals $31 million.

We recognize that the major industry mill in the state—the Verso Luke mill—closed in 2019, so this information does not reflect that closure. But we want to emphasize that even without that mill, the industry is an economic contributor in Maryland, producing consumer product packaging, sales displays, and corrugated packaging, among other products. Also, as discussed below, the out-of-state companies that are selling biomass Renewable Energy Credits (RECs) into Maryland still have an economic presence in the state.

Removing Liquid Biomass from the RPS Sends the Wrong Signal About Maryland's Business Climate

The closure of the Luke mill was a significant economic blow to Western Maryland. A study by the Economic Policy Institute found that for every person employed directly by the paper industry, an additional 3.25 jobs are generated in supplier industries and in local communities as the result of employees spending their wages and paying taxes. Not only was the Luke Mill a major employer for over a century, but it is a backbone of the community, even serving as the power plant and wastewater treatment facility for the region. Maryland policymakers are diligently working to find a productive use for the site and its assets.

It is unknown whether the site will be purchased by another party—whether another forest products company or a different business entirely. However, according to testimony submitted on SB 168 on February 4, the site owners are performing needed maintenance and taking other steps that would allow a mill owner to quickly return the site to productive operation. In addition, the site has various assets to offer a buyer that might be considering existing facilities around the country. To the extent a potential buyer also could realize a revenue stream from selling RECs, a potential purchase could be more attractive. Removing liquid biomass from the RPS sends the wrong signal about the state's intention to return the site to productive use.

AF&PA Members Generate Renewable Energy, Have Improved Their Energy Efficiency and Reduced Fossil Fuel Use and Greenhouse Gas (GHG) Emissions

The forest products industry produces and uses renewable energy for manufacturing operations and is a significant contributor to our country's existing base of renewable energy. On average, approximately two-thirds of the energy used at AF&PA member pulp and paper mills is generated from carbon-neutral biomass.

The industry also strives to use all types of energy as efficiently as possible. The industry is a leader in the use of combined heat and power (CHP) technology, which is extremely efficient because it uses the same fuel to produce both thermal energy used in the manufacturing process and electricity, some used on-site and some sold to the grid. In 2018, over 98 percent of electricity produced by the industry was CHP-generated. The use of CHP provides energy efficiencies in the range of 50 to 80 percent at forest products mills, far beyond non-CHP electrical stations such as utilities, which are only about 33 percent energy efficient.

Our commitments to renewable biomass energy and energy efficiency, including our extensive use of CHP, have led to a dramatic decrease in the sector's use of fossil fuel and GHG emissions. Energy purchased by member pulp and paper mills has decreased dramatically. In 2016 we achieved our *BPBP2020* purchased energy efficiency goal with an 11.6 percent improvement since 2005, surpassing our 10 percent goal. Further, in 2016 AF&PA member GHG emissions were 19.9 percent less than the 2005 baseline year, almost achieving our new 2020 goal of 20 percent reduction.

The Bill is Inconsistent with the Goals of the RPS

When it was enacted, Maryland legislators provided several goals for the RPS, including to recognize the economic, environmental, fuel diversity and security benefits of renewable energy resources, and to establish a well-functioning market for renewable electricity. The bill would work contrary to these goals: it does not recognize the benefits of numerous renewable energy resources; decreases fuel diversity; and, interferes with the functioning of the market, as it creates favored resources and upends investor expectations. Furthermore, the legislature's frequent changes to the RPS make business planning in the state more challenging.

Baseload Power is Needed

It would be counterproductive to remove reliable baseload renewable electricity from the portfolio, which is exactly what is needed to complement intermittent sources such as wind and solar. With increased intermittent deployment, saturation becomes an issue. Once wind or solar facilities reach a saturation point, no additional energy can be used by the grid--in fact those energy sources might have to be curtailed. In other words, during the day if there is more wind or solar power being produced than is needed for the system, those sources would have to be curtailed to prevent a system overload. In contrast, pulp and paper mills generate their own renewable, carbon neutral energy to displace fossil fuels, and do so using stringent environmental controls.

The Bill Discriminates Against Biomass Energy Resources, Which Provide Clean, Renewable Power with Extensive Greenhouse Gas (GHG) Reduction Benefits

The bill would remove "black liquor" from the definition of Qualifying Biomass. Over the years that the legislature has been considering changes to the RPS, concerns have

been raised as to the carbon neutrality and GHG reduction benefits of liquid biomass (also known as black liquor) in the RPS. Those concerns are unfounded.

Below here are some insights into the greenhouse gas reduction benefits of renewable biomass energy:

- A bipartisan amendment was agreed to in the 2017 Omnibus Appropriations Act passed in May 2017 that required three federal agencies to work together to create a consistent policy on biomass carbon neutrality. Former Maryland Senator Mikulski signed a letter stating that there has been no dispute about the carbon neutrality of biomass derived from residuals of forest products manufacturing and agriculture. That provision has been included in the appropriations acts for 2018, 2019 and 2020, as well.
- A study referenced in the debate found enormous greenhouse gas reduction benefits from using biomass manufacturing residuals for energy in the industry—each year avoiding the emission of approximately 181 million metric tons of CO2e. (Equivalent to removing about 35 million cars from the road.)
- The rest of the world recognizes the carbon neutrality of forest products manufacturing residuals, and competitors in Europe are rewarded with credits. The bill would set an adverse precedent for energy policy in the U.S., potentially placing U.S. mills at a competitive disadvantage.
- Most importantly, as indicated in Appendix II, specifically regarding liquid biomass (black liquor):
    - During the previous Administration under EPA Administrator Gina McCarthy, the agency found that black liquor can be *even better than carbon neutral* under certain scenarios, assigning it a negative biogenic assessment factor.
    - Dr. Timothy Searchinger, the scientist who prompted the discussion about the carbon neutrality of biomass, stated specifically that “black liquor from paper making” is an “advisable” source of biomass energy use. In addition, in a joint paper with Dr. Steve Hamburg, the Chief Scientist of the Environmental Defense Fund, both scientists stated that “biomass should receive credit to the extent its use results . . . from the use of residues or biowastes.”

The Renewable Energy Resources in the Maryland RPS Are Predominantly Out of State

The facilities selling liquid biomass RECs in the Maryland RPS have been criticized because they are predominantly out of state. However, the entire Maryland RPS is dominated by out-of-state resources. In 2018, only 19 percent of all the Tier I RECs used for compliance were from in-state—the same percentage for wind and solar Tier 1 RECs combined. Indeed, regarding wind in particular, only 2.7 percent of the Tier 1

RECs originated in Maryland, while 8.9 percent of black liquor RECs did.[1] Most wind RECs -- 54.7 percent -- originated from facilities in Illinois.

We recognize that with the closure of the Luke mill, there are no in-state liquid biomass resources selling RECs into Maryland. However, the out-of-state companies selling those RECs have a much greater connection and make much greater economic contributions to Maryland, than, for example, the wind resources from Illinois, which were the number one Tier I REC contributors in 2018. For example, WestRock has facilities in Hunt Valley and Baltimore providing over 100 jobs using base materials produced at the Covington paper mill, which sells RECs into the Maryland RPS. Additionally, Pixelle, another company selling into the Maryland RPS, employs fulltime workers in Delmar, MD with a $1 million operating budget and $9 million dollars' worth of annual timber purchases, which helps provide resources for practicing sustainable forest management throughout the value chain in the state.

Other Resources are Growing Rapidly

Wind and Solar RECs have rapidly increased their share of the Tier I RPS, while liquid biomass' share has decreased significantly. As stated in the Maryland Public Service Commission's 2018 RPS Report:

> "Total wind RECs retired for compliance have nearly tripled since 2015, and year-over-year wind REC retirements increased by approximately 43 percent. In contrast, black liquor (BLQ) REC retirements have fallen to the lowest levels since 2013, with a year-over-year decrease of about 23 percent.[2]"

If the bill's sponsors' goal is to favor wind and solar RECs over liquid biomass, it seems that the market is heading in that direction anyway. There is no need to disrupt the market and the business plans of electricity suppliers and REC providers by enacting a complete ban on liquid biomass RECs.

Biomass Energy is Clean Energy

The forest products industry is making large investments in highly efficient biomass energy that meets stringent state-of-the-art environmental standards. Biomass is burned in industrial boilers under very exacting conditions to optimize efficiency and production of energy. Boilers are operated from highly sophisticated, computerized control rooms that continuously monitor combustion conditions. EPA continuously examines air regulations to ensure they adequately protect public health and the environment.

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[1] Renewable Energy Portfolio Standard Report, With Data for Calendar Year 2018, Public Service Commission, December 2019 ("PCS RPS Report"), Figure 6 (https://www.psc.state.md.us/wp-content/uploads/CY18-RPS-Annual-Report.pdf).
[2] PCS RPS Report, page 13.

EPA recently confirmed there are no significant risks from recovery furnaces and other major parts of pulp and paper mills on the surrounding areas.[3]

The Clean Energy Standard Does Not Appropriately Recognize Bioenergy as Clean Energy

We understand that the bill sponsors' intent in establishing a new clean energy standard is to foster innovation and develop new technologies to achieve challenging GHG reduction goals. However, we have two concerns with the definition of "Clean Energy Resource." First, both "natural gas and qualifying biomass generating station[s]" with carbon capture systems are treated equally in the standard. This ignores that, as discussed above, biomass energy is carbon neutral while natural gas is a fossil fuel; both have very different GHG reduction benefits. Second, the efficiency requirements for CHP are extremely aggressive and could bar the participation in the standard of even very efficient CHP facilities. This would be counterproductive because CHP facilities are inherently efficient since they generate both heat and power from the same energy input.

Conclusion

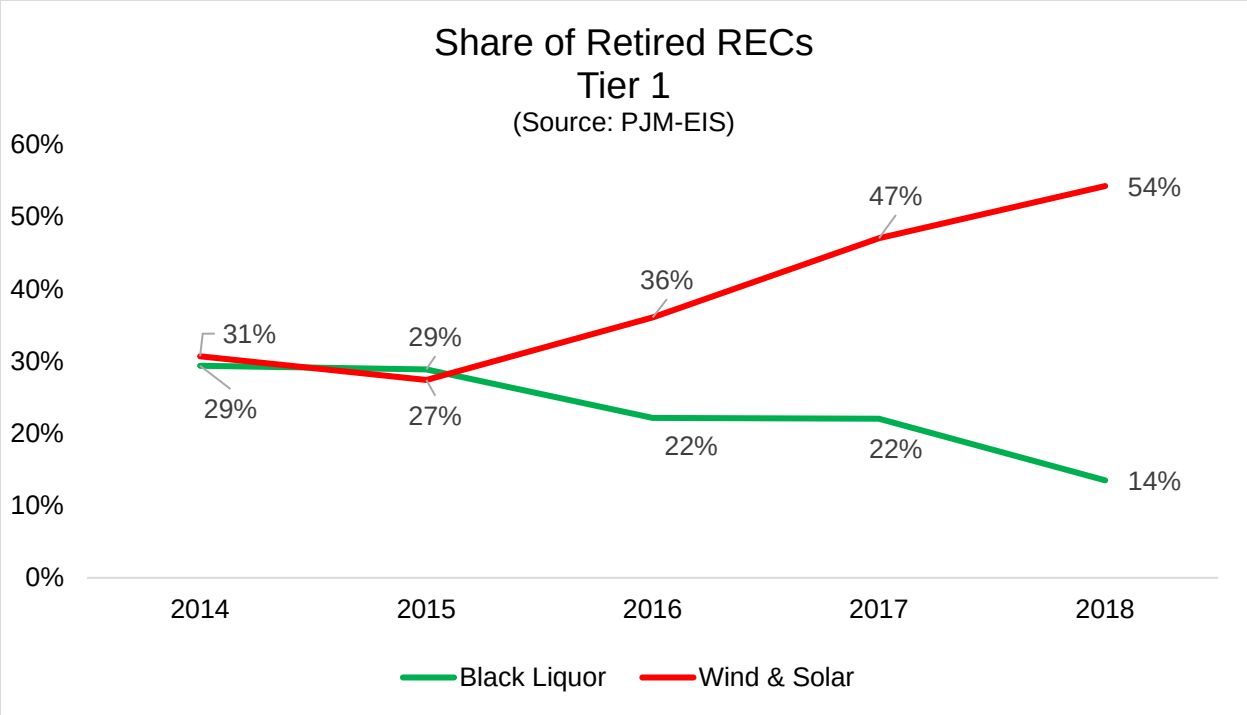
The forest product industry has played an important role in helping Maryland and the nation meet their renewable energy objectives. SB 265 could impede our ability to continue doing so. We have increased energy efficiency, displaced fossil fuels and reduced GHG emissions in a very sustainable manner. We request that the Committee give the bill an unfavorable report.

