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HOUSE DEMOCRATIC POLICY COMMITTEE

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**House of Representatives**  
COMMONWEALTH OF PENNSYLVANIA

**HOUSE DEMOCRATIC POLICY COMMITTEE HEARING**  
**Topic: Green PA – Working Towards A Sustainable Future**  
**West Goshen Township Building – West Chester, PA**  
**July 25, 2019**

**AGENDA**

10:00 a.m. Welcome and Opening Remarks

10:10 a.m. Panel One:

- Kerry Campbell, Environmental Program Manager in Energy Programs Office, Pennsylvania Department of Environmental Protection
- Tom Ford, Director of Bureau of Recreation and Conservation, Pennsylvania Department of Conservation and Natural Resources

10:30 a.m. *Questions & Answers*

10:50 a.m. Panel Two:

- Rob Altenburg, Director, PennFuture Energy Center
- Jim Wylie, Conservation CO-Chair of Southeastern PA Group, Sierra Club PA Chapter

11:10 a.m. *Questions & Answers*

11:30 a.m. Panel Three:

- Skelly Holmbeck, Board Member, Chester County Solid Waste Authority
- Nancy Fromnick, Chester County Recycling Coordinator, Chester County Solid Waste Authority
- Bruce Burcat, Executive Director, Mid-Atlantic Renewable Energy Coalition

11:50 a.m. *Questions & Answers*

12:10 p.m. Closing Remarks

## **Testimony of**

**Kerry Campbell, Program Manager in the Energy Programs Office**

**Pennsylvania Department of Environmental Protection**

**House Democratic Policy Committee public hearing**

**Green PA: Working Towards A Sustainable Future**

**July 25, 2019**

Good morning. My name is Kerry Campbell, and I am an Environmental Program Manager in the Energy Programs Office of the Department of Environmental Protection (DEP). The Energy Programs Office provides staffing support and oversight of the Climate Program, the Climate Action Committee and the development of the Climate Action Plan among other programs. I would like to thank you for the opportunity to appear before you today to discuss Pennsylvania's energy profile, our Climate Action Plan and the role Pennsylvania citizens have in climate change mitigation and adaptation.

### **Pennsylvania Climate Change Act (Act 70 of 2008)**

The Pennsylvania Climate Change Act (Act 70 of 2008) outlines requirements for DEP to:

- Develop a climate impacts assessment and update it triennially
- Prepare and a climate action plan and update it triennially
- Develop an inventory of greenhouse gases (GHGs) and update it annually
- Set up a voluntary registry of GHG emissions
- Administer a climate action committee

## **Climate Change Impacts Assessment Report**

The Pennsylvania Climate Impacts Assessment Report was prepared by researchers at the Environment and Natural Resources Institute of Penn State University and was first published in 2009 and updated in 2013 and 2015 with new scientific data. This report outlined the projected impacts of climate change on Pennsylvania's agriculture, ecosystems, energy, fisheries, forests, human health, insurance, outdoor recreation, tourism, water, wildlife, and economy.

Pennsylvania's climate is becoming warmer and wetter. Temperatures have risen almost 2 degrees Fahrenheit in Pennsylvania since the start of the 20<sup>th</sup> century and have been higher in the 2000s than at any previous time on record. Pennsylvania could warm an additional 5.4 degrees by 2050. Average annual precipitation in Pennsylvania has increased about 10% in the past 110 years, and 2018 was the wettest year on record, bringing a total of 63.97 inches of rain. This weather resulted in flooding, loss of life, and damage to roads, homes, and businesses. Pennsylvania is expected to experience an additional 8% increase in precipitation by 2050.

Climate change has impacted Pennsylvania's agricultural sector, with fruit and vegetable crops lost to saturated soil or fungus, and livestock and poultry affected by disease or other problems. While a longer growing season may result in greater crop yields, dairy production is likely to be negatively affected by increased temperatures due to losses in milk yields and increased energy costs to mitigate heat stress on livestock.

Rising heat, increasing rainfall, and more extreme weather events have significant implications for the ability of infrastructure to withstand flooding and the electric grid to function reliably. Predicted sea level rise in Philadelphia and other coastal areas may increase risk to public safety and property. Health problems, including asthma and illnesses carried by mosquitoes and other insects, are expected to increase. New invasive

plant species are anticipated to move into the state, and those already here will increase; while native species and habitats will decline, and local species extinction may occur. This year, DEP has once again contracted with the Penn State research team to prepare a Climate Change Impacts Assessment Report Update. This current update will “drill deeper” into identifying the impacts of climate change on the agricultural sector, the Chesapeake Bay, and the resiliency of critical infrastructure in the commonwealth.

### **The Commonwealth Energy Assessment Report**

The Energy Assessment Report was released to the public in April 2019, and provides an analysis of the current, future, and potential energy landscapes in Pennsylvania. This report includes two main components:

- A Business-as-usual (BAU) energy assessment that provides a base assessment for Pennsylvania’s energy landscape from 2000-2050, given existing state and federal policies, and
- An analysis of energy resource potential opportunities that summarizes the technical and economic potential for various energy resource types for 2016 to 2050.

This report was created in partnership with DEP by expert consultants, ICF International Inc., who compiled historical energy and economic data from sources such as the Energy Information Administration, along with their own professional analysis, to develop a comprehensive assessment about future resource potential in the commonwealth. The purpose of creating this document is to provide a resource to inform policy makers, the energy industry, interested citizens, and other stakeholders about Pennsylvania’s energy trajectory and potential energy opportunities in the commonwealth. In addition, it serves as the basis for the development of a broader energy strategy for Pennsylvania and was used to inform Pennsylvania’s Climate Action Plan.

