

Advancing Economic Recovery by Doubling Down on Pennsylvania's Clean Energy Industries



The investments in nature-based industries and green job policies described in this platform are a down-payment on a more vibrant and sustainable economy. The policy recommendations would keep nature-based industries from collapsing as well as put many Pennsylvanians back to work at a time of great public health and economic uncertainty. Recovering from the pandemic should not stop with short-term stimulus efforts though. Policymakers should go further and shift the state economy away from the industries that have put the Commonwealth in the shaky economic position it is in by doubling down on Pennsylvania's growing clean energy economy.

For too long, Pennsylvania has relied on oil, steel and coal—and now fracked gas—to prop up its regional economies through natural resource extraction, putting the state at a competitive disadvantage during times of recession and national crisis. And it is now almost singularly focused on the petrochemical industry as another fossil fuel enterprise that would monopolize future economic activity, leaving small and mid-sized towns without long-term sustainable industries as well as a disastrous environmental legacy.

What all these industries have in common is the brutal economic and environmental conditions they leave behind. Small and mid-sized towns and cities throughout the Commonwealth have seen populations decline, youth flee their hometowns, and wealth leave to surrounding states with more stable and diverse opportunities. Boom-and-bust economic cycles have become the norm for blue collar and union workers. Towns are constantly on edge for the next big fossil fuel industry bankruptcy. Green spaces and landscapes are left scarred with culm piles, brownfields, and abandoned wells, affecting how municipalities can attract new businesses and tourism.

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Transitioning Pennsylvania away from its dedication to natural resource extraction won't happen overnight, but doing so isn't impossible either. Even before the pandemic, the fossil fuel industry was heading towards a financial cliff and the COVID-19 pandemic has only made the likelihood inevitable (Richards, 2019). A recent report by CarbonTracker Institute predicted that the COVID-19 pandemic could cause a \$25 trillion collapse in future fossil fuel profits (CarbonTracker Institute, 2020).

The fossil fuel industry has relied heavily on government interventions to stay afloat, but those come at a significant cost to taxpayers. Pennsylvania taxpayers provide more than \$3.2 billion in fossil fuel subsidies, which equals \$794 per Pennsylvania taxpayer (PennFuture, 2015, p. 5). Fossil fuel companies have already benefited from \$1.9 billion in CARES Act tax credits to keep them afloat during the pandemic (Dlouhy, 2020). The very business model of the fossil fuel industry, even though it is well over a century old, requires taxpayers to pick up its tab before, during, and after its operation. In other words, industry profits are privatized, but its costs are born on society writ large.

Supporting a vibrant, thriving clean energy industry in Pennsylvania is critical to the future success of Pennsylvania's economy and the well-being of its environment. Clean energy employs more than twice the number of workers as fossil fuel industries (E2, 2019). Diversifying and future-proofing the state's energy portfolio is one way to position the Commonwealth as an economic leader, providing new and environmentally-safe opportunities for its residents. Prior to the pandemic, one in three jobs in Pennsylvania were clean energy jobs (E2, 2019) and clean energy was adding jobs five times faster than the overall state employment growth rate. According to the U.S. Bureau of Labor Statistics Occupational Outlook, the fastest growing occupations between 2018 and 2028 will be solar photovoltaic installers and wind turbine service technicians. The median pay in 2018 for solar photovoltaic installers was \$42,680 per year and for wind service technicians it was \$54,370 per year. Overall, as of 2019, there were 90,000 jobs in clean energy industries (E2, 2019).

While Pennsylvania was an early leader in renewable development and we have significant potential for solar generation, surrounding states have seen far stronger solar growth in recent years. According to the Solar Energy Industries Association, Pennsylvania ranks 22nd in the nation in solar development with New Jersey, Maryland, New York, and even Massachusetts having more solar installed and more solar jobs than Pennsylvania. A joint project of the PADEP and the U.S. Department of Energy recently concluded a 30-month stakeholder-led project to investigate actions that

could increase the amount of in-state solar generation from our current target of 0.5 percent by mid-2021 to 10 percent by 2030. Reaching these goals could create more than 100,000 job-years of construction jobs and over 1,000 direct ongoing jobs (PADEP, April 2019).

The U.S. Department of Energy also reports over 71,000 energy efficiency jobs in 2019 with a year-over-year increase of 2,623 jobs (U.S. DOE, 2020). As the independent statewide evaluator reports, significant additional cost-effective energy efficiency reductions are available through the Act 129 program and there is considerable potential for increased energy efficiency jobs (PA Pennsylvania Public Utility Commission, 2020).

