Senate Environmental Resources and Energy Committee Hearing
Written Testimony of Thomas Schuster
On behalf of the Sierra Club
Regarding: EPA's Proposed Clean Power Plan
8/21/2014

I. Introduction

My name is Thomas Schuster and I am a Senior Campaign Representative in Pennsylvania with the Sierra Club. The Sierra Club is the oldest and largest non-profit environmental advocacy organization in the United States, with approximately 24,000 members in Pennsylvania. We strongly support the efforts of the Environmental Protection Agency (EPA) to reduce dangerous carbon pollution through its proposed Clean Power Plan (CPP). The CPP provides a great deal of flexibility to Pennsylvania to craft a compliance strategy that meets our unique needs. In doing so, we will not only help protect against climate disruption that poses a grave threat to public health, safety, and welfare, we will also spur economic growth and innovation.

II. The Need for Action to Address Climate Disruption

a. Threats posed by climate disruption

The costs of failing to adequately deal with climate disruption, caused mainly by carbon pollution, are immense. By the end of the century, the northeast as a region is expected to see an additional 57 days per year (nearly 2 more full months) of temperatures over 95 degrees.[1] This will have severe consequences on our health, our economy, and the infrastructure and natural systems on which we all depend. Higher average temperature leads to worse air quality, and in turn more hospital admissions and premature deaths, particularly among children. It leads to the spread of vector-borne diseases that were once only problems in the tropics. It leads to more frequent intense storms, which can damage our homes and threaten our lives with high winds and flooding. It also threatens our economy. A 10-year flood in Allegheny County costs over $8 billion to clean up,[2] and that is money that can't be invested in growing our regional economy. These damages will only become more severe. Agriculture currently employs more people in Pennsylvania than extraction of coal, oil, and gas

[1] http://riskybusiness.org/report/overview/regions/northeast
[2] National Conference of State Legislatures, Assessing the Costs of Climate Change, http://www.ncsl.org/print/environ/ClimateChangePA.pdf

combined.[3] It is projected to suffer from extreme heat, droughts and storms, and could shed many thousands of jobs. These are but a few examples of the impacts that will touch every aspect of our lives.

b. The cost of inaction

It has been recently estimated that allowing global average temperatures to rise by 3 degrees Celsius, rather than 2 degrees (which we are already very likely to experience), will have the impact of reducing annual economic productivity by nearly 1% additional per year.[4] This equates to over $6 billion per year in lost productivity in Pennsylvania. That is from a one degree differential; even higher temperatures are quite likely if no additional action is taken, and the economic losses would accelerate. It has also been estimated that every decade of delay in taking action to reduce climate disrupting pollution increases mitigation costs by about 40%.[5]

c. Our responsibility for the problem

Pennsylvania makes an outsized contribution to climate disruption. Pennsylvania is the source of about 1% of global carbon pollution,[6] despite comprising less than 0.2% of the world's population. While it is true that neither Pennsylvania nor the United States can solve the climate disruption problem on our own, it is also obvious that due to our disproportionate contribution to the problem, our leadership on the issue is necessary if we are to reach an international solution. The proposed CPP is a necessary first step to demonstrate that leadership.

III. Meeting Clean Power Plan Requirements

a. Requirements for Pennsylvania

The draft CPP rules for Pennsylvania require a reduction in carbon pollution intensity from 1,531 lbs/MWh in 2012 to 1,052 lbs/MWh in 2030, a reduction of about 31%, or 479 lbs/MWh.

b. The important role of existing policies and past plant retirements

Fortunately, we are well on our way to meeting this target, according to our internal analysis. Since 2012, 10 coal-fired power plants have retired or have announced plans to retire before 2030. Even if these plants are replaced by natural gas generation, as opposed to nuclear, renewable energy, or efficiency, carbon pollution intensity will be reduced by 67 lbs/MWh, or 14% of the required reduction. Our existing energy efficiency requirement for utilities, known as Act 129, calls for a reduction in

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[3] US Bureau of Economic Analysis, 2012 statistics

[4] Multiple sources, cited in The Cost of Delaying Action to Stem Climate Change, July 2104: http://www.whitehouse.gov/sites/default/files/docs/the_cost_of_delaying_action_to_stem_climate_change.pdf

[5] Id.