The analysis identified Pennsylvania's economic potential for renewable energy expansion and greenhouse gas (GHG) reduction in the state. Between energy conservation, energy efficiency, renewable electricity generation, and renewable energy production, Pennsylvania has the potential to economically reduce GHG emissions 30% below 2005 levels by 2025. Renewable power generation has the economic potential to increase almost 12-fold by 2050 from 2015 levels, equal to 40% of Pennsylvania's electricity generation and 77% of in-state electricity consumption. The development of wind, solar, and biomass show the greatest potential among renewables.

Energy efficiency could reduce consumption of electricity, natural gas, and motor gasoline 15% by 2050, while energy conservation could reduce consumption of electricity and natural gas by an additional 4% by 2050. Residential efficiency and conservation measures show the greatest overall potential in the short term, while industrial efficiency and conservation measures show the largest overall potential in the long-term.

The analysis also found that Pennsylvania has abundant energy resources, and, barring significant state or federal policy change, fossil fuels could continue to dominate the commonwealth's energy landscape and increase GHG emissions. Natural gas is rapidly becoming the Commonwealth's primary electricity generation fuel, and given existing policies, is projected to continue to grow, increasing 925% from 2005 to 2050. This tremendous increase will lead to continued significant emissions from electricity generation.

Despite this, by 2050, renewable and alternative fuels such as landfill methane, biomass, corn ethanol, biodiesel, digesters, etc. could be economically producing as much energy as anthracite coal, waste coal, and crude oil did in 2015. Wood and biogenic waste show the greatest renewable fuel growth, expected to rise 15% by 2050.

Additionally, if no state or federal policies are changed, nuclear generation is expected to decrease 31,562 GWh by 2050, equal to triple the combined total electric generation of all renewable and alternative fuels in 2015.

While energy efficiency measures are expected to decrease electricity use in the commonwealth, the transportation sector is expected to electrify significantly by 2050, increasing electricity consumption from the transportation sector fourfold from 2005.

The analysis also found that there is significant potential in combined heat and power (CHP): There are over 2 GW of CHP capacity that could be economically developed by 2050, with payback periods under 10 years. For context, that is quadruple the amount in 2015 and equal to more than double the amount of hydroelectric generating capacity in 2015.

Although not quantified in the report, technologies such as battery energy storage, microgrids, hydrogen fuel cells, electrification, and the Internet of Things are identified as next phase technologies which may make a significant impact on the energy sector and influence energy distribution and use.

### **Pennsylvania's Climate Action Plan**

In April 2019, Governor Wolf released the Pennsylvania Climate Action Plan, which includes over 100 actions that government, businesses, and citizens can take to both mitigate and adapt to climate change.

The Plan set targets in line with Governor Wolf's Executive Order 2019-01 aimed at reducing statewide GHG emissions 26% from 2005 levels by 2025 and 80% by 2050. If all states achieved similar GHG reduction targets, and other nations met comparable goals, climate science analysis suggests that global temperature rise could be kept below

the 2-degree Celsius threshold cited by experts as the level beyond which dire consequences would occur, including sea level rise, superstorms, and crippling heat waves.

The Department's analysis team quantitatively modeled 15 of the actions, including actions such as increasing the Alternative Energy Portfolio Standard (AEPS), investing in renewable energy generation, increasing energy conservation and energy efficiency, and more. Using just those 15 actions, the analysis team projected GHG emissions would decrease 21% from 2005 levels by 2025 and 36% by 2050.

Specifically, the team quantified a number of actions related to the electricity generation sector. Three of those actions are as follows:

- Increasing Alternative Energy Portfolio Standard Tier 1 targets which include renewable energy such as wind to 30% by 2030, with a 6% solar carve out, and then increasing the Tier I target again to 50% by 2050.
- Implementing a policy to maintain zero carbon nuclear generation at current levels, whether through zero emissions credits, inclusion in the AEPS, or some other mechanism.
- Limiting carbon emissions through an electricity sector carbon cap and trade program, like the Regional Greenhouse Gas Initiative.

The analysis team found that implementing those three actions could have significant environmental benefits. In fact, the analysis in the Climate Action Plan states that just increasing the AEPS Tier I target to those 30% and 50% levels would reduce in-state emissions by an average of 16 million metric tons of CO<sub>2</sub> equivalent per year from 2020-2050.

The 6% solar carve out recommended in the Climate Action Plan was derived from another project led by DEP's Energy Programs Office, with funding from the U.S. Department of Energy Solar Energy Technologies Office, called the Finding Pennsylvania's Solar Future project. That planning project brought together expert stakeholders from across sectors to explore whether Pennsylvania has sufficient technical and economic potential to increase in-state solar generation to provide 10 percent of in-state electricity consumption by 2030.

Stakeholders explored likely pathways to achieving the target and identified, through modeling, associated economic, environmental, and health impacts. The Project team took significant input from both our committed partners and our robust stakeholder group composed of over 500 members to develop Pennsylvania's Solar Future Plan. The Plan presented 15 strategies to increase solar generation to 10% of in-state electricity consumption by 2030. The Solar Future Plan recommends increasing the solar carve out to between 4%-8% by 2030.