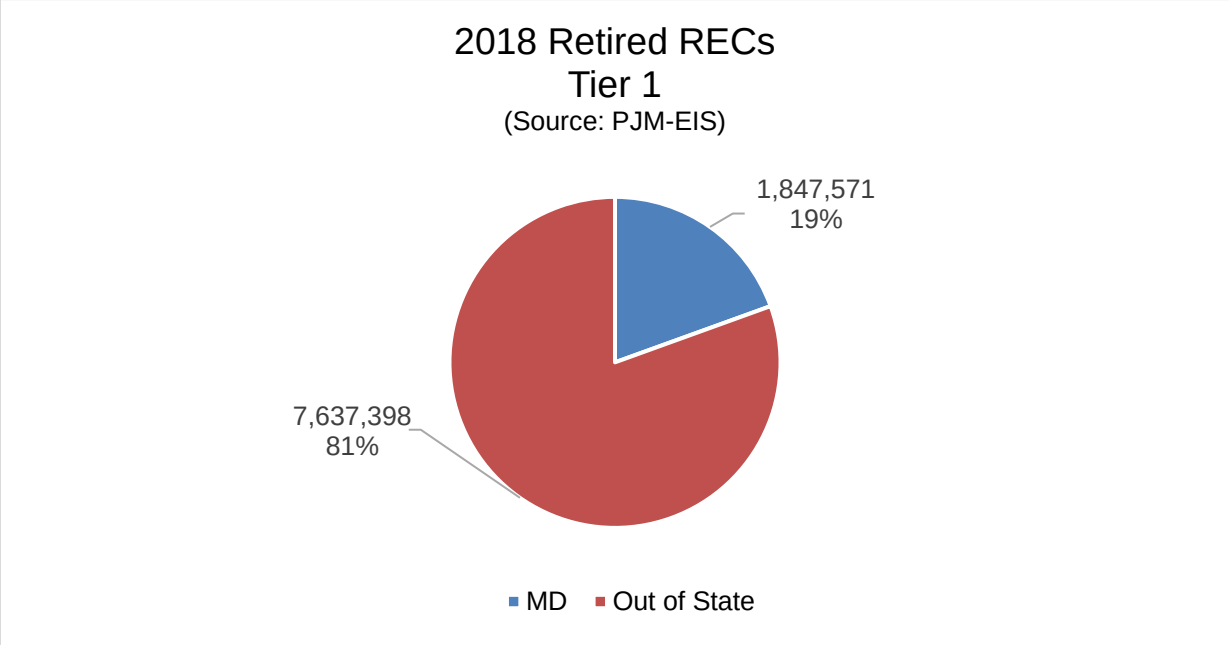
We look forward to continuing our work with the state of Maryland. Please feel free to contact Jerry Schwartz, Senior Director, Energy and Environmental Programs, AF&PA at (202) 463-2581 or jerry_schwartz@afandpa.org for further information.

Thank you.

[3] EPA conclusion of no significant risks for the major parts of pulp and paper mill operations was concluded in two phases, first in 2012 and then in 2017 as it finished its risk and technology review of the 1998 and 2001 Cluster Maximum Achievable Control Technology (MACT) rulemakings.

APPENDIX I


Share of Retired RECs
Tier 1
(Source: PJM-EIS)
60%
50%
40%
30%
20%
10%
0%
2014
2015
2016
2017
2018
31%
29%
29%
27%
36%
47%
54%
22%
22%
14%
Black Liquor
Wind & Solar


2018 Retired RECs
Tier 1
(Source: PJM-EIS)
1,847,571
19%
7,637,398
81%
MD
Out of State

APPENDIX II

There is Widespread Recognition of Forest Products Manufacturing Residuals as Carbon Neutral

- U.S. Environmental Protection Agency, Memorandum from Janet G. McCabe, Acting Assistant Administrator, Office of Air and Radiation, to Air Division Directors, Regions 1-10 (Nov. 19, 2014) ("Information considered in preparing the second draft of the Framework, including the [Science Advisory Board] peer review and stakeholder input, supports the finding that use of waste-derived feedstocks and certain forest-derived feedstocks are likely to have minimal or no net atmospheric contributions of biogenic CO2 emissions, or even reduce such impacts, when compared with an alternative fate of disposal.") (p. 2)

- U.S. Environmental Protection Agency, *Draft Framework for Assessing Biogenic CO_2 Emissions from Stationary Sources* (Nov. 19, 2014) ("The information in this appendix, including example calculations of alternative fate-related biogenic emissions, supports that a 0 or negative [biogenic] assessment factor for black liquor may be reasonable.") (Appendix D, p. D-22); (calculating negative biogenic assessment factors for black liquor and stating that "avoided emissions associated with disposal of black liquor as compared with the current management practice (burning for energy and chemical recovery in a recovery furnace) resulted in hypothetical example [biogenic assessment factors] BAFs ranging from different negative values to 0, depending on the treatment method.") (Appendix D, p. D-31)

- Dr. Timothy Searchinger and Ralph Heimlich "Avoiding Bioenergy Competition for Food Crops and Land." World Resources Institute (2015) (listing "black liquor from paper making" as "advisable" sources of biomass energy use) (p. 22 and Table 3, p. 24)

- Dr. Timothy Searchinger, Dr. Steven Hamburg, et al., "Fixing a Critical Climate Accounting Error," Science (Oct. 22, 2009) ("Instead of an assumption that all biomass offsets energy emissions, biomass should receive credit to the extent its use results . . . from the use of residues or biowastes.")
  Note: Steve Hamburg is the Chief Scientist of the Environmental Defense Fund.

- Caroline Gaudreault and Reid Miner, *Temporal Aspects in Evaluating the Greenhouse Gas Mitigation Benefits of Using Residues from Forest Products Manufacturing Facilities for Energy Production*. Journal of Industrial Ecology (Dec. 2015), at 1,004-05 ("[The ongoing use of manufacturing residues for energy in the

forest products industry has been yielding net benefits for many years. . .. [T]he use of biomass residues from forest products manufacturing, including black liquor, to produce energy in the U.S. forest products industry for 1 year avoids, over a 100-year period, 181 million t CO_2-eq/yr. The avoided disposal of the forest products manufacturing residues alone (i.e., ignoring [fossil fuels] substitution and chemical recovery benefits) results in a GHG benefit of approximately 5 million t CO_2-eq/yr.")

- Reid Miner, Robert Abt, et al., **"**Forest Carbon Accounting Considerations in U.S. Bioenergy Policy**,"** Journal of Forestry (Aug. 29, 2014) (". . . if mill residues were not used for energy, most of these materials . . . would be wastes that would be either incinerated, in which case the atmosphere would see the same biogenic CO_2 emissions as if the material had been burned for energy, or disposed in landfills . . . [in which case] the net impact of burning for energy on biogenic emissions, in terms of warming (i.e., CO2 equivalents), can actually be less than zero because of the warming potency of the methane generated in landfills.")

- U.S. Environmental Protection Agency, "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units; Final Clean Power Plan Rule," 80 Fed. Reg. 64,661, 64,885-86 (Oct. 23, 2015) ("The EPA recognizes that the use of some biomass-derived fuels can play an important role in controlling increases of CO2 levels in the atmosphere. The use of some kinds of biomass has the potential to offer a wide range of environmental benefits, including carbon benefits. . . . With regard to assessing qualified biomass proposed in state plans, the EPA generally acknowledges the CO_2 and climate policy benefits of waste-derived biogenic feedstocks and certain forest- and agriculture-derived industrial byproduct feedstocks, based on the conclusions supported by a variety of technical studies, including the revised *Framework for Assessing Biogenic Carbon Dioxide for Stationary Sources*.")

- Linda A. Joyce (U.S. Forest Service), Steven W. Running (U. of Montana), et al., Climate Change Impacts in the United States: The Third National Climate Assessment, Ch. 7: Forests, U.S. Global Change Research Program, doi:10.7930/J0Z60KZC (2014) ("Forest biomass energy could be one component of an overall bioenergy strategy to reduce emissions of carbon from fossil fuels, while also improving water quality, and maintaining lands for timber production as an alternative to other socioeconomic options.") (p. 182)

- Dr. Roger A. Sedjo, Resources for the Future, "Carbon Neutrality and Bioenergy: A Zero-Sum Game?" RFF DP 11-15 (April 2011) (noting that both sides in the carbon neutrality debate [see two letters below] recognize that "some biomass, such as dead wood and forest debris, can constructively be used for bioenergy, since it will

otherwise release carbon through natural decomposition . . . thus no net emissions result from its use as energy") (p. 3)

- Dr. Bruce Lippke, Professor Emeritus, University of Washington School of Forest Resources, et al., Letter to Congress from Forest Scientists (July 20, 2010) ("equating biogenic carbon emissions with fossil fuel emissions . . . is not consistent with good science and, if not corrected, could stop the development of new emission reducing biomass energy facilities. It also could encourage existing biomass energy facilities to convert to fossil fuels or cease producing renewable energy. This is counter to our country's renewable energy and climate mitigation goals.")

- Dr. William H. Schlesinger, Member, National Academy of Sciences, et al., Letter to Congress from Scientists (May 17, 2010) ("Bioenergy can reduce atmospheric carbon dioxide if . . . bioenergy can use some vegetative residues that would otherwise decompose and release carbon to the atmosphere rapidly.")

- Environmental Defense Fund, "Comments on the Science Behind EPA's Proposed Accounting Framework for Biogenic CO_2 Emissions From Stationary Sources" (Oct. 18, 2011) ("enterprises should be allowed . . . to demonstrate that they are using biomass sourced from materials with no or limited impacts on net emissions. . . . Those who can demonstrate they are using wastes and other low emissions feedstocks would be assigned a BAF of 0 or near 0.") (p.5)