In addition to clean energy being a job creator, it is also a key tool for creating a cleaner environment. Projections indicate that to avert the worst impacts of climate change we must achieve net-zero carbon emissions by 2050. Achieving that target will likely require renewable generation being used for 70 to 85 percent of electricity by 2050, limiting emissions from industrial sources between 60 and 90 percent, and sharply limiting gas to around 8 percent of generation (Intergovernmental Panel on Climate Change, 2018). Despite the job growth, many market and legislative barriers still hamper Pennsylvanians from fully benefiting when compared to other states. Pennsylvania can continue this trajectory by adopting the following recommendations. They will not necessarily provide job opportunities immediately, but would instead support strong, forward-looking clean energy industries to continue growing in the state so that our recovery from the pandemic is swift.



Enable Community Solar

While the distributed (largely rooftop) solar market has been strong for the past few years, it is estimated that 50 to 75 percent of residents lack effective access to solar power. Those impacted includes those living in multifamily housing, renters, low-income families, houses located in shady areas, and other situations. One solution to immediately expand access to solar development is to enable community solar in Pennsylvania, allowing solar consumers to buy or lease a share of a centralized solar system and count the resulting generation much like if it came from their rooftop. Bipartisan bills in the House (HB531) and Senate (SB705) would accomplish this goal. As soon as this program is enacted, private solar developers would be able to invest in developing community solar systems in Pennsylvania.

Incentivize Grid-Scale Solar

In addition to small distributed solar systems that often range from 5 kilowatts (kW) to 3 megawatts (MW) in size, Pennsylvania also has significant potential to install larger grid-scale solar systems such as the 70MW system that BP Lightsource is building under contract with Penn State University, or the similarly-sized system that Community Energy is building to supply power to the city of Philadelphia. One issue holding back development is the inability to craft long-term contracts to sell the power generated, making it more difficult to secure private investment.

To incentivize development, a requirement could be added to the State's Alternative Energy Portfolio Standards Act to ensure a certain percentage of the energy and alternative energy credits be obtained through competitively-bid long-term contracts of between 12 and 20 years.¹

For example, state legislators could pass SB600 to extend and expand the current Alternative Energy Portfolio Standards Act to require the state obtain 30 percent of its electricity from clean Tier 1 energy sources by 2030 with a significant carve-out for solar photovoltaic generation.² The solar targets in that bill alone could create over 100,000 construction jobs and over 1,000 on-going jobs at a net increase in consumer energy spending of 1.2 to 1.4 percent over the next 15 years (PADEP, November 2018), while making the necessary changes to allow for long-term contracting.

Expand Energy Efficiency Opportunities for Businesses, Homeowners, and Renters

Currently, Pennsylvania is in Phase III of the Act 129 Energy Efficiency Program and is working on developing Phase IV. As part of the Phase IV development, the Independent Statewide Evaluator (SWE) analyzed the potential for additional energy efficiency improvements and found that “if Pennsylvania were to pursue all cost-effective achievable potential per the Achievable Potential scenario, the SWE team estimated it would provide \$5.80 billion in present value benefits to the economy, at a present-value cost of \$4.75 billion. In other words, on average at full scale, for every dollar invested in efficiency, Pennsylvania would accrue \$1.22 in economic benefits.” Crucially, this is based on a very limited cost-benefit analysis and does not consider public health and environmental benefits. Nonetheless, it shows the significant benefit increasing investments in energy efficiency can have. To take advantage of this economic opportunity and expand the efficiency industry, three policies are recommended:

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- **Update Act 129:** Unfortunately, Act 129 was designed with investment caps built into the program, which means many energy efficiency measures that can be deployed at no net cost to the consumer will not be required under the program. If legislation were passed removing the investment caps, the Public Utility Commission (PUC) would have the ability to ensure the program can maximize cost-effective emissions reductions.
- **Consider Energy Efficiency in Utility Rate Cases:** Currently, when an electric utility files for a rate increase with the PUC, the Commission must ensure that the proposed rate is “just and reasonable” (66 Pa.C.S. § 1301) before approval. Legislation could specify that such a determination requires the Commission to inquire if investment in reasonably available and cost-effective energy efficiency measures could achieve the same goals as a proposed rate increase.
- **Expand Commercial Property Assessed Clean Energy (C-PACE):** Pennsylvania recently took a positive step to encourage private investment in energy efficiency by enabling C-PACE. This program lets most commercial entities in participating municipalities obtain loans for clean energy investments that are paid for through property assessments. By lowering the risk for lenders, this makes private capital available at competitive rates. However, this program excludes commercial entities operating multi-family residential units. Nationwide data indicates that approximately 20 percent of the \$1.5 billion of C-PACE financings have been for mixed use and multi-family projects (PACENation, 2019). In Philadelphia alone, over \$40 million of mixed-use or multifamily projects have been prevented from accessing competitive capital that facilitates cleaner, healthier buildings. Based on C-PACE deal data from across the country, every \$1 million of C-PACE financing deployed equates to a carbon impact of removing approximately 1,000 cars from the road (PACENation, 2019). Through 2019, \$1.54 billion of C-PACE financing had been deployed, which created 17,848 jobs (Environmental Protection Agency, 2020). The average C-PACE project creates approximately 7 jobs and every \$1 million of C-PACE investment and will generate approximately 12 job-years (PACENation, 2019). Legislators can expand private investment in energy efficiency by amending the state’s C-PACE law to include multi-family residential units. This would provide a much-needed tool for landlords to retrofit apartment buildings and other multi-family dwellings.³

Build Clean Transportation Infrastructure

In many areas of the country, transportation emissions are the largest source of carbon pollution and create significant adverse health impacts—particularly in densely populated areas.

