

Henry Alexander
1101 Fern Hill Road, West Chester, PA
Henry.deH.Alexander@brn.com



Testimony for CO2 Budget Trading Program Regulation

I appreciate the opportunity to submit this testimony to the Environmental Quality Board in favor of the CO2 Budget Trading Program Regulation and Pennsylvania's decision to join the Regional Greenhouse Gas Initiative (RGGI). I am a Professional Engineer, who worked in the environmental science and engineering from 1972 to 2016, when I retired. I now work full time on climate issues because of their importance to our children and grandchildren.

Many of those who have submitted comments have discussed the need for the reduction in greenhouse gases in order to avoid uncontrolled climate change. I wholeheartedly agree with their conclusions. We must reduce greenhouse gases to prevent the devastation of unchecked climate change and to reduce the health impacts of air pollution.

I would like to direct my remarks to the concept of cap and trade. Rather than prescribing how emitters must reduce emissions, the cap and trade approach identifies what needs to be done and leaves the choices of how to accomplish it to the emitters themselves so that they can achieve the reductions in the manner that is most economical for them. The beginning of the cap and trade concept was in 1977 when the US EPA required that the emissions of volatile organic compounds that would be emitted from a proposed automobile plant in New Stanton, Pennsylvania be offset by some source of existing VOC emissions in the Pittsburgh area because the area was in nonattainment for ozone. This requirement lead the Pennsylvania Department of Transportation to convert to a latex substitute for cutback asphalt, which was used to fuse two layers of bituminous paving, saving PennDOT money while allowing jobs to be created by the installation of a new auto assembly plant. This first application of the concept not only saved money but also created jobs and reduced air pollution.

Beginning in 1995, the air pollution control community implemented a cap and trade program to reduce the emissions of sulfur dioxide that was steadily acidifying the soils of the northeastern United State with sulfuric acid. This acid was produced by the combination of the sulfur dioxide emissions and the moisture in the air. The goal of this program, named the Acid Rain Program, was to reduce the emissions of sulfur dioxide from a 1980 baseline of 26,000,000 tons by 10,000,000 tons to a level of 16,000,000 tons. It was estimated that the Acid Rain Program would cost \$6.1 billion. After the program had been operating for eight year, the actual cost of the program was recalculated independently by the Electric Power Research Institute (EPRI) and Resources for the Future (RFF). Their conclusions were that the total cost of implementation of the Acid Rain Program would turn out to be between \$1.1 billion and \$1.7

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billion. It demonstrated that a broad-based cap and trade program can be used to achieve significant emission reduction at minimum cost to the industry and to the consumer. It also showed that it is possible to provide industry the flexibility they need while maintaining an enforceable regulatory structure. The concept works especially well when emission reductions do not have to be in a small geographic area, as would be needed for the buildup of pollutants resulting in a hot spot. Greenhouse gases are evenly distributed throughout the atmosphere. Their emissions can be traded over a large geographic area, thereby allowing trades between a large number of emitters. This increases the options for finding lowest cost solutions.

As we are increasingly realizing, the continued uncontrolled emissions of manmade greenhouse gases is not an option. What *is* an option is to accomplish a reduction of these planet-warming compounds as cost-effectively as possible. I therefore urge the Pennsylvania Department of Environmental Protection to adopt the CO₂ Budget Trading Program Regulation and join the ten adjoining states in this program.