Updated: January 2020

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Position: UNF

Asthma and Air Pollution in Baltimore City

ENVIRONMENTAL INTEGRITY PROJECT

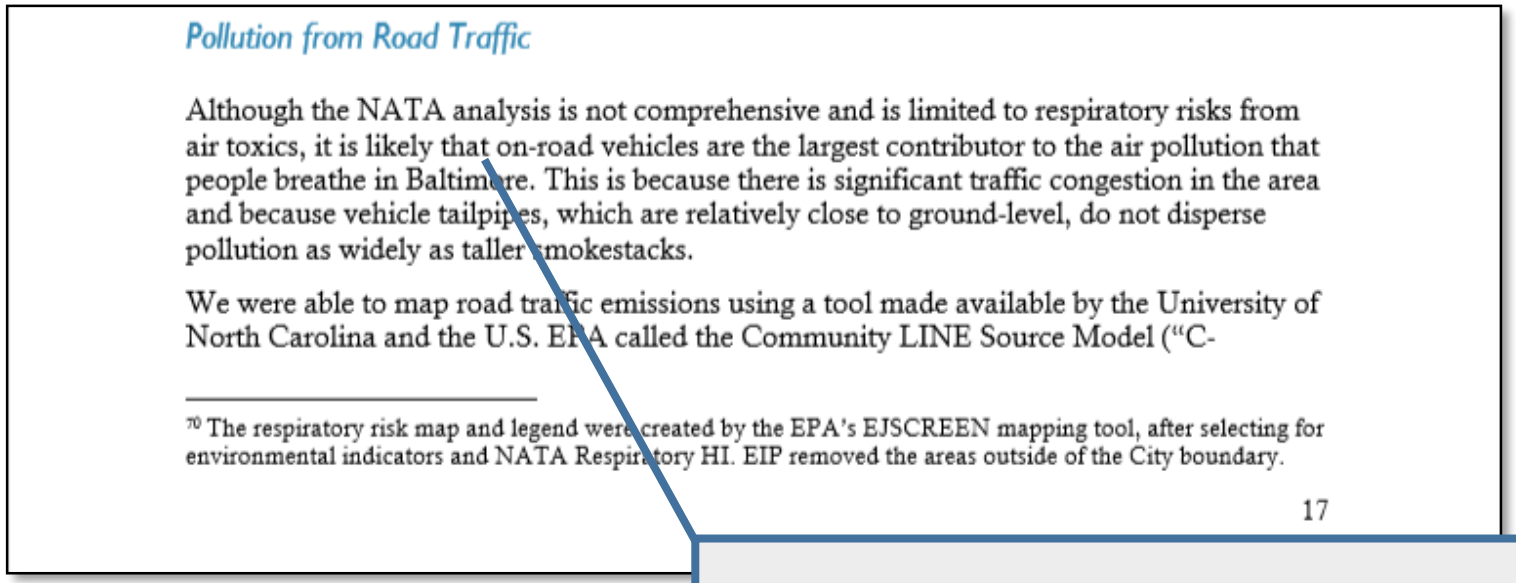
ABELL FOUNDATION

DECEMBER 2017

wtienergy.com/Baltimore

WE CAN B•MORE

Wheelabrator BALTIMORE



Pollution from Road Traffic

Although the NATA analysis is not comprehensive and is limited to respiratory risks from air toxics, it is likely that on-road vehicles are the largest contributor to the air pollution that people breathe in Baltimore. This is because there is significant traffic congestion in the area and because vehicle tailpipes, which are relatively close to ground-level, do not disperse pollution as widely as taller smokestacks.

We were able to map road traffic emissions using a tool made available by the University of North Carolina and the U.S. EPA called the Community LINE Source Model ("C-

[70] The respiratory risk map and legend were created by the EPA's EJSCREEN mapping tool, after selecting for environmental indicators and NATA Respiratory HI. EIP removed the areas outside of the City boundary.

17

…" [I]t is likely that on-road vehicles are the largest contributor to the air pollution that people breathe in Baltimore. This is because there is significant traffic congestion in the area and because vehicle tailpipes, which are relatively close to ground-level, do not disperse pollution as widely as taller smokestacks."

Source: Environmental Integrity Project. Asthma and Air Pollution in Baltimore City. December 18, 2017. https://www.environmentalintegrity.org/reports/baltimore-asthma/

Pollution from Power Plants and Other Facilities

EPA does not provide a tool that allows users to model the dispersion of emissions from power plants and other large facilities.[75] The map of respiratory risks from air toxics (Figure 6) in the "Respiratory Risk from Toxic Air Pollution" section includes pollution from these facilities, but, as previously discussed, only health risks from toxic air pollutants (not criteria pollutants) are modeled. In order to provide a rough visualization of the location of large facility sources of criteria pollutants, we mapped the zip codes in which facilities that produce these emissions are located (Figures 13-15) using data from the National Emissions Inventory, an EPA dataset[76] that is described in more detail in the Methodology and Data Caveats section of this report. This is an extremely imprecise measure of air pollution from these plants, which can disperse differently depending on factors like stack height and wind direction.

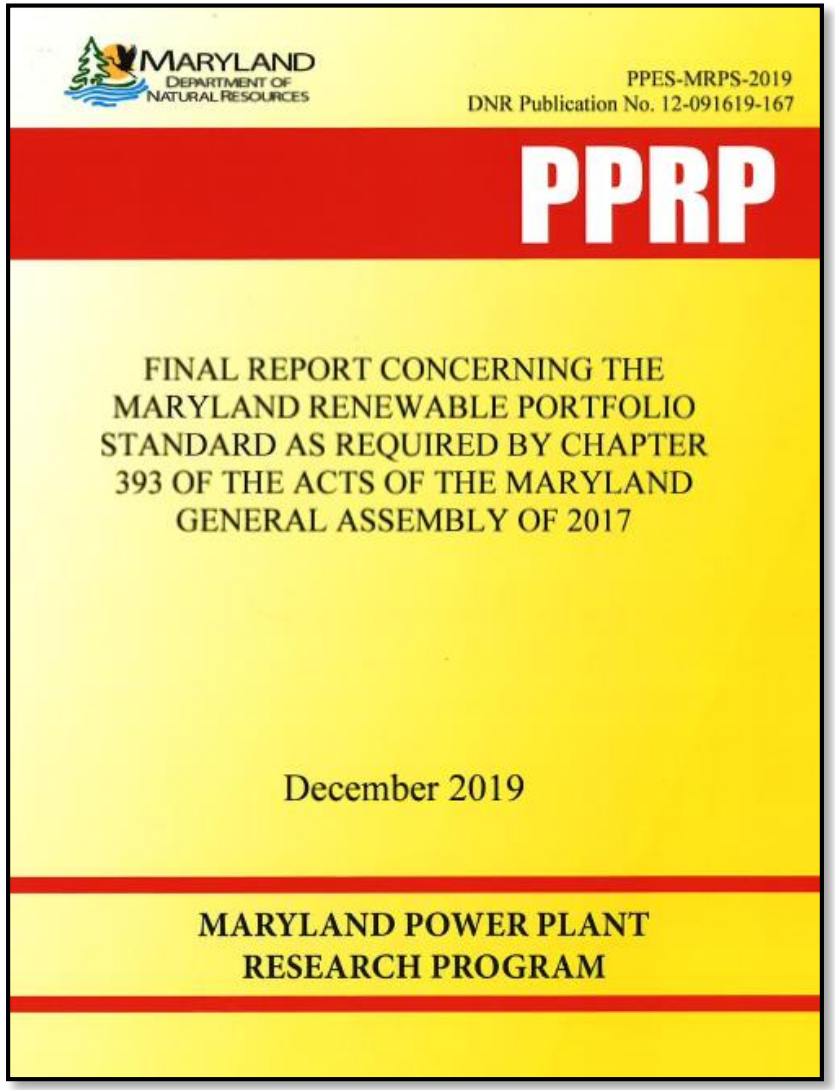
In addition, we limited this presentation to emissions from facilities located within Baltimore City's borders. There are large sources of air pollution located just outside of the city. These include the Fort Smallwood coal plant complex, which is discussed in more detail in the section of this report on trends over time and is located in Anne Arundel County portion of the 21226 zip code. We did not include emissions from sources located outside of Baltimore City in the maps below because some large sources in the area, like the Charles P. Crane coal plant in Baltimore County, are in zip codes that are not even partly in Baltimore City. It would have been too difficult to present data for these sources as part of a map of Baltimore City.

In general, there is not a significant association between city zip codes with the highest emissions of criteria pollutants from stationary facilities and the zip codes with the highest asthma rates. The zip codes with the highest emissions from facilities in 2011 were 21230 (Westport/Morrell Park), which houses the Wheelabrator/Baltimore Refuse Energy Systems Company ("BRESCO") trash incinerator, and 21226 (Curtis Bay), which includes two industrial areas that house multiple pollution sources and are served by mobile pollution sources like trucks and trains. In 2011, the 21226 zip code ranked 14th in the city out of 31 zip codes with data in terms of highest asthma hospitalization rates and had an asthma hospitalization rate of 35.66 per 10,000 people. The 21230 zip code ranked 19th in the city with an asthma hospitalization rate of 27.76 per 10,000 people. However, it should be noted that the asthma hospitalization rates in both zip codes are still much higher than the state average rate in 2011 of 17.17 per 10,000 people.

[75] While the C-PORT mapping tool allows the user to manually add point sources emissions information to baseline data for port pollution sources, we did not use it to map pollution from point sources like incinerators and power plants because the tool was primarily created to visualize pollution from within ports/terminals. We would have had to manually add very detailed stack data – including exit temperature, exit velocity, inner stack diameter at top, and height – for each point source in order to include facility emissions in the model.
[76] We used the 2011 asthma map for the comparison because the National Emissions Inventory ("NEI") dataset is from 2011. NEI is assembled every three years, and a dataset is available for 2014. However, we do not have asthma data for any year more recent than 2013.

"In general, there is not a significant association between city zip codes with the highest emissions of criteria pollutants from stationary facilities and the zip codes with the highest asthma rates."

Source: Environmental Integrity Project. Asthma and Air Pollution in Baltimore City. December 18, 2017. https://www.environmentalintegrity.org/reports/baltimore-asthma/


MARYLAND
DEPARTMENT OF
NATURAL RESOURCES
PPES-MRPS-2019
DNR Publication No. 12-091619-167
PPRP
FINAL REPORT CONCERNING THE
MARYLAND RENEWABLE PORTFOLIO
STANDARD AS REQUIRED BY CHAPTER
393 OF THE ACTS OF THE MARYLAND
GENERAL ASSEMBLY OF 2017
December 2019
MARYLAND POWER PLANT
RESEARCH PROGRAM

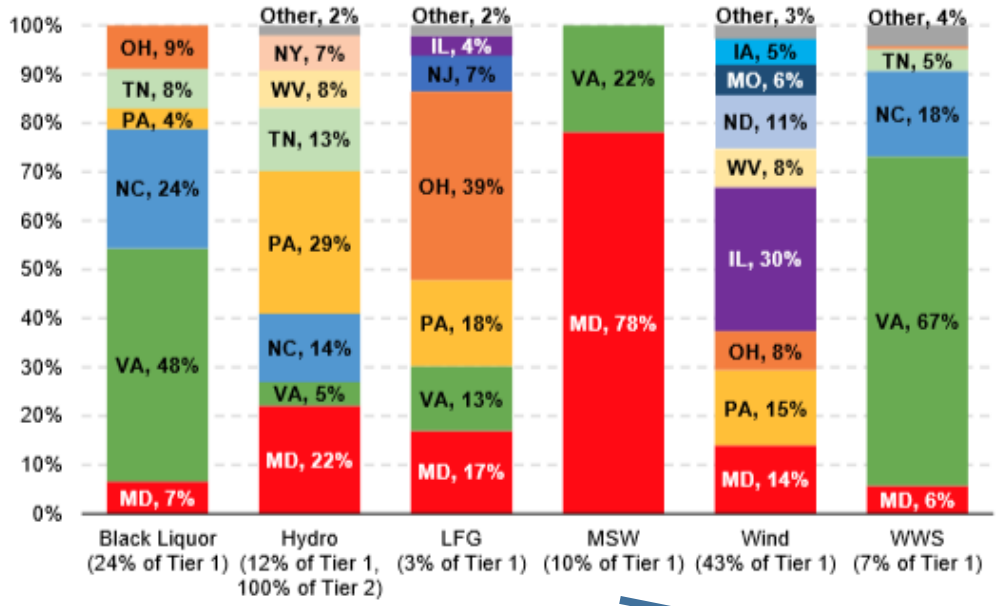


Figure ES-11. Percentage of RECs Generated in Each State Used for Compliance with the Maryland RPS, by Fuel Source (2017)

Source: Maryland PSC 2018 *Renewable Energy Portfolio Standard Report*.

Note: The percentages under each fuel category reflect each fuel type's share of Maryland RPS compliance for 2017.