The market for electric vehicles is expected to experience significant growth as internal combustion vehicles are expected to decrease to 40 percent of the market share by 2030, and with appropriate investment, the Northeast and Mid-Atlantic could see a 60 to 80 percent reduction in carbon pollution by 2050. Reaching this level would require regional investments of \$12 to \$25 billion, but would return over \$150 billion in savings to consumers. When both economic and environmental benefits are considered, net benefits grow to over \$311 billion. Two policies are important to consider:

- **Invest in infrastructure to support vehicle electrification:** One avenue to expand electric vehicle infrastructure is to work with our existing electric distribution companies regulated by the Public Utility Commission by passing SB 596 (Mensch). This bill would require the preparation of a transportation electrification opportunity assessment, a statewide goal for vehicle electrification 50 percent above the business-as-usual case by 2030, and the development of a framework and plans to electrify transportation infrastructure.
- **Implement a cap-and-invest program funding clean vehicles and infrastructure**
Currently, a number of states in the Northeast are working together on the “Transportation Climate Initiative Regional Policy Development Process” and have released a framework for a draft of the proposal. Under this framework, fuel suppliers would be required to report emissions to participating states consistent with state monitoring and verification requirements. They would also be required to obtain allowances sufficient to cover those emissions, most of which would be obtained through an auction. Proceeds from the auction would be returned to the participating state and would be invested to achieve carbon emission reductions, reduced air pollution, affordable access to transportation, and other policy goals.



Convening a Green Recovery Summit for Municipal Officials

It is important that the state stimulus and recovery efforts recommended in this framework do not lose sight of the county commissioners, mayors, and municipal officials often tasked with carrying out infrastructure projects. Ensuring that Pennsylvania’s recovery is equitable across communities and the state is critical so that an uneven economic renewal does not settle in like it did after the Great Recession.

To this end, Governor Tom Wolf should convene a statewide *Green Recovery Summit* of local and county officials to develop and adopt an economic recovery framework. The convening would discuss a green economy, assess its existing reach across the Commonwealth, and develop prioritized clean and sustainable infrastructure projects for investment so that state agencies and local officials are collaboratively working together and advancing projects as quickly as possible. Furthermore, it could be an avenue for federal officials and congressional staff to learn about shovel-ready projects and local sustainability needs while developing federal legislation.

Ultimately, the goal of the Summit is to build consensus and get state policy leaders on the same page. Stimulus and recovery dollars should be invested quickly to put people back to work, but it should also be done smartly. This platform document could provide a useful framework for such a convening, particularly because of its focus on infrastructure projects.

Endnotes

- 1 In addition to small distributed solar systems that often range from 5 kilowatts (kW) to 3 megawatts (MW) in size, Pennsylvania also has significant potential to install larger grid-scale solar systems such as the 70MW system that BP Lightsource is building under contract with Penn State University, or the similarly-sized system the Community Energy is building to supply power to the City of Philadelphia. One issue holding back development is that, without long-term contracts to sell the power generated, it's difficult to secure private investment. To incentivize development, a requirement could be added to the State's Alternative Energy Portfolio Standards Act to ensure a certain percentage of the energy and alternative energy credits be obtained through competitively-bid long-term contracts of between 12 and 20 years.
- 2 See e.g. SB 600, Section 3.2.
- 3 It's unknown what kind of job impact changes to the state C-PACE law would have, though it's estimated it would generate immediate project opportunities. As a result, the economic impact of that policy change is not included in the estimates for this report.



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PennFuture is leading the transition to a clean energy economy in Pennsylvania and beyond. We are protecting our air, water and land, and empowering citizens to build sustainable communities for future generations.

Citizens for Pennsylvania's Future—PennFuture—was created in 1998 as a statewide environmental advocacy organization. Since our founding, we have achieved significant legal and policy victories that reduce pollution and protect the environment. We have provided millions of dollars in pro bono legal services while setting critical precedents and enforcing environmental laws across the commonwealth.

Our team is working daily to protect public health, restore and protect natural resources, and move Pennsylvania toward a clean energy future. With offices in Harrisburg, Pittsburgh, Philadelphia, Erie, and Mt. Pocono, our team litigates cases before regulatory bodies and in local, state, and federal courts; advances legislative action on a state and federal level; provides public education; assists citizens in public advocacy; engages with grassroots citizenry to support environmental causes; and engages with communities to increase participation in democratic processes.