



**Bicameral Nuclear Energy Caucus  
Informational Hearing  
June 19, 2018**

**Testimony of Davitt Woodwell  
President, Pennsylvania Environmental Council**

Good morning, and thank you to Senators Aument and Yudichak, Representatives Corbin and Matzie, and the other members of the Nuclear Energy Caucus for allowing me the opportunity to offer comments this morning. My name is Davitt Woodwell and I have the privilege of serving as President of the Pennsylvania Environmental Council (PEC).

On behalf of PEC's board and our 23 staff in four offices across the Commonwealth working every day on important environmental and conservation issues, I want to thank you for this opportunity to offer our thoughts on a matter we believe has great importance to Pennsylvania's economy, energy future, and regional, national, and global environmental impacts.

The future of our state's current nuclear fleet matters for a range of reasons that this Caucus has, is, and will be considering, including jobs, community impact, grid reliability, and others. For our purposes today, PEC is focused on the critical role that nuclear energy plays in ensuring that Pennsylvania significantly reduces its output of greenhouse gases while still providing reliable and affordable energy to all consumers – individuals, households, and businesses. Analysis<sup>1</sup> performed by the Brattle Group for labor and business, which was presented<sup>2</sup> to this Caucus in April, underscores this role.

To cut to the chase, we believe that the loss of today's nuclear fleet would be a terrible blow to the progress already made in reducing Pennsylvania's contribution to climate change, and would hamstring all of our combined efforts moving forward. We also believe there are approaches that can be developed to allow for the continued operation of today's nuclear fleet while also allowing other forms of energy generation to prosper.

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[http://files.brattle.com/files/5732\\_pennsylvania\\_nuclear\\_power\\_plants\\_contribution\\_to\\_the\\_state\\_economy.pdf](http://files.brattle.com/files/5732_pennsylvania_nuclear_power_plants_contribution_to_the_state_economy.pdf)

<sup>2</sup> <http://nuclearenergy.pasenategop.com/wp-content/uploads/sites/90/2018/04/brattle-group.pdf>

So how did PEC come to these conclusions? We started with the fact that the state's carbon emissions have already dropped about thirty percent in the last ten years due mostly to fuel switching from coal to gas. From that and for about the last two-and-a-half years, we at PEC have been looking very closely at issues surrounding deep decarbonization of Pennsylvania's electricity generation and use. To that end, in March of 2017 we held a ground-breaking conference<sup>3</sup> bringing together many differing views about how we in Pennsylvania could reduce our greenhouse gas emissions by anywhere from 80 to 90 percent by 2050. A daunting task to be sure, but not impossible.

Working with experts from across the country, we came to believe strongly that a critical tenet of moving forward to a deeply decarbonized energy future means including a wide variety of generation options optimized to reduce carbon emissions to the greatest extent possible as soon as possible. In our view and for varying lengths of time, and with a number of different economic drivers, this will include renewables, natural gas, coal, and nuclear.

From that gathering, we produced our findings<sup>4</sup> and began to focus on how to achieve those significant reductions. Four mechanisms rose to the top – energy efficiency, grid modernization, carbon capture, and – our focus today – carbon pricing.

While a number of other states, including Illinois, New York, Ohio, New Jersey, and Virginia have also dealt or are dealing with the issues surrounding the future of their nuclear fleets, as well as looking to reduce carbon emissions, we believe that Pennsylvania, with our broad suite of energy generation, needs to look for a Pennsylvania-specific solution that is forward-looking in accounting for safety, affordability, reliability, the environment, and Pennsylvania's overall revenue streams.

A properly developed carbon pricing mechanism has the potential to achieve all of those goals as well as promote competition within the energy marketplace that would allow for the continued operation of some or all of today's nuclear fleet while also supporting the development of further carbon reductions through both existing and potentially new technologies.

For example, a recently-released report<sup>5</sup> by the Analysis Group of the Regional Greenhouse Gas Initiative's Third Three Year Compliance Period (2015-2017) demonstrates that even a modest price on emissions through a trading regime can reduce emissions, create jobs, provide positive economic returns, and generate revenues for state programs.

How does carbon pricing work? In its simplest form, carbon pricing sends market signals that there is a preference for lower emissions and incents the production of energy with those lower

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<sup>3</sup> Complete conference session videos are available online: <http://www.pec-climate.org/media/>

<sup>4</sup> <http://www.pec-climate.org/s/PEC-Deep-Carbon-Reductions-Report-FINAL-June-2017.pdf>

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[http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/analysis\\_group\\_rggi\\_report\\_april\\_2018.pdf](http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/analysis_group_rggi_report_april_2018.pdf)

emissions. Models include the Regional Greenhouse Gas Initiative (RGGI), other cap and trade programs, renewable portfolio standards like our own Alternative Energy Portfolio Standards (AEPS), and fees placed at various levels of energy production and consumption pathways.

The effectiveness of any pricing program depends on a number of variables that need to be closely considered and modeled to understand their impacts on generation mix, energy prices, consumer impacts, and greenhouse gas emissions. I would be thrilled to tell you today that we have a fully fleshed-out carbon pricing proposal to offer you; but I cannot – yet.

What I can tell you is that I believe that there is growing interest in this approach in many corners and that we are working to develop such a proposal before the end of this year. The interest in carbon pricing is also gaining at the national and international level, as can be seen with Shell's recently released Sky Scenario<sup>6</sup> that calls for, inter alia, a price on carbon.

We at PEC look forward to continuing to work with the General Assembly, the Administration, and our partners in the NGO and private sectors to advance the goals of deep decarbonization of Pennsylvania's energy mix. As we do so, we believe that the continued operation of today's nuclear fleet is a critical part of that mix, and that there are equitable and innovative ways to address the issue.

Again, thank you for the opportunity to appear before you today. I would be happy to answer any questions that you may have.

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The Pennsylvania Environmental Council (PEC) protects and restores the natural and built environments through innovation, collaboration, education and advocacy. PEC believes in the value of partnerships with the private sector, government, communities and individuals to improve the quality of life for all Pennsylvanians.  
[www.pecpa.org](http://www.pecpa.org)

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<sup>6</sup> <https://www.shell.com/energy-and-innovation/the-energy-future/scenarios/shell-scenario-sky.html>