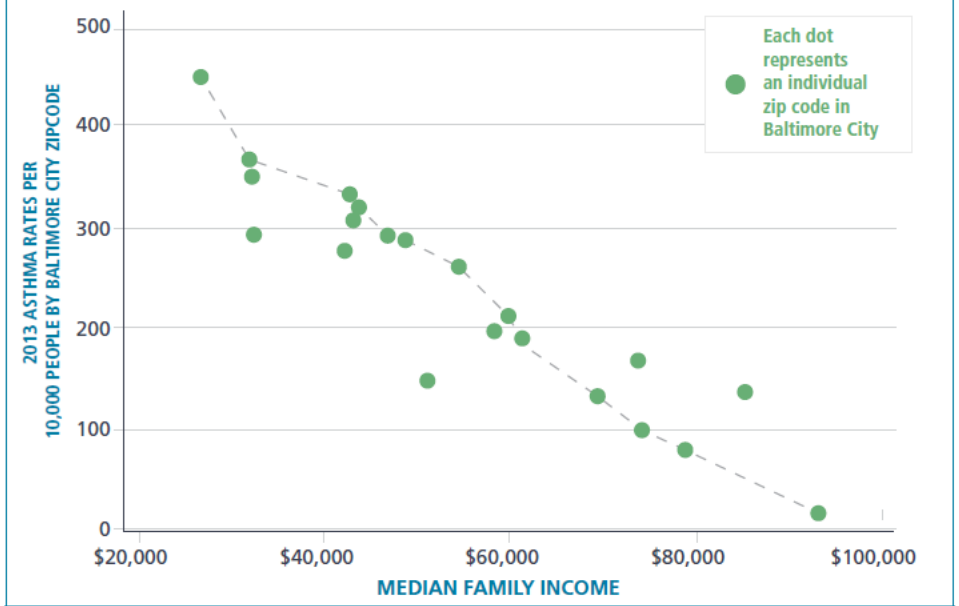
78% of MSW RECs are generated in Maryland for compliance with the Maryland RPS.

Source: Maryland Department of Natural Resources. Final Report Concerning the Maryland Renewable Portfolio Standard as Required by Chapter 393 of the Acts of the Maryland General Assembly of 2017. December 2019. https://dnr.maryland.gov/pprp/Documents/FinalRPSReportDecember2019.pdf

Wheelabrator
BALTIMORE

A strong relationship exists between Baltimore City asthma rates and social determinants of health.

Baltimore City asthma rates vs. median income



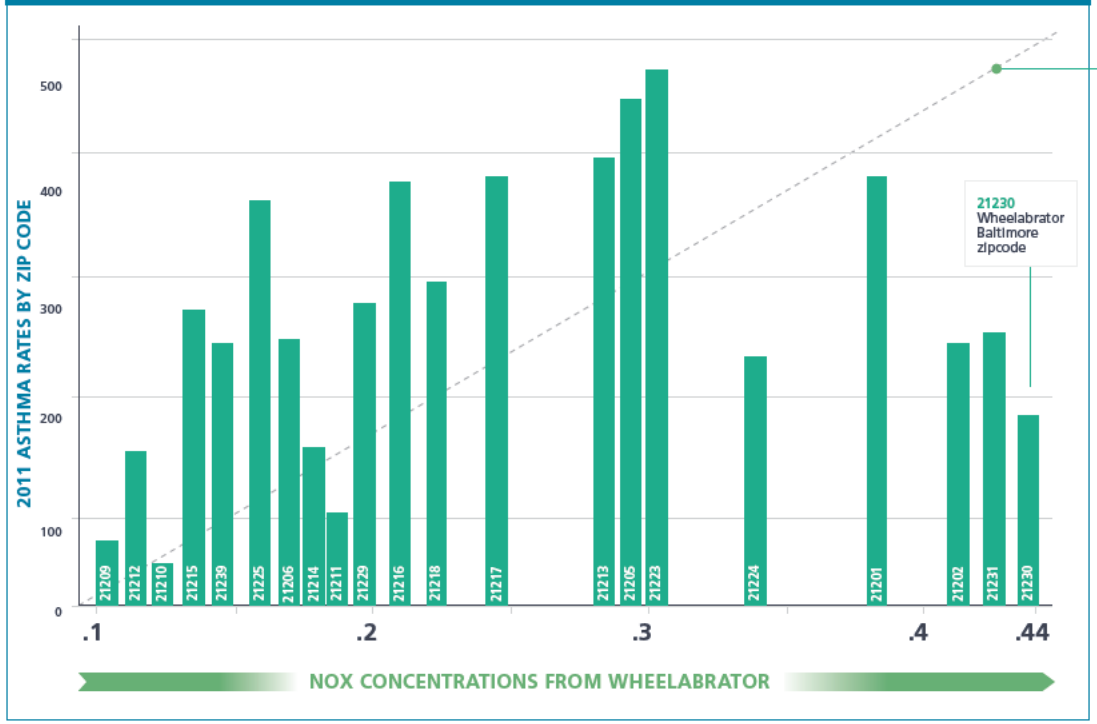
STRONG STATISTICAL RELATIONSHIP
ASTHMA RATES VS. MEDIAN INCOME

The Baltimore City Health Disparities Report Card stated that "it has been well documented that level of income directly affects overall health and mortality. "Within this report, disparities among the lowest income earners (household median income < $15,000 per year) and the highest income earners (household median income ≥ $75,000 per year) are persistent in childhood asthma (ratio 2.76:1)… If we were to consider how many premature deaths could be avoided if all Baltimore residents had equal opportunity to good health by using income as a sole determinant of mortality, 50.1% of deaths citywide could potentially be averted."

- City Health Department Office of Epidemiologic Services April 2014

As median family income increases, asthma rates decrease.

Baltimore City asthma rates vs. Nox's contribution to ambient air quality from Wheelabrator Baltimore



NO STATISTICAL RELATIONSHIP
ASTHMA RATES VS WHEELABRATOR BALTIMORE

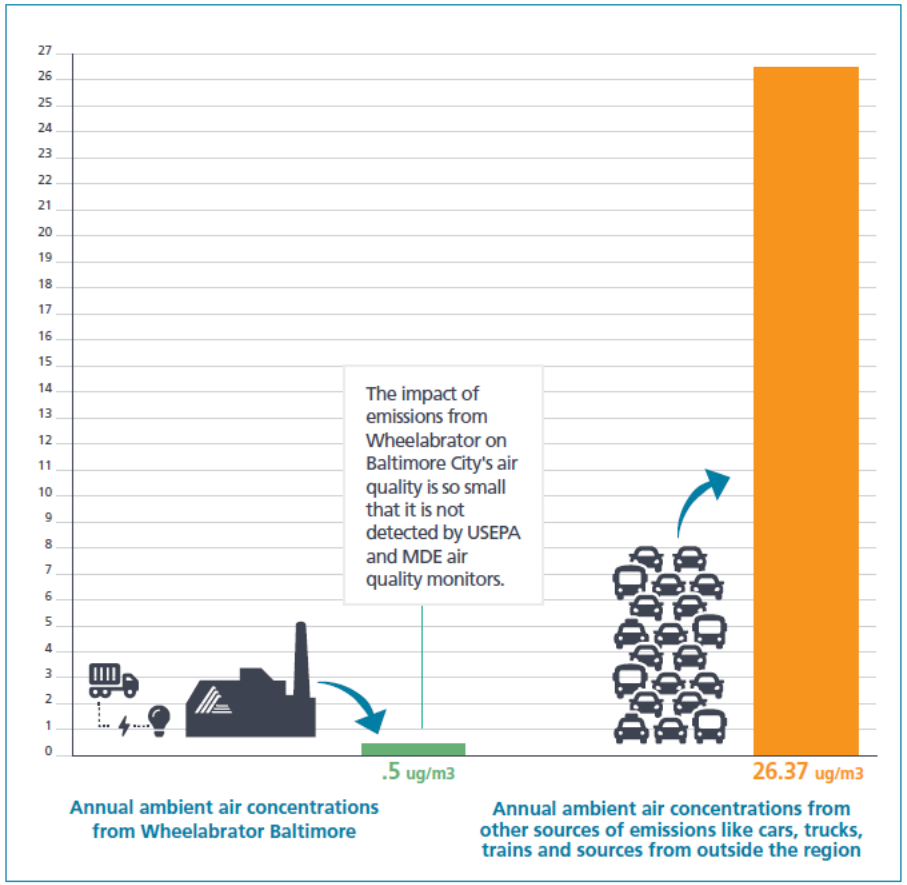
There is not a statistical relationship between NOx concentrations from Wheelabrator Baltimore and City asthma rates because asthma rates do not increase steadily by zip code with increasing NOx concentrations.

"In general, there is not a significant association between city zip codes with the highest emissions of criteria pollutants from stationary facilities and the zip codes with the highest asthma rates."

- Environmental Integrity Project (EIP). 2017. Asthma and Air Pollution in Baltimore City.

Wheelabrator
BALTIMORE

Annual average air quality impacts from Wheelabrator Baltimore are negligible compared to other sources



The important difference between emissions and air quality

When considering the impacts of facility emissions on air quality, it is important to understand that the same amount of emissions from different sources (for example, from a vehicle at ground level vs. from a stack) have very different impacts on air quality. To understand the impact of any emissions on regional air quality, it is necessary to evaluate various factors like characteristics of the emission source itself, weather patterns and more

"It is likely that on-road vehicles are the largest contributor to the air pollution that people breath in Baltimore."

– Environmental Integrity Project (EIP). 2017. Asthma and Air Pollution in Baltimore City.

Wheelabrator_Richard Tabuteau_UNF_SB0265

Uploaded by: Tabuteau, Richard

Position: UNF

Wheelabrator
BALTIMORE

TO: The Honorable Delores G. Kelley, Chair
Members, Senate Finance Committee
The Honorable Larry Hogan Administration

FROM: Richard A. Tabuteau

DATE: February 11, 2020

RE: **OPPOSE** – Senate Bill 265 – *Clean and Renewable Energy Standard (CARES)*

On behalf of Wheelabrator Technologies and Wheelabrator Baltimore (Wheelabrator), we submit this letter of **opposition** to Senate Bill 265, as it relates to removing waste-to-energy as a Tier 1 renewable energy source from the Renewable Energy Portfolio Standard (RPS). Such a change would have a significant negative impact on Wheelabrator, our customers such as the City of Baltimore and Baltimore County, and the State's ability to reach its own renewable energy goals.

Wheelabrator is an integral part of Maryland's energy, environmental, and economic infrastructure, providing sustainable waste management for the City of Baltimore and Baltimore County. Every day, we divert waste from landfills to safely convert up to 2,250 tons of post-recycled waste from area homes and businesses into 64 (gross) megawatts of clean, renewable baseload electricity – enough to power ~40,000 Maryland homes, while reducing landfilling, lowering greenhouse gases (GHG) and recycling ~12,000 tons of metals that would also otherwise be landfilled. Last year, Wheelabrator's renewable energy generation offsets the need for ~891, 000 barrels of oil, ~268, 000 tons of coal or 3,800 million cubic feet of natural gas. Energy-from-waste reduces GHG by approximately 1 ton for every ton of waste processed.

In addition, Wheelabrator generates "green steam" for downtown Baltimore's heating and cooling system operated by Veolia North America, which services 255 businesses, including the M&T Bank Stadium, home of the Baltimore Ravens. Over 50 percent of the steam delivered to these local businesses is produced by converting post-recycled household waste into energy at Wheelabrator. Together, Wheelabrator and Veolia are reducing Baltimore's total GHG by approximately 47,000 tons per year – the equivalent of removing 8,400 cars from the road. The use of renewable fuel also helps Maryland meet its current goal of generating 25 percent of its energy from Tier 1 renewable resources by 2020.

Energy-from-waste has been endorsed by the U.S. Environmental Protection Agency as the preferred method to landfilling for waste disposal. In fact, it's embraced by the European Environmental Agency, the Center for American Progress, the World Economic Forum, the Intergovernmental Panel on Climate Change, Kyoto Protocol's Clean Development Mechanism, and the United Nations Environment Programme, among many others. Thirty-one states, the District of Columbia, and two territories have defined energy-from-waste as renewable energy in various state statutes and regulations, including renewable portfolio standards. As such, Maryland would become a national outlier by removing waste-to-energy from the renewable portfolio standards.