[6] 2009 Pennsylvania Climate Change Action Plan. The 2013 update to the plan did not calculate our share of global emissions.

electricity consumption of roughly 0.75% per year. If continued at current levels through 2030, this will earn us another 14% of our required reduction in intensity (69 lbs/MWh). Finally, our Alternative Energy Portfolio Standards call for 8% of electricity sales to come from clean, renewable energy by 2021. Assuming this level is maintained through 2030, we would reduce our intensity by another 112 lbs/MWh, or more than 23% of our requirement. Together, these three tranches get us more than halfway to Pennsylvania's goal, just by maintaining the status quo.

c. Clean Energy and Efficiency can Fill the Gap

Our existing energy efficiency and renewable energy goals are very modest when compared to other states. Our neighboring states of Maryland, New Jersey, and Delaware have Tier I clean energy requirements of 20%, 22%, and 25%, respectively, compared to our 8% for comparable, carbon-free sources.[7] Meanwhile, 20 of the 26 states with energy efficiency standards for electricity have targets that are more aggressive than Pennsylvania's, with 11 of those having targets at least twice as high.[8]

If Pennsylvania were to increase its renewable energy target to 20% by 2030, we would reduce our carbon intensity by another 149 lbs/MWh, or 31% or our required reduction. If we doubled our annual efficiency target to 1.5% per year, we would achieve another 14% of our goal, or 66 lbs/MWh. The combined savings from just these two policy changes alone (which are in line with what other states are already doing), when added to the savings achievable under existing policy, get us more than 96% of the way to the carbon reduction goal. This is before we even consider options such as coal to gas switching, updated building codes, or any other of the myriad options available.

IV. Benefits of Clean Energy and Efficiency

In addition to reducing carbon pollution from the electric sector, efficiency and clean, renewable energy offer numerous other benefits, several of which are outlined below.

a. Renewable Energy and Efficiency Reduce Electricity Prices

Numerous studies have shown that addition of renewable energy into the electricity mix causes the most expensive, least efficient fossil fuel generators to operate less, which lowers electricity cost. Most recently, it was found that the eleven states with the highest amount of wind energy installed have seen electricity prices decrease slightly since 2008, while in the remaining states, the price of electricity has increased by nearly 8% over the same time.[9] A Pennsylvania-specific analysis of a hypothetical doubling of our renewable energy targets projected that savings from price suppression

[7] www.dsireusa.org
[8] Energy Efficiency Resource Standards: A New Progress Report on State Experience, Annie Downs and Celia Cui, April 2014, ACEEE Report Number U1403.
[9] http://awea.files.cms-plus.com/AWEA%20White%20Paper-Consumer%20Benefits%20final.pdf

would outstrip direct costs by a factor of at least 2:1.[10] While some may find that surprising, the savings from energy efficiency are more intuitive. Through the first four years of our energy efficiency program, ratepayers in Pennsylvania saw savings of nearly $4.2 billion, equal to $2.40 saved for every dollar invested.[11]

b. Renewable Energy and Efficiency Create Jobs and Tax Revenue

Numerous studies have shown that clean energy investments create more jobs per dollar spent, per megawatt of capacity, and per megawatt-hour of generation than comparable investments in fossil fuels. To illustrate this fact, it was recently reported that there are more people working in the solar industry than as coal miners, despite coal being responsible for a much larger share of the current electricity mix.[12] The combined number of solar and wind-power workers is higher than the number working in the broader coal industry, including generation of electricity.[13] It has been projected that a transition to a 100% clean energy economy in Pennsylvania by 2050, including maximizing energy efficiency, would create half a million 40-year jobs, which is more than 10 times the number the coal industry currently supports.[14] As for efficiency, spending money on fossil energy directly has one of the lowest economic multipliers possible, so saving energy and giving households and businesses more disposable income has a significant job creating effect, in addition to the jobs created in the efficiency industry directly.[15]