Transportation is currently the third largest source of GHG emissions in the commonwealth, accounting for over 20% of emissions in 2015. The Plan also includes quantitative analysis on three actions aimed at implementing sustainable transportation planning practices in Pennsylvania. Those actions include:

- Reducing vehicle miles traveled for single-occupancy vehicles,
- Implementing a strategic plan and incentives for increasing electric vehicle use, and
- Increasing the use of clean public transportation through electric municipal bus fleets.



These actions, together, have the potential to reduce GHG emissions by over 1 MMTCO<sub>2</sub>e in 2025 and nearly 25 MMTCO<sub>2</sub>e in 2050 from 2005 levels.

DEP's Energy Programs Office, in collaboration with the Drive Electric PA Coalition, produced The Pennsylvania Electric Vehicle (EV) Roadmap, which serves as a tool for expanding the EV knowledge base, documenting baseline EV data, and identifying EV policies, plans, and programs for Pennsylvania. The Roadmap addresses the impacts, policy options, and possible market interventions regarding EV adoption and infrastructure construction throughout the state. Strategies outlined in the Roadmap assist DEP and the Drive Electric Pennsylvania Coalition in planning implementation measures to prepare Pennsylvania for a growing EV market.

### **Citizen Action/Options**

The Pennsylvania Climate Action Plan is for all Pennsylvanians. Each strategy discussed in the Plan contains recommendations for government leaders, but also includes call-out boxes listing actions that citizens and businesses can take to support each strategy, help decrease GHG emissions, and adapt to climate change.

Many opportunities exist for individuals to reduce their energy consumption and carbon footprint. These include: conducting a home energy audit to identify energy efficiency opportunities such as installing energy efficient lighting and weatherproofing; avoiding energy intensive activities such as running dishwashers and dryers during peak hours (late afternoon and evening); and conducting regular maintenance on HVAC systems to ensure optimal operation and energy use. Individuals can utilize their utility providers' Act 129 programs, which provide financial incentives for energy-saving investments in the home.

Pennsylvanians can also shop for zero-carbon and renewable electricity on PAPowerSwitch.com to further offset their carbon footprint.

Individuals can also contribute to sustainable transportation efforts by choosing alternative forms of transportation such as public transit, carpooling, walking, or biking; utilizing state and federal financial incentives to purchase electric vehicles; or teleworking, where possible.

There are also opportunities for individuals to help their communities adapt to the effects of climate change. Increased precipitation can be expected to strain wastewater and stormwater management in the commonwealth. Citizens can help these systems adapt to a changing climate by promoting stormwater best management practices on their properties and by reducing water consumption. Specifically, individuals can reduce impervious surfaces and plant native vegetation on their property to allow stormwater infiltration and can install rain barrels and rain gardens to decrease stormwater runoff. Individuals can reduce water consumption by installing water-efficient faucets and appliances; planting native and drought-resistant plants that don't require watering; positioning sprinklers so that water is not falling on pavement; and avoiding mid-day irrigation, to reduce evaporation.

## **Conclusion**

Governor Wolf called climate change “the most critical environmental threat facing the world.” Such a threat requires action from government, businesses, and individuals to mitigate and adapt to climate change. The Climate Action Plan lays out over a hundred actions that leaders can take to address this threat and shows that implementing just a few of these actions can have a significant impact on GHG emissions.

Governor Wolf's Executive Order 2019-01 set the first Climate Goal for the Commonwealth of Pennsylvania and directed state agencies to take specific actions to lead by example in meeting these goals. These include actions related to reducing overall energy consumption, replacing gasoline vehicles with cars that use battery technologies,

reducing vehicle miles traveled, and procuring renewable energy to offset at least 40% of the Commonwealth's annual electricity use.

Citizens of Pennsylvania also have a vital role in mitigating and adapting to climate change, and the Plan identifies numerous actions that can be taken by businesses and individuals that would move the commonwealth closer to our GHG reduction goals and prepare Pennsylvania for a changing climate.

Thank you for the opportunity to present this information to you today. I stand ready to respond to any questions you may have.



**Testimony of Robert Altenburg  
Director, PennFuture Energy Center  
Before the Pennsylvania House of Representatives  
Democratic Policy Committee  
July 25, 2019**

Good afternoon Chairman Sturla, Representative Comitta, and members of the committee, and thank you for inviting me to testify today. My name is Robert Altenburg and I am the director of the Energy Center at Citizens for Pennsylvania's Future, also known as PennFuture. We are a statewide environmental nonprofit with offices in Harrisburg, Philadelphia, Pittsburgh, and Mt. Pocono. Since our founding in 1998, we have promoted clean energy and energy efficiency across Pennsylvania, and that work is now more important than ever.

**We Must Act on Climate**

Many people have spoken before this committee on the need for action to prevent the worst effects of climate change. While moving to a clean renewable energy economy is good for jobs, public health, electric reliability, and has many other benefits, climate change remains the most pressing issue. Last October, the Intergovernmental Panel on Climate Change (IPCC) released a special report finding that to have a reasonable chance at keeping global warming below 1.5 °C we will need to reduce emissions by 45 percent from 2010 to 2030 and reach net-zero emissions by 2050.<sup>1</sup> This is a significantly more aggressive pathway than our nationally determined contributions under the Paris agreement (26 to 28 percent from 2005 to 2030), or the pathway recently proposed by Governor Wolf (Meeting the Paris goals, then 80 percent by 2050). While these will all be challenging targets for the Commonwealth to reach, we believe the environmental rights amendment of the Pennsylvania Constitution obligates the Commonwealth to act. Action is required—although we have made some progress towards these goals, proceeding with business-as-usual and relying on more and more natural gas generation guarantees failure.