Unamended passage of Senate Bill 265 could result in the forced closure of Wheelabrator. Such an outcome would contribute to poorer air quality in Baltimore because it would necessitate an additional **37,000 new tractor-trailer trips** to city streets to move waste out of the City or landfill the waste locally. In their

December 2017 report, the Environmental Integrity Project, funded by the Abell Foundation, reported that "on-road vehicles are the largest contributor to the air pollution that people breathe in Baltimore…because vehicle tailpipes…do not disperse pollution as widely as taller smokestacks." They also reported that "there is not a significant association between city zip codes with the highest emissions of criteria pollutants from stationary facilities and the zip codes with the highest asthma rates."

In a Fiscal Analysis produced by the City of Baltimore, if the City had to resort to landfilling, as a result of the forced closure of Wheelabtrator, the cost would be **$98.6 million** over seven years and a recurring cost going forward of **$12.8 million annually**. Moreover, the Department of Public Works would need to immediately begin the process of expanding the City-owned Quarantine Road Landfill (QRL), which is currently expected to reach full capacity by 2026, at an estimated cost of **$99.7 million**. Because of the reduced compaction rate due to taking waste that would have gone to Wheelabrator, QRL would actually reach full capacity as early as 2024 even though the planned expansion of the landfill will likely not be ready to accept waste until 2026. Costs to the City to transport municipal waste out of Baltimore are not much better. That cost is estimated at **$73.6 million** over six years, and a recurring cost going forward of **$15.8 million annually**. These new landfilling and transportation costs to the City contrast dramatically to the **less than $0 net cost** to the City to dispose municipal waste at Wheelabrator.

As reflected in the December 2019 Report of the Maryland Power Plant Research Program, Figure ES-11, Wheelabrator is an important economic engine to the region – providing jobs, economic stimulus in the form of capital investments and the purchase of goods and services, local property taxes, and we remain actively engaged in a series of community, environmental, economic initiatives spending tens of millions in the region annually. Maryland-based waste-to-energy sources (*i.e.* MSW in Figure ES-11), more so than any other Maryland-based source by a multiple of at least 3, are used to comply with the RPS.

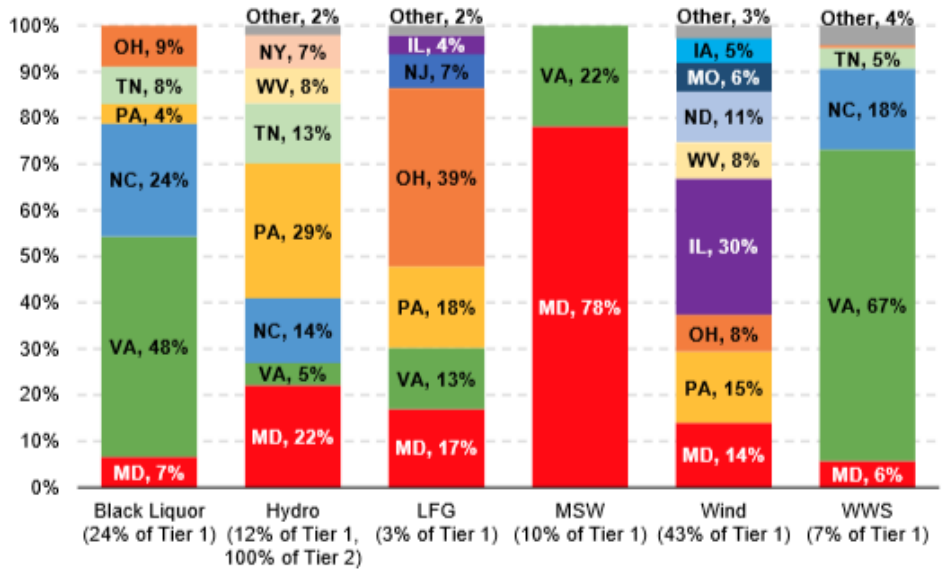


Figure ES-11. Percentage of RECs Generated in Each State Used for Compliance with the Maryland RPS, by Fuel Source (2017)

Source: Maryland PSC 2018 *Renewable Energy Portfolio Standard Report*.

Note: The percentages under each fuel category reflect each fuel type's share of Maryland RPS compliance for 2017.

As you consider Senate Bill 265, we hope you will recognize the tremendous environmental and economic benefits Wheelabrator provides to Maryland. The elimination of energy-from-waste as a Tier 1 renewable energy source will adversely affect the continued viability of Wheelabrator as a renewable energy resource and sustainable waste management solution. Renewable energy credits help the facility remain financially viable so it can continue to provide affordable and dependable disposal services to the City and the County, while promoting and supporting recycling, diversion of waste from landfills and a reduction in GHG. We urge the Senate Finance Committee to amend Senate Bill 265 to maintain energy-from-waste as a Tier 1 renewable energy source.

For more information call:
Richard A. Tabuteau
(410) 244-7000

P3 - MD SB 265 2.11.20
Uploaded by: THOMAS, GLEN
Position: UNF

The PJM Power Providers (P3)

Before the Senate Finance Committee

Testimony of the PJM Power Providers Group

Senate Bill 265 - – Clean and Renewable Energy Standard (CARES)

February 11, 2020

The PJM Power Providers Group (P3) respectfully submits these comments on Senate Bill 265. P3 is a non-profit organization made up of power providers whose mission is to promote properly designed and well-functioning competitive wholesale electricity markets in the 13-state region and the District of Columbia served by PJM Interconnection.[1] Combined, P3 members own more than 75,000 megawatts of generation assets in PJM and produce enough power to supply over 55 million homes. P3 members own generation facilities in Maryland and serve Maryland consumers as competitive retailer providers.

P3 supports the efforts of Maryland and other states to reduce carbon emissions from energy generation, provided the appropriate means are employed to pursue those goals. Specifically, P3 supports market-based and technology-neutral strategies to achieve carbon reductions. Unfortunately, Senate Bill 265 is not consistent with such an approach and will likely result in Maryland consumers paying more than they otherwise should for carbon reductions.

Senate Bill 265 unnecessarily limits the technologies that can pave the wave for further carbon reductions in Maryland. The legislation, as drafted,

[1] The views expressed in these comments represent the views of P3 the organization and do not necessarily reflect the views of individual P3 members with respect to any issue. For more information on P3: www.p3powergroup.com.

101 LINDENWOOD DRIVE, SUITE 225
MALVERN, PA 19355 WWW.P3POWERGROUP.COM

accepts the current Renewable Portfolio Standards (RPS) requirements as a given and then adds on additional requirements for "clean energy resources." The bill increases the amount of credits that must be derived from "clean and renewable energy resources" through 2040 to 100% with at least 30% of those credits coming specifically from "clean energy resources" and derived in Maryland.

Senate Bill 265 defines "clean energy resources" as either combined heat and power, nuclear power that commences operations after 2020 or natural gas/biomass with carbon sequestration. The bill also provides a process by which, "other emerging net–zero carbon technologies," could be qualified as "clean energy resources" through commission regulation. While the ability to add technologies to this list of "clean energy resources" is a positive addition, P3 is still troubled that the policy is not technology-neutral and therefore closes the door to the most efficient means of achieving carbon reductions.

Technology-neutral means that Maryland should not detail, list or otherwise dictate the resources eligible to provide electricity to consumers. By listing eligible resources, Senate Bill 265 presumes the most economic technologies available and restricts the possibility of new, more efficient technologies becoming available to meet Maryland's clean and renewable energy goals - even with the PSC process in place to add "net-zero carbon technologies."

A better approach is for Maryland to clearly define its environmental target – in this case, 100% carbon neutral energy by 2050, and allow market forces to determine how best to meet those goals. Maryland can achieve its energy goals through existing market-based constructs, which allows consumers to enjoy the economic and reliability benefits of markets, while still receiving the benefits of the stated environmental goals. Rather than selecting specific resources and carbon reduction methods in statute, Maryland should clearly define the environmental goals, determine the market-consistent, regulatory means to achieve the goals, and then allow the market to determine which resources are best equipped to meet those goals.

Consistent with this market-based approach, P3 strongly believes that the most appropriate means to achieve environmental goals is through environmental regulation. If Maryland is interested in reducing its carbon emissions it should regulate carbon through regulatory tools such as cap and trade or a price on carbon. Such a regulatory construct has worked effectively for other pollutants such as NOx and SOx and it could easily work for carbon as well.

However, if Maryland is committed to mandating the electric generation choices for its citizens, as outlined in Senate Bill 265, there should, at minimum, be a means for carbon emitting resources to be part of the mix provided their participation is carbon neutral. It is more than likely that some forms of fossil generation will be necessary in order to preserve reliability in Maryland and the PJM footprint. Allowing those resources, a means to participate in the market in a carbon-neutral way, through the purchase of offsets or allowances, will allow Maryland to take some comfort that reliability will be preserved, although likely at a higher cost than necessary.

MDSierraClub_UNF_SB265
Uploaded by: Tulkin, Josh
Position: UNF

7338 Baltimore Ave
Suite 102
College Park, MD 20740

Committee: Finance
Testimony on: Clean and Renewable Energy Standard (CARES)
Position: Oppose
Hearing Date: February 11, 2020

The Maryland Sierra Club urges an unfavorable report on this legislation.

We appreciate both the Governor and the General Assembly endorsing the goal of 100% clean electricity by way of the Governor's introduction of this legislation and the General Assembly's passage last year of the Clean Energy Jobs Act. Looking forward, however, while it is notable that the Governor has joined in supporting moving the state to 100% clean electricity, the current bill will not set the state on that path and, instead, would point the state in the wrong direction on key issues.

The numerous flaws with this bill include, but are not limited to, the following.

- **The legislation, which states that Maryland will achieve 100% clean electricity, fails to set a specific date or plan for the cessation of burning coal in Maryland and asserts that other fossil fuels (i.e. gas) are "clean" or "renewable."** Currently, the electricity sector is second largest emitter of greenhouse gases in Maryland. The state's six coal plants contribute over three-quarters of the climate pollution from in-state electricity generators, though they provide less than one-seventh of the state's electricity.[1] The simple fact is that Maryland cannot achieve 100% clean electricity while continuing to burn coal for power, and thus it is imperative that the General Assembly adopt a specific plan to end burning coal in Maryland for power and support affected fossil fuel workers and communities.

- **The legislation alleges that a fossil fuel, specifically fracked gas, is "clean" or "renewable," and provides market-based, financial incentives for the expanded use of this fossil fuel.** There are no clean fossil fuels. The extraction, distribution, and burning of fossil fuels, including gas, is not clean, and their expanded use in climate-action and 100% clean electricity standards is patently counter-productive. Burning fossil fuels is the source of, not the solution to, the climate crisis. The Governor's proposal to allow the subsidization of gas-fired power plants and Combined Heat and Power, which is overwhelmingly reliant on fracked gas, could result in additional methane pollution. Methane is leaked into the atmosphere throughout the gas distribution system and is a dangerous climate pollutant with a warming potential 86 times greater than carbon dioxide. Burning more methane will continue to heat the planet, and piping more gas into Maryland also will harm the climate since it unavoidably would lead to additional leakage of methane.

- **The bill would open Tier 1 of the RPS to existing, large (greater than 30 megawatt) hydropower facilities, crowding out the potential growth of offshore wind projects under the Clean Energy Jobs Act.** Opening Tier 1 to large hydroelectric facilities will divert a significant amount of resources that should be going to clean renewable energy (including offshore wind projects, as well as onshore wind in the PJM-plus grid area, for which there have

[1] This is based on 2017 data from the U.S. Energy Information Administration and Maryland's 2017 Greenhouse Gas Emissions Inventory.

been unused RECs in recent years). While existing hydroelectric facilities do not emit pollution from smokestacks, subsidizing them will not help meet Maryland's Greenhouse Gas Reduction Act targets since they are existing resources, meaning they do not (and could not) result in any reduction in the existing amount of climate pollution. Available Tier 1 subsidies should focus on putting new clean electrons on the grid.

