

Pennsylvania Senate Environmental Resources and Energy Committee
Hearing on Pennsylvania Participation in the Regional Greenhouse Gas Initiative (RGGI)

June 23, 2020

Testimony of Vincent J. Brisini

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Good morning Chairman Yaw and committee members. My name is Vince Brisini and I'm the Director of Environmental Affairs for Olympus Power. I appreciate the opportunity to provide testimony today regarding Pennsylvania's participation in RGGI.

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I've conducted considerable research and assessment regarding RGGI and have also reviewed the work performed by ICF International Inc. (ICF), a contractor to RGGI and the RGGI states since 2005, for the Department of Environmental Protection. Based on these efforts, it is clear Pennsylvania's participation in RGGI will not produce carbon dioxide or other pollutant reductions that provide any meaningful impact on local, regional or global climate change or ambient air quality.

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The maximum amount of carbon dioxide reduction that would occur from the replacement of all Pennsylvania coal-fired electric generation by natural gas-fired electric generation is only about 1% of the total US electric generator carbon dioxide emissions. That is the maximum amount of carbon dioxide reduction that could occur regardless of where the replacement natural gas-fired electric generation is located. However, if the Pennsylvania coal-fired generation or natural gas-fired electric generation lost to RGGI participation are replaced by coal-fired electric generation in another non-RGGI PJM state, then there is no reduction in carbon dioxide and there could actually be increases in carbon dioxide as well as other pollutants.

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What we also know is that any representation of emissions reduction benefits due to Pennsylvania RGGI participation are significantly over-estimated by the ICF modeling effort. If you look at the 2020 electric generation in the Policy Case, which represents RGGI participation, and in the Reference Case, which represents no RGGI participation, you can see a similar modeled total electric generation at levels that are consistent with Pennsylvania's electric generation in 2018. But then in 2022 under the Reference Case, generation inflates by 30 million megawatt-hours. That is a huge number of additional megawatt-hours without any logical basis for that increase in PJM system demand.

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For context, that represents an almost 50% increase above the 2018 Pennsylvania generation which at that time made Pennsylvania the #1 exporter of electric power in the US. There is simply not an ability to sell that additional 30 million megawatt-hours of generation in the PJM market. As an example, Maryland would have to eliminate over 65% of its electric generation to provide a market for that much electricity.

That inflated generation results in inflated Reference Case emissions which results in ICF's grossly overstated benefits due to Pennsylvania's participation in RGGI. The PJM market defines the amount of electricity that can be sold, not the ICF integrated planning model. Clearly there is a problem with that model or possibly with the modelling inputs.

But RGGI history does show that RGGI participation typically results in less in-state electric generation and the purchase of more electricity from non-RGGI participating areas, Canada in the case of New York and the New England states or Pennsylvania in the case of Delaware and Maryland which are part of PJM.

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The reason there is less generation in the RGGI states is the allowance dispatch price adder necessary to recover the cost of the RGGI allowances. To put the price adder into context, if the clearing price of electricity is \$16.50 per megawatt-hour, then in the case of coal, the RGGI price adder alone is over 36% of the clearing price. Adding the RGGI allowance cost to the cost of generation means that the Pennsylvania coal-fired units will be immediately retired because they will not be called into service.

While the majority of the RGGI discussions have focused upon the impacts to the coal-fired plants, the RGGI price adders for a significant number of natural gas-fired units are over \$3.50 per megawatt hours. That artificial price increase, 20% and more of the clearing price, necessary to recover RGGI allowance costs would considerably increase their prices which will reduce the amount of generation from those facilities and could even result in some retirements.

As an addendum to my testimony I am providing a listing of the Pennsylvania unit by unit RGGI price adders that I have developed which also identifies the fuel used by each unit.

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RGGI history has shown us that if there is non-RGGI electricity available, that electricity will be used by RGGI participating states.

