

**Committee: Economic Matters**

**Testimony on: HB398 “Abundant Affordable Clean Energy – Procurement and Development”**

**Position: Support**

**Hearing Date: February 6, 2025**

The Chesapeake Chapter of Physicians for Social Responsibility (CPSR) supports HB398, which responds to the state’s increasing demand for electricity through preserving essential base electricity load capacity and promoting expansion of clean renewable energy in alignment with the state’s established goals for clean energy development and greenhouse gas reduction.

Our support is offered while regretting the need to continue extending operation of the Calvert Cliffs nuclear powered electricity generation plant. CPSR is the Maryland component of national PSR, which is the co-founder and U.S. affiliate of the Nobel Peace Prize-winning International Physicians for the Prevention of Nuclear War. PSR is principally focused on reducing the two greatest global threats to human survival, health, and well-being: nuclear war and climate change. While awareness of the dangers of nuclear war have faded since the end of the Cold War, recent events including the war in Ukraine have brought that terrible possibility back into focus. At the same time, the past year’s climate disruption, causing increasingly destructive floods, wildfires, droughts, storms, and heat, has destroyed unprecedented numbers of lives and livelihoods. The increasing prominence of these two threats caused the *Bulletin of the Atomic Scientists* to last week move the “Doomsday Clock” closer to midnight than it has ever been.

The energy sector is still a major producer of the greenhouse gases that are worsening climate disruption. At the same time – through electrification of transportation, buildings, and other processes – increased electricity production offers the most feasible pathway off our dependence on the fossil fuels that produce those greenhouse gases. This need for increased generation of reliable electricity is being acutely increased by the already growing requirements of data centers and other large load requirements. The challenge to this legislature is to find the most effective ways to meet state’s increasing demand for reliable electricity while reducing risk to its citizens and the planet. HB398 responds to this challenge.

However, we need to remind ourselves that, while not emitting greenhouse gases, nuclear power is not “clean” and poses significant risks - risks that exist in the present, but that we are also imposing upon generations to come:

- *It creates deadly radioactive waste that we don't know how to dispose of safely, and that will remain deadly for thousands of years. The half-life of plutonium 239 - a key component of nuclear power plant waste that is highly radioactive and highly hazardous to human and animal health - is 24,000 years.*
  - Given the evidence of the unpredictability of human and government behavior we’re experiencing these days, we must be thoughtful about producing more of such millennium-lasting deadly waste.
- *There is a clear link to risk of nuclear war - every nuclear reactor generates material, including plutonium, that has the potential to be used in nuclear weapons.*
  - The quantity of spent nuclear fuel stored at Calvert Cliffs is reported by the Nuclear Decommissioning Collaborative to be 1,421 metric tons<sup>1</sup>, corresponding to an estimated 14.2 metric tons (14,200 kilograms) of plutonium. The International Atomic Energy Agency (IAEA) considers that about 8 kilograms of plutonium in spent fuel are sufficient to construct a first-generation nuclear bomb (the type dropped on Hiroshima and Nagasaki in World War II). Based on this metric, this 14,200 kg. of plutonium would be enough for 1,775 nuclear weapons.
- *There's also the risk of a serious accident - with worst case but real examples being Fukushima and Chernobyl – as well as of terrorist targeting.*

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<sup>1</sup> <https://decommissioningcollaborative.org/calvert-cliffs-1-2/>

New nuclear power also comes with clearly demonstrated cost risk and opportunity cost:

- The only new U.S. nuclear plants to come online in the past decade were Units 3 and 4 at Georgia's Vogtle Electric Generating Plant. Construction began in 2009, with the units originally projected to be operational in 2016 and 2017. The units ultimately came online in July, 2023, and April, 2024 –seven years overdue.
  - The initial cost estimate for the project was \$14 billion. However, due to significant construction delays and cost overruns, the final cost was \$36 billion, more than double the original estimate.
- Development of smaller nuclear projects has suffered the same cost risks: the Carbon Free Power Project in Idaho, which aimed to build a Small Modular Reactor (SMR) using the only design approved by the Nuclear Regulatory Commission, was canceled in November, 2023, because the estimated cost had risen from \$3.6 billion to \$9.3 billion.

This time and these resources could have been used to create large amounts of clean renewable energy at much lower cost. This understanding led the IPPNW to formally state at the outset of the 26<sup>th</sup> UN Climate Conference in 2021:

*“In the lead-up to COP26, there has been another round of concerted and increasingly desperate attempts to portray nuclear power as an acceptable, safe and low carbon energy source that can help address the climate heating crisis. We reject this deception... Over the past two decades, any economic rationale for nuclear power has long evaporated as renewable energy has become the cheapest, most widely and most quickly available source of new electricity generation worldwide.”*

We bear these nuclear risks in mind, and at the same time acknowledge the assessment by the Maryland Energy Administration and the renewable energy industries themselves that our state is far below the trajectory needed to meet its own clean energy and greenhouse gas reduction goals, and cannot afford to lose large components of its present electricity capacity until new energy resources can be brought on line.

