



RGGI Written testimony
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Climate change is one of the greatest threats facing humanity and we're already starting to see the effects here in Pennsylvania. Temperatures in Pennsylvania are projected to increase by 5.4°F by 2050 and the number of days with a heat index >90°F will increase dramatically from in the same time frame. This changing climate will harm public health and strain our infrastructure and emergency services.

I am a paleoclimatologist, in other words a geologist who studies past climates. I've focused much of my research on past episodes of extreme warmth. There are sedimentary deposits in PA that record episodes of extreme warmth - one of these in particular is considered by most people in my field to be the best analog for where Earth is headed given our current greenhouse gases (GHG) emissions trajectory. That past episode of warmth was a very different world than ours today with no continental glaciers in Greenland and Antarctica and much higher sea levels that would for example flood most of the southern half of NJ and southeasternmost PA and the Delaware River estuary up to Easton - Philadelphia completely underwater. And with very different soils in response to the warmer and wetter climate conditions, like what exist in Brazil today, laterites and ferrasols that are not supportive of agriculture. The cause of these warmer episodes of the past was elevated atmospheric carbon dioxide contents.

I describe these conditions because Pennsylvania's electric power sector is currently the 5th dirtiest in the nation and consistently ranks as one of the top CO₂ emitters on Earth. These emissions combined with other human activities are directly responsible for ongoing global warming. Reducing carbon pollution can reduce harmful climate-changing CO₂ emissions, protect public health, and, with investments in energy efficiency and renewable energy, can position Pennsylvania to lead in a clean energy economy. We can grow jobs and promote energy efficiency and renewable sources of electricity such as solar and wind, creating thousands of clean energy jobs and saving consumers money that can spent and invested in other sectors of our lives and the economy. For example, whether or not you embrace environmentalism and the reduction of GHG to address ongoing global warming, I can assure you that a modest investment over 8 years ago with <5 year payoff resulted in a solar array that provides all the power needs for my household which until recently was 4 people. That's all power needs for a 4-person home in one of the cloudiest regions in the country. We cannot afford NOT to transition away from fossil fuels to renewables. Thus with all that stated, I am eagerly voicing my support for PA's participation in the bipartisan Regional Greenhouse Gas Initiative.

RGGI has been a big success in the 10 states where it's already in place, cutting climate pollution by a third and raising nearly \$3 billion to invest in energy efficiency and clean energy projects. Further, PA's Department of Environmental Protection (DEP) confirmed that Pennsylvania would see a net increase of more than 27,000 jobs and add \$1.9 billion to the

state's economy. But while PAs unemployment rate this fall was higher than the national average reflecting pain across the commonwealth, the highest rates are found in coal counties, and therefore a portion of money made through participation in RGGI should be invested in helping workers and communities who already have been and will continue to be affected by the ongoing transition of the energy market away from coal.

In closing I've submitted this written testimony because my verbal testimony was not possible due to technical issues. I voice my unequivocal personal and professional support for PA's participation in the RGGI.