- **The plan to reach 100% clean electricity is, in significant part, premised on unproven and potentially dangerous energy sources.** Accordingly, their utility in advancing Maryland to the 100% goal is highly speculative. This includes reliance on the idea of modular nuclear reactors, and the idea of utility scale gas plants with effective carbon capture. Such technologies have not proven feasible at utility scale and, if they were, would be extremely expensive, making them a burden on Maryland ratepayers. This would be a huge waste of ratepayer resources that should be utilized to purchase increasingly available and affordable clean renewable energy. Moreover, the Sierra Club is opposed to building new nuclear plants because of the nuclear waste and other environmental concerns that attend to them, and gas plants even with carbon capture would result in the significant environmental harms associated with fracking and gas leakage during transport.

- **Although the bill contemplates steps to be taken through 2040 to achieve 100% clean energy, it makes no provision to increase the solar and offshore wind carve-outs beyond the 2030 levels set by the Clean Energy Jobs Act.** The state will not achieve 100% clean energy without increasing our reliance on wind power and solar power.

Lastly, we welcome the bill's endorsement of removing black liquor and incineration from the RPS. The Sierra Club has historically advocated for the removal of combustion-based technologies from RPS program-eligibility, and we strongly favor the Committee acting to "clean up" the RPS. However, this should be accomplished this session through the stand-alone bills which have been introduced.

For these reasons, we urge an unfavorable report on this bill.

David Smedick
Senior Campaign Representative
David.Smedick@SierraClub.org

Josh Tulkin
Chapter Director
Josh.Tulkin@MDSierra.org

Exelon_Info_SB265
Uploaded by: Campbell, Lael
Position: INFO

WRITTEN TESTIMONY OF EXELON GENERATION COMPANY - SB265

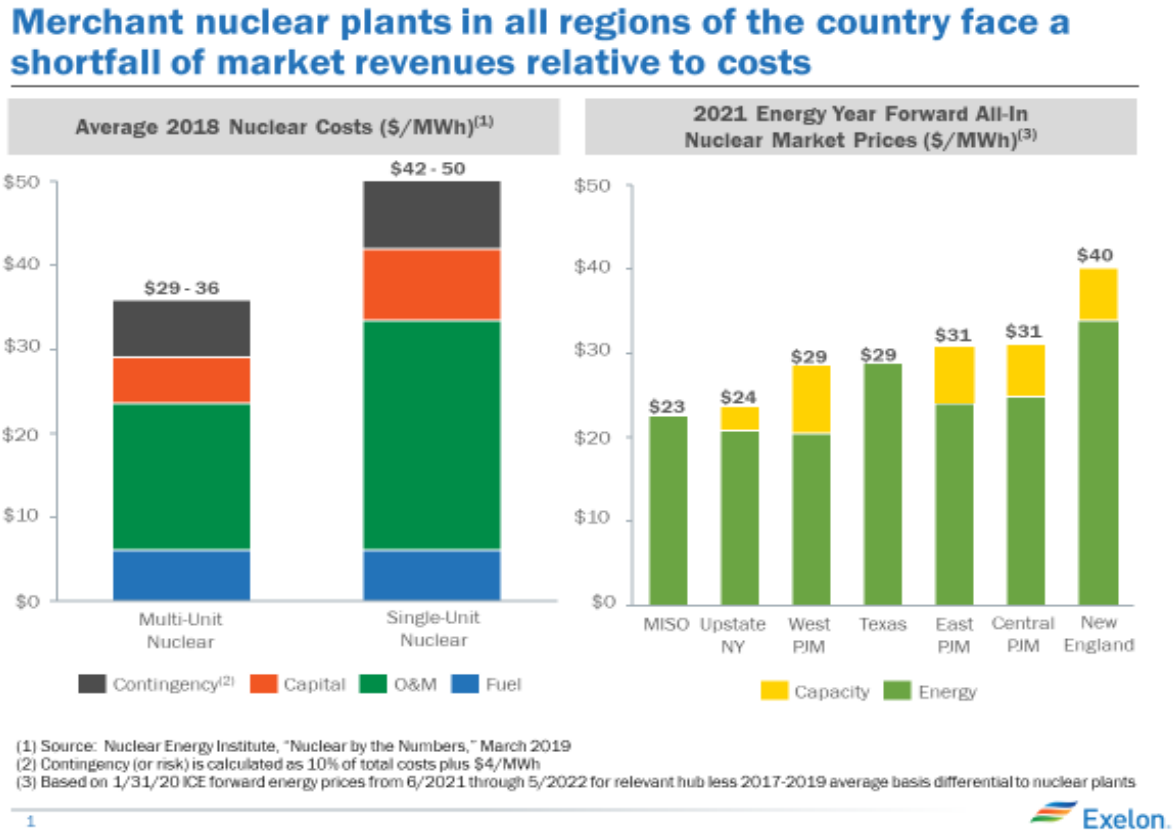
Exelon Generation Company, LLC ("ExGen") appreciates the opportunity to provide written comments in response to Senate Bill 265 and House Bill 363, which would adopt a Clean and Renewable Energy Standard ("CARES") to achieve 100% clean energy in Maryland by 2040. As Maryland's largest generator of clean and renewable power, ExGen agrees with Governor Hogan's ambitious goal to achieve 100 percent clean energy by 2040. ExGen also commends Governor Hogan and the staff involved with crafting CARES in a way that recognizes "the baseload, greenhouse gas-free, and carbon-free production of electricity provided by nuclear generation assets" and that existing nuclear energy facilities provide carbon-free power essential to meeting Maryland's clean electricity goals. In doing so, the CARES proposal represents an important shift in Maryland's broader energy policy discussion. However, CARES does not effectively translate the recognition of that value into a mechanism to retain it for the state. CARES does not allow existing nuclear generation to qualify for a credit even though it is providing the same carbon-free attribute to Maryland that is provided by other clean energy resources that do receive a credit. By counting the carbon-free output of existing nuclear generation towards Maryland's 100% clean target, but denying a credit, CARES essentially takes for granted that Maryland's largest source of carbon-free electricity, the Calvert Cliffs Nuclear Power Plant ("Calvert Cliffs"), will continue to provide 15 million mega-watt hours per year of carbon-free electricity through 2040. This is not a safe assumption upon which to build long term energy policy, as the continued operation of Calvert Cliffs through 2040 will require significant investment by ExGen, which it would not make unless it had confidence that Calvert Cliffs will earn compensation sufficient to cover its ongoing costs and risks of operation.

It is well demonstrated that the current energy market environment is leading to premature retirements of nuclear plants throughout the US.[1] This is based on a continued lack of demand growth, decreases in the price of natural gas, and further gas overbuild. Calvert Cliffs faces the same economic headwinds with forward market revenues falling short of covering its costs plus risk of continued operation. A primary challenge for plants like Calvert Cliffs is that they participate in organized wholesale markets that do not value the environmental attribute of zero

[1] See PPRP Nuclear Report, Table 1-1 and Table 1-2 showing announced closures and closures since 2013.

emission generation, which instead provide a competitive advantage to emitting generators that can pollute for free. The continued operation of Calvert Cliffs through 2040 will require ExGen to have confidence that revenues available will cover the costs and risks of operation of the plant. Under current and projected future market conditions, that will not happen.

The following depicts the economics of a generic nuclear plant in PJM and the other organized wholesale electricity markets:



It would cost consumers significantly less if the CARES proposal were modified to allow existing nuclear generation to qualify for a credit. Because the current proposal reduces annual CARES targets by the actual annual generation from Maryland nuclear facilities, if Maryland's nuclear facilities are no longer operating, the number of credits that will need to be procured from other sources of clean generation will go up dramatically. In fact, with an annual output of roughly 15 million megawatt hours per year, a Calvert Cliffs retirement could increase customer costs under CARES by as much as $400 million/year.[2] So continued operation of Calvert is very

[2] The CARES cost impact of the increased targets due to the lost nuclear output could be as much as $27.5/MWH (2024 ACP) x 15 TWH = $412 million per year declining to $22.35 (2030 ACP) x 15 TWH = $335 million per year.

valuable to customers, because the lost output must be replaced by Tier 1. Therefore, Calvert MWhs are equal in value to Tier 1 RECs to customers. Preserving existing carbon-free resources, in particular Maryland's most abundant sources of carbon-free energy, is just as important as promoting the growth of new clean energy resources and can certainly be done at a far lower customer impact.

ExGen will continue to support policies that preserve and expand all the state's hydro, solar, wind and other sources of carbon-free energy, but these policies must also secure Calvert Cliff's foundational role in Maryland's clean energy future. Preserving Calvert Cliffs Nuclear Power Plant, which produces 80 percent of Maryland's carbon-free power, is essential to achieving Maryland's clean energy goals. ExGen appreciates the Hogan administration's work on the CARES proposal and the opportunity to provide testimony. ExGen commits to continued participation in the development of Maryland's long-term approach to achieving meaningful green-house gas reductions and addressing climate change.

Appendix - Calvert Cliffs Contribution to Maryland

In 2018, nuclear power accounted for 34 percent of the total power generated in the state while renewable energy generation represented about 10 percent of the mix. Maryland's only nuclear power plant, the dual-unit Calvert Cliffs plant, generated 80% of the zero-carbon electric power in Maryland, making it by far the state's largest zero-carbon resource. Calvert Cliffs is also a major contributor to economic growth for Maryland's local communities. In a 2015 report, The Brattle Group evaluated the contribution that Calvert Cliffs, the only nuclear plant in Maryland, makes to the State's economy. Brattle considered how the plant affects electricity markets and prices, as well as in-state production activity, and studied the ramifications of these factors throughout the Maryland's economy. Brattle's analysis showed that during the ten-year period spanning 2015–2024, the operations of Calvert Cliffs in Maryland would:

- Contribute approximately $397 million annually to state gross domestic product;
- Account for 2,300 in-state jobs (direct and secondary);
- Help keep electricity prices low – without the plant, Maryland consumers would pay $40 million more for electricity annually, and about $340 million more in present value over the next ten years:
- Fund $15 million in state tax revenues annually;

- Avoid 9.1 million metric tons of CO2 emissions annually, valued at $392 million per year; and
- Avoid significant amounts of other air pollutants annually, valued at $129 million per year.

In addition to Calvert Cliffs, conventional hydroelectric power (predominantly Conowingo) accounted for 15% of the zero-carbon electric power in Maryland, representing the state's largest carbon-free renewable electric power source. Wind and solar (both solar thermal and photovoltaic) were 3% and 2% of Maryland's in-state carbon-free power, respectively.

OPC_FAV_SB686
Uploaded by: Carmody, Paula
Position: INFO

STATE OF MARYLAND
OFFICE OF PEOPLE'S COUNSEL
Paula M. Carmody, People's Counsel
6 St. Paul Street, Suite 2102
Baltimore, Maryland 21202
410-767-8150; 800-207-4055
www.opc.maryland.gov

BILL NO.:	**Senate Bill 686** **Residential Electricity and Gas Supply Billing Information – Reports**
COMMITTEE:	**Senate Finance**
HEARING DATE:	**February 11, 2020**
SPONSOR:	**Senators Washington, Benson and Kelley**
POSITION:	**SUPPORT**

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The Office of People's Counsel (OPC) supports Senate Bill 686. OPC has encouraged the regular collection of residential energy supplier price data and its comparison with utility supply prices for several reasons:

It's time. The retail competition law is over 20 years old, with promises of competition and economic benefits to all customers, including residential customers. It is past time to assess whether residential customers have been receiving tangible benefits, in the form of lower supply prices.

Other states have collected and analyzed data. These include Massachusetts, Connecticut, New York, Illinois, Rhode Island and Maine.

Other states have revealed substantial overpayments.[1] Reports and investigations from these states have shown that residential customers are paying more as a whole for competitive retail supply than if they stayed with their local electric utilities. For example:

[1] See Attachments A to OPC's Testimony.

- **Massachusetts Office of Attorney General:** The OAG conducted an analysis of actual price data, which showed that electric customers overpaid by $253 million during 2015-2018.
- **Connecticut Office of Consumer Counsel**: OCC's review of actual price data reported to the Connecticut regulator showed that electric customers overpaid by approximately $200 million during the period 2015-2018.
- **Illinois Commerce Commission**: The Commission reported actual data showed that electric customers of Ameren and Commonwealth Edison overpaid by $551.3 million during the period 2015-2018.
- **New York Public Service Commission Staff**: The Staff analyzed actual supplier data and reported that electric customers overpaid by $1.2 billion during the period 2014-2016.