**We are Becoming Dangerously Dependent on Natural Gas**

As recently as 2004, about 90% of electrical generation in Pennsylvania came from either nuclear or coal, but that number has been dropping sharply. About 27% of our nuclear capacity is scheduled to go offline in the next two years, and coal generation is declining even more sharply in the face of competition from gas plants. After the planned retirement of the Bruce Mansfield coal plant in Shippingport, and the conversion of the Brunner Island plant in York from coal to natural gas, we will only

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<sup>1</sup> IPCC, Global Warming of 1.5°C (Oct, 2018). Available at: [https://report.ipcc.ch/sr15/pdf/sr15\\_spm\\_final.pdf](https://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf)

have five of the very large (>600 megawatt) plants left in operation. All but one of their remaining coal-fired units will be in their late 40s or early 50s—already past the normal retirement age for such plants.

Our fleet of coal and nuclear plants aging, and no one is willing to risk financing new plants that may never be competitive. Because of that, we have seen gas go from five percent of generation in 2004 to 34% in 2017, and are on track to see it go to 70% or more of our generation in a few short years. Considering gas may already be emitting more carbon pollution than coal, the prospect of relying on gas for so much more generation is clearly unsustainable.

Not only is gas a climate killer, dependence on gas is bad for reliability too—we just need to look to the 2014 polar vortex for an example. When a generator is unable to run when needed, that is known as a “forced outage.” Normally in the winter we see forced outage rates of between 7% to 10%, but in January of 2014 we saw that spike to over 22%—of those outages 25% of the total were natural gas facilities.<sup>2</sup>

To prevent overreliance on gas, we need to significantly ramp up our clean renewable energy like solar and wind in Pennsylvania and begin the transition away from fossil fuels.

### **We Need to Stop Subsidizing Fossil Fuels**

In spite of the need to get to net-zero carbon emissions by 2050, Pennsylvania is still actively incentivising more and more gas development including drilling, pipelines, and users of gas.

PennFuture did an analysis back in 2015 that found \$3.2 billion in fossil fuel subsidies in Pennsylvania in fiscal year 2012 – 13 alone.<sup>3</sup> That included all fossil fuels, but a significant number of the identified programs apply to natural gas sources. There are also additional natural gas subsidies that weren’t counted towards the \$3.2 billion figure such as the \$1.65 billion in tax breaks that Shell will receive to build an ethylene cracker plant in western Pennsylvania.

In spite of this report, natural gas industry representatives still refer to theirs as an “unsubsidized” industry. That is a blatant lie. To make that claim, they have invented their own definition of “subsidy” that excludes tax breaks, programs to incentivize gas markets, government-funded research and development that enabled fracking, and any other benefit they receive. They also ignore the fact that being permitted to pollute the environment without paying for the damage they are causing may be the largest single subsidy they receive.

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<sup>2</sup> PJM Interconnection, Analysis of Operational Events and Market Impacts During the January 2014 Cold Weather Events (May 8, 2014).

<sup>3</sup> PennFuture, Fossil Fuel Subsidy Report For Pennsylvania, (April 2015), available at: <https://www.pennfuture.org/News-Fossil-Fuel-Subsidy-Report>

## Incentivizing Clean Renewable Generation

Fortunately, there are some policies that we could implement to incentivize clean energy:

### *Expand our Alternative Energy Portfolio Standard (AEPS)*

House Bill 1195 (Comitta), is a good start that would extend and expand our Alternative Energy Portfolio Standard (AEPS). The current AEPS reaches its peak in 2021 requiring only 8% Tier-1 generation (with only 0.5% of the generation coming from solar). This may have been a reasonable target in 2004 when the AEPS was passed, but we are now lagging behind other states. By comparison, New Jersey<sup>4</sup> and New York<sup>5</sup> have 50 percent targets while Maryland<sup>6</sup> and Delaware<sup>7</sup> have 25 percent targets. HB 1195 (and the similar SB 600) adopt a much better goal of 30% clean renewable energy by 2030 with 7.5 percent of our generation coming from grid-scale solar PV and 2.5 percent from distributed PV sources.<sup>8</sup>

In addition to increasing the standard, these bills also encourage low-cost procurement through long-term contracting. Under such provisions, a portion of credits will be obtained through contracts of 12 to 20 years. This allows developers of clean renewable energy projects to secure financing at more favorable rates, thus lowering development costs and costs to consumers. This is a particularly important issue for wind development and larger grid-supply solar.

### *Enable Community Solar*

The analysis conducted by the Finding Pennsylvania's Solar Future project has shown we have more than enough available land to significantly increase solar generation—our abandoned mine lands alone account for more land than we need, and solar rooftops could also provide well over 10% of our generation—but unfortunately not every citizen has reasonable solar access. People who rent, live in multi-family housing, low- and moderate-income citizens, and people who are planning to move may not be willing or able to invest in solar panels for their rooftops. House Bill 531 (Kaufer), addresses this problem by enabling Community Solar in Pennsylvania.

If passed, that will let families and businesses in Pennsylvania who lack solar access either buy or rent a share of a larger solar system somewhere in their utility territory and

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<sup>4</sup> N.J. Rev. Stat. §48:3-49 *et seq.*

<sup>5</sup> NY PSC Order Case 03-E-0188.