And as you can see on this slide, there are a number of natural gas-fired combined cycles permitted in Ohio, some of which are under construction, that are positioned to take away Pennsylvania's role as the #1 electricity provider in PJM and the US. And this slide doesn't even show the 2,200 megawatt W.H. Sammis coal-fired power plant located near the Pennsylvania/Ohio border or the 1,300 megawatt Pleasants coal-fired power plant in West Virginia, both of which have recently avoided deactivation and now stand ready to generate and sell power into PJM.

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If you look back on the Policy Case generation slide, RGGI participation, the availability of non-RGGI electricity makes the projections unrealistically optimistic for future generation. Plus, the Policy Case generation shows no growth of natural gas fired electric generation in Pennsylvania over the period 2022 through 2030. This begs the question to the natural gas-fired developers that have just brought their plants into service or will soon bring their plants into service in Pennsylvania, “Would you have made this investment in Pennsylvania if you had known RGGI was any possibility in 2022?”

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We know that the Pennsylvania Department of Environmental Protection has estimated the RGGI tax revenue at over \$300 million dollars annually, but because of the RGGI price adder increase on natural gas-fired electric generation of \$3.50 per megawatt-hour and more and the subsequent pricing of Pennsylvania electric generation compared to electric generation pricing in non-RGGI PJM states, the amount of RGGI tax revenue will be considerably less. I am estimating \$175 - \$200 million dollars annually. And importantly, those tax revenues are going to be placed into the Clean Air Fund so it's unlikely that without some very creative interpretations that these RGGI tax revenues could be used to assist those workers whose jobs will be lost to Pennsylvania RGGI participation as some have suggested.

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We also know that the Pennsylvania electric generation industry has been reducing carbon dioxide emissions without Pennsylvania participation in RGGI. Pennsylvania electric generation has reduced carbon dioxide emissions below the targets set by Governor Wolf, the Paris Accord and the final target set by the Obama Administration's “Clean Power Plan” all ahead of schedule and without a carbon dioxide mandate on existing units.

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We also know from RGGI history that RGGI does not result in the growth of renewable generation. The RGGI participating states are still legislating mandates for the development and implementation of renewable electric generation.

We also know that in a best case scenario, it would require an additional 3,300 land based wind turbines to replace the lost coal fired-capacity.

It's noteworthy that the Policy Case projected renewable generation is only 4.9% of total generation in 2020 and increases to only 5.5% of total generation in 2030. Clearly not even the ICF model predicts RGGI as a driver of renewable electric generation.

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So what do we know about Pennsylvania participation in RGGI:

We know that it will artificially accelerate the retirement of coal-fired electric generating units that will likely all be retired before 2030 without RGGI and it will also affect the operations of some PA natural gas-fired units including possible early retirements.

We know it will reduce the amount of electricity generated in and exported from PA.

We know it will result in some or all lost PA coal-fired generation and some natural gas-fired generation being replaced by generation from other RGGI and non-RGGI PJM states.

We know the lost PA coal-fired and natural gas-fired generation being replaced by non-RGGI PJM states generation can be replaced by either coal-fired or natural gas-fired electric generation.

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We know it won't cause a shift to renewable electric generation.

We know it won't help nuclear generation because the PJM market will dispatch the lowest cost units, minimizing any price increases.

We know it will result in companies moving the development of new natural gas-fired generating units to other non-RGGI PJM states, and the ICF modeling supports that assessment.

We know that any RGGI tax will be borne disproportionately by residential customers.

We know it won't results in local or regional CO2 emissions reductions that will meaningfully affect or benefit local, regional or global climates.

And, we know it will only generate \$175-200 million per year in RGGI tax revenue.

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And we know what the immediate economic impacts will be in western Pennsylvania if Pennsylvania participates in RGGI:

- the loss of 8,000 plus jobs
- the loss of \$2.87 billion in total economic impact
- the loss of \$539 million in employee compensation
- The loss of \$34.2 million to state and local taxes base

With no meaningful benefits to show for the effort except \$175 to \$200 million dollar a year in RGGI tax revenue.

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Thank you for the opportunity to testify today.