In each of these states, the data has shown a significant impact on low-income households.

Maryland reports have consistent findings, but ongoing data collection is needed.[2] Two 2018 Maryland reports, issued by OPC and the Abell Foundation, have used different data sources, but the results are consistent with other retail competition states – residential customers are paying more as a whole. The OPC report also shed light on the comparable overpayments by customers of gas suppliers.

Households suffer harm when they pay more than necessary for gas or electricity. A public policy choice was made twenty years ago to economically benefit these households. We should know if the households actually are reaping those benefits, or instead, are harmed.

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[2] See "*Maryland's Residential Electric and Gas Supply Markets: Where Do We Go from Here,"* (Susan Baldwin and Sarah Bosley, November 2018), Appendices A and B, released by OPC, at www.opc.maryland.gov/publications. ("OPC Maryland Report"). *Maryland's Dysfunctional Residential Third-Party Energy Supply Market: An Assessment of Costs and Policies* (Abell Foundation, Laurel Peltier and Arjun Makhijani, Ph.D., authors, December 2018).

Price does matter. It is no secret that OPC is concerned about the cost of electricity and gas for residential customers. That is the responsibility of the agency. However, a common refrain is that we are looking at the wrong thing because suppliers compete on "value" and not on price. Therefore, price comparisons are not relevant. We would disagree. Electricity and gas services are necessities for households, and the bills for those services must be paid every month. They cannot be paid for with lightbulbs, gift cards, loyalty points or airline miles. For those households with discretionary income, additional products may provide a value not connected to the energy services. However, for low, moderate and even middle income households, the cost of gas and electricity service each month does matter. Almost 450, 000 Maryland households have incomes at or below 200% of the federal poverty level. Over 380, 000 of those are eligible for energy assistance, but only 25% of those eligible receive it. Forty percent of low-income households are seniors (60+). Price matters for many Marylanders and it is important to know if retail choice is providing a benefit to them,

Gas supply costs need attention. The focus almost always is on electric retail choice, although gas choice participation has comparable numbers. May of the supposed "value" propositions do not apply to gas service. Unfortunately, there is even less transparency with gas supply prices, although the price differences appear to be even more significant, based on OPC's review of website price offers and consumer bills.

Energy Assistance Funds Are Not Used Effectively if Low-Income Customers Pay Higher Prices for Energy Supply. Agencies statewide have reported to OPC that low-income customers with third-party supplier charges are paying more for gas or electricity than if they had stayed with their utility. This is supported by the Abell Foundation report and data collected in other states. This does not help the low-income household, and it does not make for effective use of the energy assistance programs funded through federal taxes and ratepayers.

Comments

Over twenty years ago, the General Assembly passed retail electric choice legislation, with the stated purpose of creating competitive retail supply markets and

most importantly, providing "*economic benefits to all customer classes.*" As of November 2019, about 430,000 residential electric customers were enrolled by electric suppliers. About 213,000 residential gas customers were enrolled by gas suppliers as of December 2019. These totals have declined over time from a peak in 2014-2015. However, they still represent a significant number of residential households in the State. Senate Bill 686 will provide a valuable means of assessing whether residential gas and electric customers are getting the economic benefits they were promised and deserve.

Bill Requirements

Senate Bill 686 requires electric and gas utilities, as well as certain energy suppliers that provide billing services, to submit monthly reports to the Public Service Commission. The initial report must contain information for the previous 12 months. These reports require them to report energy supplier rate data broken out by categories, with a comparison to utility gas and electric supply rates. The report information is only required for residential customer data. Importantly, the Bill only requires the reporting of total customer numbers, usage, and costs for each supplier, which are readily available to the utility because it issues bills for the supply charges. The reports must be made available to OPC and the Office of Home Energy (OHEP) programs. OHEP must use to reports to analyze information related to low-income customers receiving OHEP energy assistance.

The Bill also includes an annual reporting requirement for the Commission to report to the General Assembly, and provide a comparison of the aggregated residential electricity and gas supply prices to Standard Offer Service (utility electric rates) and gas utility supply prices. The report also should assess how the prices impact low-income customers. Finally, the overview report must be public and made available on the Commission website.

An assessment of the state of the residential retail energy market in Maryland is needed, and now is the time. It has been done in other retail competition states, and Maryland should be no different. The data from other states, and the assessments in the Maryland reports raise legitimate concerns that Maryland households served by

suppliers are paying supply prices that are higher than necessary. By requiring data collection and reporting, Senate Bill 686 provides a straightforward way to answer the questions and concerns about retail energy supply for residential customers.

For the foregoing reasons, the Office of People's Counsel respectfully requests a FAVORABLE REPORT on Senate Bill 686.

Attachment 1

STUDIES OF RESIDENTIAL RETAIL ENERGY SUPPLIER PRICES COMPARED TO DEFAULT SERVICE (EXCLUDES COUNTY OR MUNICIPAL AGGREGATION)

June 2019

Barbara Alexander
Barbara Alexander Consulting LLC

Susan Baldwin
SMBaldwin Consulting

There are no publicly available studies that document that most residential customers have paid lower prices for gas and electric service from retail energy suppliers compared to default service for any reasonable period of time. On the contrary, to the extent that restructuring has resulted in consumer benefits, those benefits in the form of lower prices have been passed through via default service procured in a competitive manner in the wholesale market. The following studies have documented that on average retail energy suppliers charge residential (and, in some cases, small commercial customers) more for essential electric and natural gas service than default service procured pursuant to state default service policies:

- **Connecticut.** Between 25%-30% of residential customers are enrolled with alternative suppliers outside of any aggregation programs in the two electric utility service territories. Based on required pricing information filed by alternative suppliers, the Office of Consumer Counsel has published annual reports that compare supplier prices to utility default service. In the month of September 2018, seven out of ten residential supplier customers paid more than the Standard Offer in Eversource territory, and seven out of ten residential supplier customers paid more than the Standard Offer in UI territory. In the month September 2018, residential Eversource customers who chose suppliers paid in aggregate $2,962,056 more than the Standard Offer for their electric generation, and residential UI customers who chose suppliers paid in aggregate $994,812 more than the Standard Offer. For the rolling year of October 2017 through September 2018, residential consumers who chose a retail supplier paid, in aggregate, $38,380,874 more than the Standard Offer.[i] Based on OCC's annual reports, between 2015 and 2018, residential electric consumers on competitive supply paid approximately **$200 million more** than they would have paid if they had stayed with their utility's Standard Offer service.[ii]

- **Illinois**. Between June 2015 and May 2018, the Illinois Commerce Commission reported that Commonwealth Edison's and Ameren's residential consumers enrolled with an alternative supplier outside of municipal aggregation programs paid **$551.3 million more** than they would have paid with the utility's default service. Approximately 18% of

Illinois' residential customers are served by an alternative supplier outside of municipal aggregation programs.[iii]

- **Maine**. As of September 2018, 16.2% of Maine's residential electric customers were served by an alternative supplier.[iv] For the three-year period 2014 through 2016 that Maine Public Utilities Commission has reported that residential customers served by an alternative electricity supplier paid approximately **$77.7 million more** than they would have paid for standard offer service. On average, these customers paid approximately 12% more in 2014, 60% more in 2015, and 56% more in 2016, or, per customer, approximately $67 more in 2014, $278 more in 2015, and $245 more in 2016.[v]

- **Maryland.** As of the fall of 2018, 18% of residential electric customers and 20% of residential natural gas customers were served by an alternative supplier.[vi] A Report commissioned by the Maryland Office of People's Counsel relied on supplier prices posted on suppliers' web sites and compiled by the OPC and on participation rates reported by the Public Service Commission to estimate a net annual consumer loss of approximately $34.1 million in the residential electric supply market and an approximate net annual consumer loss of approximately $20.7 million in the residential gas supply market resulting from Maryland households' participation in energy supply markets. In other words, Maryland's households are paying approximately **$54.9 million** more for electricity and gas than if they had purchased energy from their utility default service.[vii]

- **Massachusetts.** A 2018 Report shows that 18% of non-low-income residential customers and 36% of low-income customers enrolled in utility bill payment assistance programs were served by an alternative supplier outside of municipal aggregation programs.[viii] Based on an analysis of utility billing data that includes charges by alternative suppliers, the Massachusetts Attorney General reports that between July 2015 and June 2018, individual residential consumers served by alternative suppliers paid **$253 million more** than they would have paid if they had stayed with their default service.[ix]

- **New York.** The Public Service Commission Staff's analysis of actual bills issued by utilities that include supplier charges concluded that between 2014 and 2016, residential consumers on competitive electric and gas supply paid **$1.2 billion more** than they would have paid with their default utility service.[x] The most recent published shopping data by the New York Commission from December 2017 indicates that 20% of residential electric customers and 25% of residential natural gas customers were enrolled with an alternative supplier.[xi]

- **Rhode Island.** Based on supplier pricing data reported by Rhode Island electric utilities, the Division of Public Utilities and Carriers stated in May 2018 that during the previous five-year period, residential and small commercial consumers served by alternative suppliers paid **$55 million more** than they would have paid if they had been on default service (the residential portion was $28 million) .[xii]

Several States have examined the impact of the retail market on low-income consumers, older adults, consumers with limited English proficiency, and other vulnerable consumers.

These customers, who cannot afford the higher prices and whose essential electric and gas service may be terminated for non-payment are often charged even higher prices for essential service, as the following examples indicate:

- Analyses of Connecticut data found that from October 2016 through September 2018, Connecticut's "hardship" electric customers— those consumers who are identified as medically vulnerable or facing significant financial hardship—paid approximately $7.2 million more to purchase electricity from third-party electric suppliers than if they purchased utility standard service. These hardship customers experienced an average annual net loss of $143 per hardship household over this time period.[xiii]

- Based on publicly available statewide data in Maryland as well as information collected in interviews with clients at GEDCO CARES, a Baltimore City agency that provides a variety of services to low-income Baltimoreans, including energy assistance, the 40 low-income account holders interviewed paid, on average, a 51 percent premium for electricity and a 78 percent premium for natural gas, when compared to Baltimore Gas and Electric Company's default rates.[xiv]

- The Massachusetts pricing analysis that compared utility default rates with supplier charges billed by utilities found that low-income consumers participate in the market at twice the rate of non-low-income consumers. Furthermore, the pricing study found that alternative suppliers charge low-income consumers higher rates for essential electric service than non-low-income consumers. The report's use of zip code analysis of enrollment data suggests that some suppliers may target low-income neighborhoods for enrollment in competitive supply.[xv]

- The New York Public Service Commission, based on its findings that most low income customers are charged more than default supply by alternative suppliers, that such higher charges had an adverse impact on the ratepayer funded low income bill payment assistance programs, and that there was no evidence to support the supplier's allegation that other "value added" attributes could be relied upon to justify these higher charges, has ordered that only approved alternative energy suppliers that agree to charge at or below default service can enroll such customers.[xvi]

- Billing data from PPL Electric in Pennsylvania showed that over a 34-month period, an average of 49% of low income customers in the Customer Assistance Program were served by alternative suppliers, 55% of whom were paying above the default service rate, with a net annual financial impact of $2.7 million. Billing data from FirstEnergy in Pennsylvania similarly showed over a 58-month period, that nearly 65% of low income customers in the Customer Assistance Program served by alternative suppliers paid rates above the default service rate, resulting in a net increase of $18.3 million over the 58-month period.[xvii]

[i] OCC FACT SHEET: ELECTRIC SUPPLIER MARKET, OCTOBER 2017 THROUGH SEPTEMBER 2018

[ii] Connecticut Office of Consumer Counsel ("OCC") Press Release *Time To End the Third-Party Residential Electric Supply Market (Feb. 4, 2019).available at* https://www.ct.gov/occ/lib/occ/2-4-19_press_release.pdf

[iii] Illinois Commerce Commission*, Office of Retail Market Development ("ORMD") 2018 Annual Report*, at 27-32 (June 29, 2018) (providing a breakdown of how residential customers who sign up with an Alternative Retail Electric Supplier ("ARES") fare in Illinois), *available at* https://www.icc.illinois.gov/reports/report.aspx?rt=22. The $551.3 million number referenced was derived by adding the $405,555,489 more that Commonwealth Edison Company (serving Northern Illinois) customers paid over the default supply rates in effect during the June 2015 through May 2018 time period (p. 30) with the $145,833,368 more that Ameren Illinois (serving Central and Southern Illinois) customers paid over the default supply rates in effect over that same time period (p.32). All dollar figures incorporate the impacts of the purchased energy adjustments (PEA) that reconcile over- and under-collection of default supply revenues.