<sup>6</sup> Md. Public Utilities Code Ann. § 7-701 *et seq.*

<sup>7</sup> Del. Code Ann 26 § 351 *et seq.*

<sup>8</sup> Modernizing Pennsylvania's Renewable energy Standards, Co-Sponsorship Memo, <https://www.legis.state.pa.us/cfdocs/Legis/CSM/showMemoPublic.cfm?chamber=H&SPick=20190&cosponId=29188>

have the generation from that share be reflected in lower electric bills. In addition, the centralized systems will likely be far more cost-effective to build than individual rooftop systems which may further control costs.

### *Institute a Cap and Trade Program*

When we faced the problem of acid rain we used a cap and trade program that not only cut emissions faster than expected, it did so for less than the projected cost. A similar program could be used to reduce carbon pollution. Under such a system Pennsylvania, or a multi-state entity, could create a set number of carbon allowances and auction them off to those companies that need them. Aside from encouraging businesses to reduce pollution, such a plan would also create a source of revenue that could be re-invested in energy-efficiency, renewable energy, or in mitigating the impacts of the program on vulnerable groups such as low and moderate income families.

Several groups, including PennFuture, have joined in a petition to the Environmental Quality Board asking them to institute a carbon pricing program under their existing authority. While that would help, any revenue would need to go to the general fund and would not necessarily be reinvested to further reduce carbon. A better solution would be for the legislature to act and direct the revenue to key goals such as lessening impacts on low- and moderate-income families, funding more cost-effective energy efficiency, and supporting clean energy projects.

### *Promote Consumer Electric Choice*

For people who are currently unable to generate clean renewable energy on their own, Pennsylvania's consumer electric choice program, known as "PAPowerSwitch" provides an alternative. PennFuture encourages people to take advantage of this program,<sup>9</sup> but residential customers in particular still tend to rely on their utility as a default service provider. (In PECO territory for example, almost 90 percent of industrial customers shop for electricity but less than 30 percent of residential customers do so.) Even when customers shop, buying clean energy typically isn't their primary motivation.

Part of the problem with attracting residential customers is that the various offers can be confusing and it's difficult to know if you are making the right choice. We suggest that consumers shop for plans that offer 100% renewable energy at a fixed rate guaranteed for a least one year with no additional monthly fee or enrolment fee. Customers can often find such plans at or below the utility price-to-compare, but it isn't always an easy process.

More can be done to build consumer awareness. One possible solution would be to institute a consumer labeling program similar to other labels like "Energy Star" or

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<sup>9</sup> See: <https://www.pennfuture.org/takethepowerback>

“Organic” that would make it easy for consumers to identify 100% renewable energy plans that meet reasonable criteria for consumer protection.

## **Moving Forward**

While clean renewable energy like solar is vital to meet our climate goals, it's also the clear path forward to address the issue of jobs. Right now the coal generation industry employs about 2,000 people in Pennsylvania and the nuclear industry employs about 4,000 people. As plants age and are not replaced, those jobs will be lost. One way to offset losses and even grow employment is through solar. A recent report from the National Association of State Energy Officials (NASEO) showed that solar alone already accounts for well over 4,000 jobs in Pennsylvania with much less than one percent of our generation (450MW installed).<sup>10</sup> As solar grows to ten percent or more of our generation, we can easily offset the losses from fossil fuels and nuclear generation.

These are just a few examples of the strategies we have available to address the problem, and there are many more options we could discuss. We have the technology, and we have many effective policy options, what we need is the will on the part of our leadership to take meaningful action. Pennsylvania cannot solve the climate crisis alone, but it is critical that we do our part.

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<sup>10</sup> NASEO & EFI, Energy Employment by State, 2019.





## **Hearing on Green PA: Working Toward a Sustainable Future**

Thur, July 25

Testimony of Jim Wylie, Sierra Club

Southeastern PA Group, Volunteer Chair

### **Introduction**

Good morning. My name is Jim Wylie. I am the chair of the Southeastern PA Group of the Sierra Club. I am a volunteer. Which means, I'm doing this for the fun of it. Actually, I'm a dedicated activist volunteer for the Sierra Club because I recognize the need to act locally on environmental issues that affect our communities and our planet. And a whole lot of other volunteers are eager to dedicate their time to programs like the one I'm going to speak about today.

Thank you for inviting me to participate on this panel today to talk about how we can all work towards a more sustainable future.

### **SC priorities in Southeastern PA**

Sierra Club is a member-led, staff-supported organization. Meaning that the 3.5 million members are organized to set policy and priorities and then we hire staff, professionals to help us: organize, lobby, administer and do other work that requires a consistent face. In the greater Philadelphia area we are all volunteers working to explore, enjoy and protect the planet.

In southeastern PA our priorities are:

- Advocating for renewable energy
- Educating about and pushing for the reduction of plastics – and reducing waste in general
- Resisting the expansion of gas pipelines and fossil fuel infrastructure in general
- Improving our local transportation systems

### **Focus on Advocating For RE**

By far, our biggest program in the greater Phila area, the program and events that draw the most volunteers is the push to increase the demand for more renewable energy and in general advocate for solutions to reducing our greenhouse gas emissions.

The Ready For 100<sup>1</sup> program is about setting community-wide goals for transitioning to 100% renewable energy. We have Ready For 100 teams in Chester, Montgomery, Delaware and Philadelphia counties<sup>2</sup> that are working with local volunteers, Environmental Advisory Committees and municipal elected officials that are interested in transitioning to renewable energy.

Nationally, more than 25% of Americans live in areas that have set 100% RE goals, including 130+ cities, 10 counties, 7 states (HI, CA, NM, NV, WA, NY, and ME), DC, and Puerto Rico. Meaning, these municipalities have passed resolutions that set a goal of 100% renewable energy by a certain date and calling for the development of an open and inclusive planning process to get there.