Widely distributed sources of energy also offer important tax revenue streams for rural towns and communities, helping keep schools, libraries, and firehouses open. For example, an existing wind farm in Cambria County provides about $130,000 per year in tax revenue to Adams Township and has been cited repeatedly as the key factor in allowing the township to avoid property tax increases.[16]

c. Renewable Energy is Reliable

Already, the states of Iowa and South Dakota get more than 20% of their electricity from wind power, and the United Kingdom is now in that category as well.[17] But we can go much farther than that. PJM, the operator of the regional grid, has concluded that we can get at least 30% of our energy from wind and solar by 2026 with no reliability problems, minimal changes to the transmission infrastructure,

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[10] Black &Veatch, "Assessment of a 15 percent Pennsylvania Alternative Energy Portfolio Standard": http://pennfuture.org/UserFiles/File/Legislation/HB80SB92_Report201001.pdf

[11] Act 129 Statewide Evaluator final report, March 2014.

[12] http://www.businessinsider.com/us-has-more-solar-workers-than-coal-miners-2014-7

[13] AWEA U.S. Wind Industry Annual Market Report 2010; Solar Foundation National Solar Jobs Census 2010; U.S. Bureau of Labor Statistics.

[14] http://thesolutionsproject.org/infographic/#pa

[15] http://aceee.org/files/pdf/fact-sheet/ee-job-creation.pdf

[16] For example, see: http://www.tribune-democrat.com/local/x1951920225/Winds-of-change-Industry-s-economic-impact-threatened-by-credit-lapse/print

[17] http://www.dailymail.co.uk/wires/pa/article-2727972/Wind-provides-record-22-power.html

and net savings on wholesale energy prices.[18] The Regulatory Assistance Project reviewed eleven studies by respected firms and concluded that renewable energy levels well over 50% are feasible given current technology.[19]

While supporters of coal often point to the extreme cold snaps of January 2014 as a reason to continue reliance on coal, it must be noted that coal did not perform particularly well during that time. In fact, while 22% of the total generating capacity in PJM territory was unavailable during the most critical time, over 1/3 of that total (13.7 gigawatts) was coal capacity.[20] This included the largest coal-fired power plant in Pennsylvania, the Bruce Mansfield Generating Station. According to a May PJM report, only two types of resources performed better than expected during this extreme event: demand response and wind power.[21] Beyond PJM, wind power was also critical to preventing blackouts in the Midwest and in Texas during the polar vortex.[22]

V. Recommendations

For the reasons stated above, we believe that compliance with the proposed Clean Power Plan is not only readily achievable, but will also prove to be a net benefit to the Commonwealth. We believe the preferred path to compliance is through ramping up investments in clean, renewable energy, and energy efficiency. In order to do this, the legislature has a key role to play in updating the Alternative Energy Portfolio Standard and the energy efficiency laws under Act 129. At minimum, the Tier I targets for renewable energy will have to be increased, and the limits for utility spending on energy efficiency should be increased or eliminated to allow us to comply with the CPP in a way that maximizes economic benefits.

This means that the legislature must be actively involved in the design of the State Implementation Plan (SIP) required under the CPP. However, we are concerned that the specific powers proposed for the legislature by HB 2354 are misguided and would add uncertainty to the process by possibly causing Pennsylvania to miss its SIP deadline. This would subject us to a Federal Implementation Plan that would not be tailored to Pennsylvania's needs.

We also recognize that even though the transition to cleaner forms of energy will be a net benefit to the Commonwealth, there are some coal-dependent communities that will be disproportionately impacted by this transition. We support an effort by leaders at the federal, state, and local levels to work to understand the needs of these communities and their workers, and to develop fully funded programs to aid in the transition. We cannot afford to postpone the transition, but we cannot put all the impacts on the shoulders of a few.

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[18] http://pjm.com/~/media/committees-groups/task-forces/irtf/postings/pris-executive-summary.ashx
[19] http://www.raponline.org/document/download/id/7175
[20] http://www.pjm.com/~/media/documents/reports/20140509-analysis-of-operational-events-and-market-impacts-during-the-jan-2014-cold-weather-events.ashx
[21] Id. at 20
[22] http://www.altenerg.com/back_issues/janfeb2014-ftr.htm

Respectfully Submitted,

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