In terms of levels of alternative supply participation in Illinois, the ORMD report notes that as of June 2018, 229 of the 728 communities or 31% of the communities that implemented an aggregation program let their aggregation terminate, but that 20% of the state's residential consumers are still receiving their electric supply through a municipal aggregation program. In addition, the number of residential customers receiving ARES service *outside* of an aggregation program remains at 18% of the total residential customers in the state. ORMD Report, p. 7. On average, residential ARES customers in the ComEd territory paid around $10.2 million more per month during the last twelve months when compared to the ComEd default Price-to-Compare (PTC)3 and $11.5 million more per month during the last twelve months when compared to the ComEd default PTC including the PEA. *Id.* In terms of cents per kWh, residential ARES customers in the ComEd territory paid about 1.289 cents/kWh more when compared to the ComEd default, PTC only, and about 1.445 cents/kWh more when including the PEA. *Id.* In the Ameren Illinois territory, residential ARES customers paid around $6 million more per month during the last twelve months when compared to the Ameren Illinois default PTC and $7.4 million more per month during the last twelve months when compared to the Ameren Illinois default PTC including the PEA. *Id.* In terms of cents per kWh, residential ARES customers in the Ameren Illinois territory paid about 1.073 cents/kWh more when compared to the Ameren Illinois default PTC only, and about 1.330 cents/kWh more when including the PEA. *Id.* Illinois Commerce Commission*, Office of Retail Market Development ("ORMD") 2018 Annual Report*, at 27-32 (June 29, 2018) (providing a breakdown of how residential customers who sign up with an Alternative Retail Electric Supplier ("ARES") fare in Illinois), *available at* https://www.icc.illinois.gov/reports/report.aspx?rt=22

[iv] http://www.maine.gov/tools/whatsnew/attach.php?id=180998&an=1

[v] Maine Public Utilities Commission, Report on Competitive Electricity Provider and Standard Offer Price Comparisons (Feb. 2018).

[vi] [Electric] http://www.psc.state.md.us/electricity/wp-content/uploads/sites/2/Electric-Choice-Enrollment-10-2018.xls

[Gas] https://www.psc.state.md.us/gas/wp-content/uploads/sites/4/9-2018-Gas-Choice-Enrollment-Report.pdf

[vii] Susan M. Baldwin and Sarah M. Bosley, on behalf of the Maryland Office of People's Counsel. Maryland's Residential Electric and Gas Supply Markets: Where Do We Go from Here? (Nov. 2018), *available at* http://opc.maryland.gov/Portals/0/Hot%20Topics/Maryland%20Electric%20and%20Gas%20Residential%20Supply%20Report%20November%202018.pdf.

[viii] https://www.mass.gov/doc/comp-supply-report-final

[ix] Massachusetts Attorney General's Office, *Are Consumers Benefiting from Competition? An Analysis of the Individual Residential Electric Supply Market in Massachusetts* (March 2018); *Available at:* Are Consumers Benefiting from Competition? An Analysis of the Individual Residential Electric Supply Market in Massachusetts; Massachusetts Attorney General's Office, 2019 Supplemental Report. See, also, "Suppliers Are Not Providing Value to Individual, Residential Customers," presentation to the New England Restructuring Roundtable, Rebecca Tepper, Chief, Energy and Telecommunications Division, Massachusetts Office of the Attorney General, October 12, 2018. Available at: http://www.raabassociates.org/main/roundtable.asp?sel=147

[x] State of New York Public Service Commission, *In the Matter of Eligibility Criteria for Energy Service Companies*, Case 15-M-0127, et al., Initial Brief of the New York Department of Public Service Staff, at 2 (March 30, 2018).

[xi] http://www3.dps.ny.gov/W/PSCWeb.nsf/All/4759ECEE7586F24B85257687006F396E?OpenDocument

[xii] State of Rhode Island, Division of Public Utilities & Carriers ("DPUC"), Press Release: DPUC Enacts New Rules for Competitive Electricity Suppliers, Initiates Review of Competitive Supply Marketplace (May 8, 2018).

[xiii] Direct Testimony of Susan M. Baldwin on Behalf of the Office of Consumer Counsel (Feb. 27, 2019), Connecticut Public Utilities Regulatory Authority Docket No. 18-06-02, *Review of Feasibility, Costs, and Benefits of Placing Certain Customers on Standard Service Pursuant to Conn. Gen. Stat. § 16-245o(m)*, *available at* http://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/4bef308bf564773e852583ae004fb3e0?OpenDocument.

[xiv] Makhijani, Arjun and Peltier, Laurel, Dysfunctional Residential Third-Party Energy Supply Market, December 2018, *available at* https://www.abell.org/sites/default/files/files/Third%20Party%20Energy%20Report_final%20for%20web.pdf

[xv] Massachusetts Attorney General Report, cited above.

[xvi] N.Y. Public Service Commission, Case Nos. 12-M-0476, 98-M-1343, 06-M-0647, and 98-M-0667, *Order Adopting a Prohibition of Service to Low-Income Customers by Energy Service Companies* (Dec. 16, 2016), at http://www3.dps.ny.gov/W/AskPSC.nsf/96f0fec0b45a3c6485257688006a701a/9398a8fe616603ce85258243006e4b99/$FILE/Order%20Adopting%20a%20Prohibition%20on%20Service%20to%20Low-Income%20Customers%20by%20Energy%20Service%20Companies.pdf

[xvii] Motion of Commissioner David W. Sweet, Pennsylvania PUC, Electric Distribution Company Default Service Plans—Customer Assistance Program Shopping, Public Meeting, December 20, 2018, http://www.puc.state.pa.us//pcdocs/1599226.pdf

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MARYLAND STATE & D.C. AFL-CIO

AFFILIATED WITH NATIONAL AFL-CIO

7 School Street • Annapolis, Maryland 21401-2096

Balto. (410) 269-1940 • Fax (410) 280-2956

President
Donna S. Edwards

Secretary-Treasurer
Gerald W. Jackson

SB 265 – Clean and Renewable Energy Standard (CARES)
Senate Finance Committee
February 11, 2020

INFO

Donna S. Edwards
President
Maryland State and DC AFL-CIO

Madam Chair and members of the Committee, thank you for the opportunity to provide informational testimony on SB 265 – Clean and Renewable Energy Standard (CARES). My name is Donna S. Edwards, and I am the President of the Maryland State and DC AFL-CIO. On behalf of the 340,000 union members in the state of Maryland, I offer the following comments.

Attached to this testimony is the "Resolution on Climate Change and Jobs" that was unanimously passed at the 32nd Biennial Convention of the Maryland State and D.C. AFL-CIO, held in November of 2019. The resolution puts the issue of good job creation in the emerging clean energy sector first and foremost, with special emphasis on workers' rights to organize, project labor agreements, labor peace, et al. The entire labor movement in Maryland is committed to ensuring that – as we transition to a "greener" energy sector – workers are not sacrificed on the altar of environmentalism. If we, as a State, are going to make greater strides towards greening our energy, we must not put the cart before the horse. We must lead with good jobs, and make the hard decisions necessary to hold harmless the workers that provide us the energy needed to live, work, and play. From that, good green energy policy will flow, allowing us to reduce our carbon emissions, fight climate change, and provide a better future for everyone – leaving no one behind.

SB 265, unfortunately, only redefines clean energy standards, and, in no way, addresses creating good green jobs with benefits, nor the community devastating loss of existing jobs in the current energy marketplace. Moreover, the bill – once again – goes after paper waste, removing it, completely, from the RPS, which remains a viable economic engine for Western Maryland.

SB 265 does recognize the great benefit of nuclear energy, and its value in reducing carbon emissions. Additionally, the bill does have an auspicious goal of reaching 100% renewable energy consumption by 2040. Both of these measures should be commended, and both are achievable. However, we cannot achieve them if we do not re-focus our priorities on the people

doing the work necessary to provide us our power. We must put them firmly into the center of this conversation, and build our environmental policy from there. Maryland can lead on climate change, and we will if Labor is in the vanguard and the livelihoods of workers, their families, and their communities become the central point of conversation from which all policy conversations flow.

We ask that you help us re-define our priorities on climate change and green energy jobs. We ask that you join with workers in ensuring that our transition to a post-carbon energy economy lifts up everyone, and leaves no one behind.

Resolution #7: Resolution on Climate Change and Jobs

WHEREAS, numerous studies suggest that there is major job creation potential from tackling the climate crisis, reducing greenhouse gas emissions, and transitioning to a low-carbon, sustainable economy; and

WHEREAS, the overall lack of high-road jobs in the green economy and the prevalence of non-union jobs in the limited existing green sectors, such as solar and residential retrofitting, have dampened enthusiasm for the long-promised "clean, green economy" among workers and labor organizations that are anxious to address the climate crisis and build a pro-worker, equitable green economy; and

WHEREAS, the fossil fuel industries have high rates of unionization; and

WHEREAS, strong job and training quality standards are needed in the clean and renewable energy sector, among them being prevailing wage, state-approved apprenticeship job training requirements, project labor agreements, and labor peace agreements; and

WHEREAS, a functioning jobs pipeline could ensure that local workers from our communities have a path to career employment by offering access to training programs such as direct-entry pre-apprenticeship programs and other skill-building opportunities; and

WHEREAS, these job and training quality standards should be central to all "climate jobs" proposals; and

WHEREAS, climate efforts should include funding and guaranteed protection for workers and communities who are displaced or negatively affected by the transition to a low-carbon economy; and

WHEREAS, the AFL-CIO has developed strong policy proposals for protecting workers who are impacted by climate protection policies. These proposals provide a just transition, including 70% wage replacement and 80% health benefit replacement for up to three years, as well as "bridge to retirement" funding for workers who are near retirement.

THEREFORE, BE IT RESOLVED, the Maryland State and District of Columbia AFL-CIO supports measures that ensure that energy infrastructure development creates good jobs and builds our industrial base by requiring project labor agreements, prevailing wage, apprenticeship job training requirements, Buy Union and Buy America provisions, labor peace, card check neutrality, robust training requirements for all projects, and includes all the labor requirements passed in the Clean Energy Jobs law.

THEREFORE, BE IT FURTHER RESOLVED, the Maryland State and District of Columbia AFL-CIO in facing the challenge of impacting energy policies embraces a balanced and just approach for workers, communities, manufacturers, businesses and consumers and will continue to work with community, business and environmental allies committed to recognizing the need for worker protections, rights, and sustainable wages and benefits, to maintain a wide range of energy sources, traditional and newer, to secure Maryland's and the District of Columbia's competitiveness.

THEREFORE, BE IT FINALLY RESOLVED, that the Maryland State and District of Columbia AFL-CIO will advocate for legislation, administrative rules, and the development of an initiative to enable a transition that is just for workers and communities directly affected by the transition to a clean energy economy by providing income, benefit, and retraining for comparable wage jobs, as well as a bridge to retirement, as part of the just transition and concurrently support the creation of these policies in an equitable fashion.

Submitted by: *Donna S. Edwards, President*
Maryland State and D.C AFL-CIO
Delegate, AFSCME 112
Gerald W. Jackson, Secretary-Treasurer
Maryland State and DC. AFL-CIO
Delegate, UA 486

Committee: Legislation

Convention Action: Unanimously passed