### Local Commitments

Of those 130 cities nationally, 20 of them are in Pennsylvania. 18 in this area (Chesco, Montco, Delco) and State College and Reading. More are coming soon. Would a state level commitment, like that of Gov Wolf's 80x50 goal for the commonwealth<sup>3</sup>, be more efficient? Yes, but we are not waiting. Certainly a state level commitment is complimentary with municipal commitments and we think the more townships and boroughs that join the RF100 list the louder the message to Harrisburg that this is the direction we want to go. So, our goal is 2,562 resolutions passed in PA.

### We Need Renewable Energy Advocates

Our goal is to dramatically increase the demand for local renewable energy by **CHOOSING** to buy renewable energy instead of fossil fuel-based energy. We have been told that solar and wind is a competitive energy choice. And it is, but we have to work a little bit to realize those competitive prices. Outside of Philadelphia, we don't have municipal staff that is trained to seek out energy opportunities or even speak the language of energy professionals.

- We have to aggregate our buying power – big users attract competitive bids
  - o The City of Philadelphia<sup>4</sup> has set an important precedent by committing to purchase solar electricity from a **new 70 MW solar farm built in Adams County**. Other large institutions are looking at doing the same, including SEPTA, UPenn, Temple.
- We have to commit to long term deals – allow RE developers to get financing to build new utility scale facilities (like Phila)
- We have to consider efficiency opportunities that will free up money to do transition planning and invest in new infrastructure
- We have to look for policy improvements that will open doors to local RE development, not put up obstacles
- We have to collaborate on doing regional energy planning because multi-muni planning is more efficient and creates a louder voice.
- Finally, we need state policy that opens doors – like Community Solar and Community Choice Aggregation.

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<sup>1</sup> [www.ReadyFor100.org](http://www.ReadyFor100.org)

<sup>2</sup> <https://www.sierraclub.org/pennsylvania/southeastern/ready-for-100>

<sup>3</sup> <https://www.governor.pa.gov/newsroom/governor-wolf-establishes-first-statewide-goal-reduce-carbon-pollution-pennsylvania/>

<sup>4</sup> <http://www.philaenergy.org/philadelphia-mayor-signs-legislation-for-large-scale-purchase-of-renewable-energy/>

And even better – beyond policy and regulations, I think there is an opportunity for state legislators to build bridges between southeastern PA buyers and mid-state sellers of RE.

Let's just look at West Chester area. We spend **\$276M**<sup>5</sup> on energy every year. We are in the process of building a transition plan to 100% renewable energy. That's \$276M every year that we are **CHOOSING** to spend on RE. Here's our money, come make us an offer. In 5 years, I bet we'll be getting offers from offshore NJ wind production. Wouldn't it be better for everyone in this room if we locked up contracts with mid-state PA solar developers?

That's just WC. Greater Phoenixville, Downingtown, Kennett are looking at doing the same thing. 20 municipalities in Montco just had a kickoff meeting about doing collaborative energy planning. Radnor Twp just issued an RFP for energy planning. Tredyffrin, Concord, Swarthmore, Media, W Bradford and several others also have growing interested.

The point of all this is – let's pay attention to the buying power of southeastern PA communities when they say – "We Want Renewable Energy, please sell it to us!". Let's do what we can to match buyers and sellers of renewable energy in Pennsylvania.

Thank you.