HB398 responds to this reality through well-reasoned actions that will both preserve base load capacity and promote increased development of the key sources of truly clean renewable energy that we need.

- To secure essential base load capacity: Recognizing that the existing Calvert Cliffs nuclear plant generates almost 40 percent of Maryland’s electricity, and that the legislature has already endorsed extending the licenses of Calvert Cliffs’ reactors when they reach their present end in 2034 and 2036 – HB398 establishes a class of standby credit (“Zero Emission Credit”) to assure the plant’s continued viability if the federal energy production tax credits currently being received do not continue and if this results in non-profitability.
  - We recommend that this arrangement be accompanied by a secure agreement with Constellation, considering their history of gaining additional incentives from the Illinois state government in 2021 by threatening to close their nuclear plants.
- For clean renewable energy sources – including solar, onshore wind, and small (less than 30 MW) hydropower: Recognizing that the current Renewable Portfolio Standard (RPS) and REC incentive levels have been only partially successful in stimulating needed growth, HB398 draws on successful experiences of other states by adding greater structure to the RPS, defining an active role for the Public Service Commission (PSC), establishing category-specific capacity targets, and creating category-specific incentives that will promote and support accelerated expansion.
  - For offshore wind, HB398 establishes modifications to transmission requirements that will allow greater flexibility in how the generated electricity is brought onshore to serve Maryland, and also requires upgrading of transmission capacity, including new technologies that can increase transmission capacity by 25 percent or more.
  - For utility-scale solar, HB398 establishes a 2035 target of 3,000 MW, tasks the PSC with establishing a competitively determined base price for electricity generated by eligible projects that must serve Maryland, and allows participating projects to generate “SRECIIs” with added value that assures financial viability by receiving full market value for their electricity.

- For smaller solar, HB398 establishes a separate 3,000 MW capacity target for Community and Aggregate Net Metered solar by 2035 for projects that contribute to meeting the state’s electricity load, creates time-bound (at least every 3 years, sooner if needed) “Blocks” of capacity to be incentivized for each category of small solar (Community, Aggregate Net Metered, behind-the-meter residential, behind-the-meter non-residential), and allows the PSC to administratively determine the value of SRECIIs for each category of project and Block of project capacity.
  - This more active, category-specific and Block-based incentivization approach to solar development has proven successful in other states in promoting greater overall expansion of solar; it also responds to the concerns of the solar industry’s different categories, because different categories of solar move at different rates and face different business considerations, but in a REC system without separate categories they would end up competing for incentives.
- For onshore wind and small hydroelectric projects, HB398 creates the category of “RECII,” assuring that they serve the state’s electricity needs and distinguishing them from other RECs under the RPS.
- For large-scale energy storage, HB398 establishes a 1,600 MW state goal for cost-effective transmission-scale energy storage projects that are presently in the PJM queue, and requires PSC to establish approval and procurement processes to bring them online, which can help manage peak demand without the need for expensive “Peaker Plants;” these storage projects can also participate in the electricity capacity market to help meet electricity demand and keep costs lower.
- HB398 also establishes a requirement for electric companies to collectively develop a minimum of 150 MW of smaller distribution-system level energy storage projects that demonstrate avoided cost to the electricity system and result in avoided carbon emissions.
- HB398 requires labor protection and community benefit agreements for the construction of the different categories of clean renewable energy involved in meeting these targets.
- HB398 establishes a required sequence of REC retirement that reflects the importance of expanding wind, solar, and hydropower and prioritizes RECs associated with electricity generation that actually serves the state.

Finally, to give greatest benefit to ratepayers, HB398 also establishes an “Escrow Account” for receipt of Alternative Compliance Payments (ACPs) and a share of the taxes placed on Data Centers, with ACP moneys in this Escrow Account to be returned to ratepayers in proportion to their electricity bills.

In summary, HB398 represents a well-structured modernization of our state’s electricity incentive system. It will contribute to meeting the increasing needs for electricity in the lowest cost way possible, and doing it by accelerating development of the clean renewable energy our state’s goals require. Building new nuclear plants would be far too expensive, too slow, and too uncertain. Building new gas plants will also be costly and actually increase the greenhouse gases that are driving the climate disruption we need to fight.

We therefore recommend a favorable report on HB398, and urge the legislature to take the additional policy actions required to accelerate the clean renewable energy we need.

Respectfully,

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