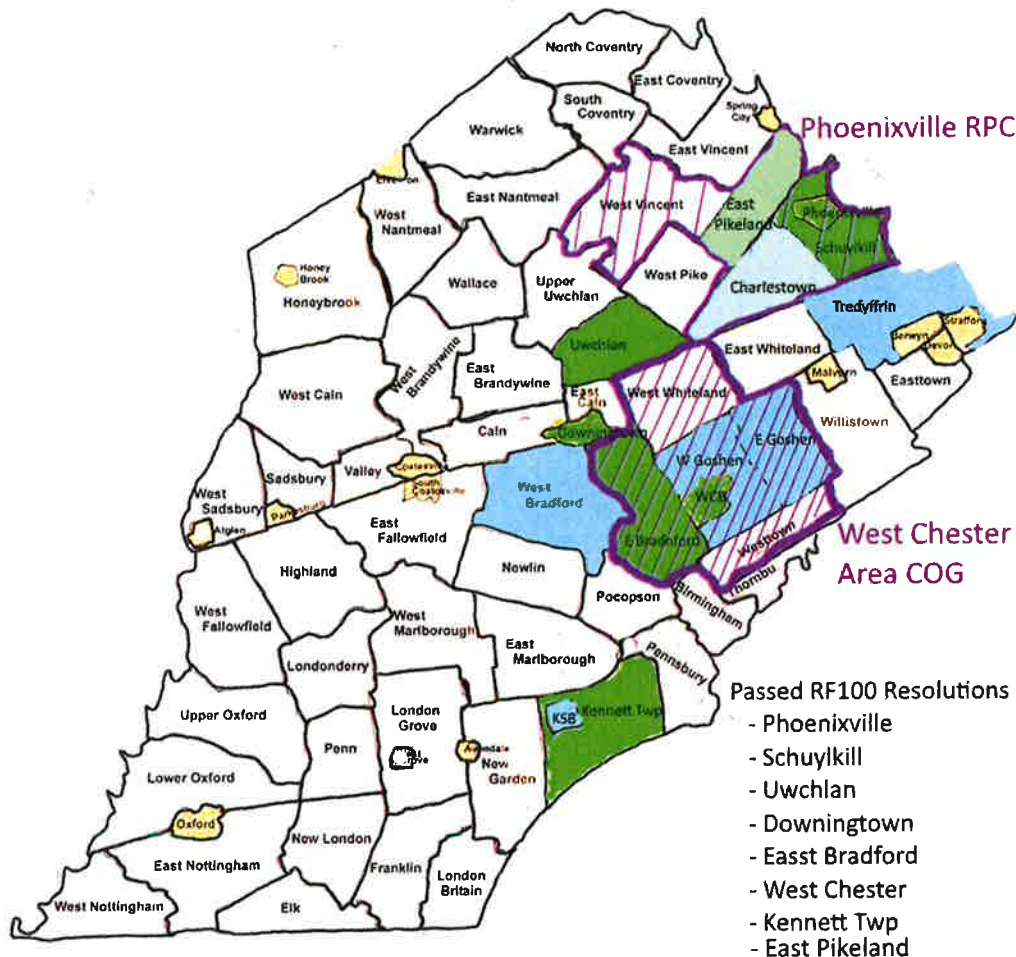
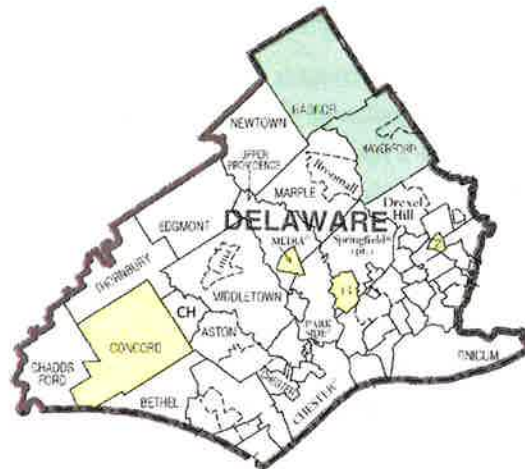
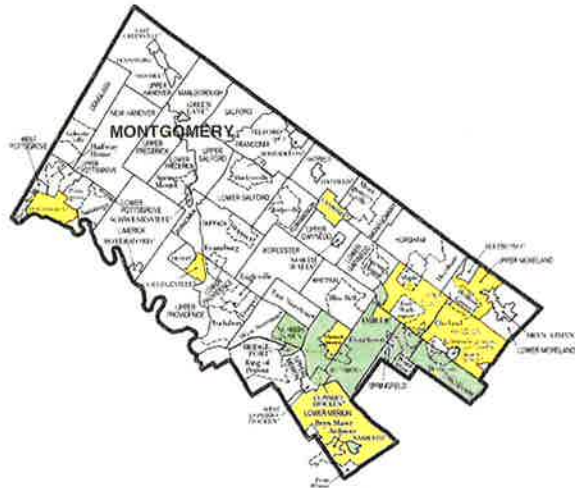
Jim Wylie

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<http://sc.org/pa-spg>

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<sup>5</sup> <https://dvrpc.org/webmaps/MunicipalEnergy/>





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Executive Director

**MAREC Testimony to the Pennsylvania House Democratic Policy Committee on Green PA –  
Working for a Sustainable Future**

Chairman Sturla, Representative Comitta and Members of House Democratic Policy Committee, I am Bruce Burcat the Executive Director of the Mid- Atlantic Renewable Energy Coalition (MAREC). I appreciate the opportunity to provide testimony on the Committee's work for a sustainable future. My testimony will focus on the benefits of wind and solar energy, which contribute to a sustainable future and greatly benefit the economies of the state and local communities in which they are located.

MAREC is an organization representing many of the leading utility-scale wind and solar developers, wind turbine manufacturers and public interest organizations that support the development of renewable energy in the region. MAREC members have developed many of the renewable energy projects that supply carbon free energy to Pennsylvania.

One of the main drivers behind the development of wind and solar energy in Pennsylvania and in other states are renewable portfolio standards. In Pennsylvania these standards are part of the Alternative Energy Portfolio Standards Act. The AEPS was enacted in 2004 to help bring emissions free energy generation and economic development benefits from renewable energy to the State. The target in the AEPS ultimately calls for only 8% of Pennsylvania's generation supply to come from renewable energy resources by May 31, 2021 and only 0.5% of these requirements must come from solar energy. On May 31, 2021, the requirement levels out at 8% and there no longer are requirements on default supplier and electric generation suppliers to procure *additional* amounts of renewable energy. It is important to emphasize that the goals of the AEPS are being met. However, MAREC believes that it is time for

Pennsylvania to take another look at the AEPS to update the Act to build on the success of the program and increase the standards.

As far as wind power is concerned, the Commonwealth has over 1000 direct industry jobs as a result of the AEPS. There has been \$2.9 billion dollars of investment through 2018 and more to come. Tax payments as a result of these projects are approximately \$2.5 million dollars annually and lease payments to farmers and other landowners are estimated to be between \$1 - \$5 million dollars per year. There are 29 active wind-related manufacturing facilities in the state. There is nearly 1400 MW of wind energy installed capacity making Pennsylvania the 18<sup>th</sup> ranked state for wind capacity in the nation<sup>1</sup> and first in the Mid-Atlantic region.

Solar energy, both utility-scale and distributed generation, provides a similar record of benefits from the resource being sited in Pennsylvania. While wind and solar generation have been a major benefit to the State, given PA's size and the regional and national landscape for renewable energy, Pennsylvania is lagging and is no longer positioned to gain significant benefits from renewable energy, especially after the 2021 final targets are met under the current AEPS. The capacity for solar development in the PA is dramatically higher than the current standards. With an increase to the AEPS, there is no doubt that the demand could be met with low cost wind and solar technologies.

MAREC would recommend your strong consideration to strengthen the AEPS, such as a bill like House Bill 1195 (SB 600), which was introduced in April. If enacted, the legislation would extend the AEPS to 2030 with a 30% target for Tier I renewables, with a minimum of 10% having to come from solar energy projects located within PA. We commend Representative Comitta and many members of this committee for sponsoring this bill. For comparison, New York has just enacted legislation that requires 70% renewable energy by 2030 and 100% clean energy by 2040. Last year, New Jersey enacted a 50% renewable energy standard. The General Assembly in Maryland just passed legislation to increase its standard to 50% from 25% and Washington, D.C. has gone to 100% renewables by 2032. We believe that Pennsylvania is well-positioned to move to a much higher standard than the current 8.5% standard.

What does it mean to pass a bill that is more than three times the current standard? The economic benefits of moving to a 30% goal means that the job creation in the PA will increase exponentially. *The top two fastest growing jobs in the United States are solar installer and wind technician.*<sup>2</sup> According to

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<sup>1</sup> Source: American Wind Energy State Fact Sheet for Pennsylvania:  
<https://www.awea.org/Awea/media/Resources/StateFactSheets/Pennsylvania.pdf>

<sup>2</sup> Source: Fortune Magazine, March 2019 based on the Bureau of Labor Statistics:  
<http://fortune.com/2019/03/11/the-20-fastest-growing-jobs-in-america-and-how-much-they-pay/>



the U.S. Energy Information Administration, moving PA to 10 percent solar by 2020 would create about 30,000 direct jobs and upwards of 100,000 jobs throughout the supply chain, providing and economic benefits of potentially \$1.6 billion annually through 2030.<sup>3</sup> Currently there are about 8,700 of renewable energy jobs in the state<sup>4</sup>

For both wind and solar that gets sited in Pennsylvania, farmers and other landowners will benefit from increased development and use of their land for projects. State and local tax receipts from renewable energy projects will also increase substantially as a result of such development. Farmers in Pennsylvania, and in a number of places around the U.S., rely on renewable energy development as a reliable cash crop and are able to continue to farm the vast majority of their land.

Now, I have talked primarily about the economic development aspects of more renewable energy; I would like to speak to the fact that both wind and solar provide substantial benefits to the environment. In addition to the fact that these resources use virtually no water in their generation process saving water consumption of nearly 1.8 billion gallons annually, there is no carbon dioxide emissions from these resources, so nearly 3.4 million metric tons of carbon dioxide are avoided under the current standards.<sup>5</sup> Again, an increase in the requirements for the AEPS would increase these savings almost four times if the 30% goal were adopted.

We have heard some concern that there may be insufficient resources to accommodate additional wind energy resources in Pennsylvania. We disagree and the facts establish a much different level of capacity for wind resources. First, we know that a 90 MW project is under construction and 68 MW of capacity are currently in advanced development in the State. Moreover, land-based technical wind potential at 80m hub heights show the potential for additional wind energy capacity of 108,986 MW.<sup>6</sup> Recent developments in turbine technologies would indicate that this number would be significantly higher.

While we think that a very significant portion of the 30% target that would come from in-state resources, like the entire solar carve-out piece, my organization stresses that any bill needs to strike a reasonable balance between in-state resources and out-of-state resources for compliance purposes. My members believe in a competitive landscape and allowing for wind and solar to compete in Tier I outside of the

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<sup>3</sup> Source: U.S. Energy Information Administration, Bloomberg New Energy Finance, Business Council for Sustainable Energy: <https://www.bcse.org/wp-content/uploads/Sustainable-Energy-in-America-Factbook-2018-Updated-Overview.pdf>

<sup>4</sup> Source: vi [www.e2.org/cleanjobspa](http://www.e2.org/cleanjobspa)

<sup>5</sup> Source: American Wind Energy State Fact Sheet for Pennsylvania: <https://www.awea.org/Awea/media/Resources/StateFactSheets/Pennsylvania.pdf>

<sup>6</sup> *Id.*

solar carve-out targets (10%) is an essential element of a well-designed program. Allowing some in-state resources to compete with out-of-state resources makes sense to help find the lowest cost for compliance and keeping costs of the entire program to a minimum. The current AEPS was designed this way and all of the state renewable energy programs regionally contemplate this plan, as PA and its neighbors are part of a regional grid. House Bill 1195 preserves this concept and we support it.

Finally, I would just emphasize that Tier I is already comprised of other resources that under the Act are deemed renewable energy. We strongly believe that Tier I should not be opened-up to any other resource for consideration, as that would lead to watering down the benefits of Tier I resources. Currently the State has had the advantage of the economic benefits for new renewable energy. In contrast, the other resources desiring to be in Tier I are not usually *new* resources that will provide economic development benefits of wind and solar energy; and some, do not have the environmental qualities that are desirable for Tier I consideration.

I want to thank this committee for this opportunity to comment on renewable energy in Pennsylvania, which has an abundant capacity for these resources. I will say that the General Assembly's efforts with the AEPS to this point has already increased economic development in the State, helped create a better environment for its citizens and served to drive down the cost of renewable energy resources, like wind and solar energy. Nevertheless, we believe that this is the right moment in time to act to significantly improve the AEPS.