



Prepared Comments of

**Sharon Pillar, Executive Director, and
Matt Mahoney, Director of Government Affairs,
for the Pennsylvania Solar Center**

Before the

**House Environmental Resources & Energy Committee
Public Hearing on PRESS Legislation / HB 2277**

June 24, 2024

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Honorable Greg Vitali, Chair
Honorable Martin T. Causer, Republican Chair
House Environmental Resources & Energy Committee
Hearing Room G-50, Irvis Office Building
Harrisburg, PA 17120

Re: Public hearing on PRESS Legislation / HB 2277

Dear Representative Vitali, Representative Causer, and members of the Committee:

Please accept the enclosed comments assembled for the House Environmental Resources & Energy Committee's public hearing on PRESS Legislation / HB 2277 scheduled for Monday, June 24, 2024. These comments are being submitted on behalf of the Pennsylvania Solar Center, a nonprofit, nonpartisan organization that envisions a world powered by energy that is reliable, affordable, and sustainable for all. Our mission is to provide trusted guidance to usher all Pennsylvanians into the clean energy economy, building a bridge to a sustainable and resilient tomorrow. We do this through our GET Solar technical assistance program, our education and outreach work as well as our policy advocacy. Our GET Solar program is currently assisting more than 300 nonprofits, businesses, schools, and municipalities to assess their solar potential. We help them through the solar procurement process to realize thousands of dollars of savings on their electricity bills, so we see firsthand the difference solar is making in communities across Pennsylvania. We also co-lead a coalition along with the Pennsylvania Solar & Storage Industries Association (PASSIA) of more than 70 renewable energy businesses including small residential installers, commercial developers, community solar, and utility-scale renewable developers, as well as energy storage companies and ancillary businesses such as attorneys and engineering firms.

Our testimony will cover the following considerations pertaining to the Pennsylvania Reliable Energy Sustainability Standard (PRESS) found in House Bill 2277:

- 1) The urgency of passing HB 2277 (PRESS) to meet our growing clean energy demands and maintain Pennsylvania's position as a key regional energy leader.
- 2) Research that calls on governments to expedite the adoption of renewable energy technologies, including solar, given improvements to energy affordability and availability of tax credits and other programs.
- 3) The importance of including distributed generation (on-site energy production) and electricity storage in the Commonwealth's policies to enable energy independence, resiliency, and reliability, while contributing to statewide economic and workforce development.

THE IMPORTANCE OF PASSING HB 2277 (PRESS)

We are energized by Governor Josh Shapiro's recent announcement to increase the Commonwealth's renewable energy goals to 35% by 2035¹ - a significant increase from Pennsylvania's current 8% goal² - followed by the introduction of HB 2277 by House Representative

¹ Commonwealth of Pennsylvania. (2024, March 13). *Governor Josh Shapiro's energy plan builds on Pennsylvania's legacies*. Pennsylvania Government. Retrieved from <https://www.pa.gov/en/governor/newsroom/2024-press-releases/governor-josh-shapiro-s-energy-plan-builds-on-pennsylvania-s-legacies>

² Pennsylvania Public Utility Commission. (n.d.). *Alternative Energy Portfolio Standards Program*. Retrieved from <https://pennaeps.com/>

Danielle Friel Otten³. PRESS represents a balanced approach to diversifying the state’s electricity mix, which is needed to stabilize energy prices, and builds on the successful frameworks established by the Alternative Energy Portfolio Standards (AEPS) of 2004 to increase the Commonwealth’s renewable energy goals. PRESS has the potential to enable new, evolving, and dynamic technologies that can strengthen our collective energy future and secure Pennsylvania’s position as an energy leader.

We encourage the Committee and General Assembly to act quickly on the Governor’s call to enact PRESS. According to PJM’s 2024 Long-Term Load Forecast, rising energy demand across the PJM footprint due in large part to the development of data centers and acceleration of the beneficial electrification of transportation and industry⁴, PJM is now experiencing substantial load growth for the first time in decades. Combined with energy generation retirements outpacing the construction of new electricity generation resources due to a myriad of constraints⁵, Pennsylvania would be in a much stronger position to meet our energy demand by attracting critical investments and adequately growing the needed workforce with the passage and implementation of PRESS.

THE IMPORTANCE OF EXPEDITING ADOPTION OF RENEWABLE RESOURCES

Solar, wind, and storage comprise the majority of PJM’s queue,^{6,7} and to meet future energy needs Pennsylvania must encourage investors, businesses, manufacturers, and other stakeholders to invest in Pennsylvania’s renewable energy generation industry as fast as possible in order to actually build these resources. PRESS can achieve this goal. Additionally, Pennsylvania must take advantage of federal programs that strongly encourage the development of these resources that can support Pennsylvania’s energy communities, school districts, local governments, and others to reduce energy costs and improve energy reliability and security.⁸

Over the years, several studies have found that Pennsylvanians will benefit from increasing the state’s solar goals. Pennsylvania’s Department of Environmental Protection Energy Programs Office identified strategies to achieve a 10% increase in solar powered electricity in Pennsylvania.⁹ “Pennsylvania’s Solar Future Plan” (2018) identified fifteen strategies for Pennsylvania to increase electricity generation from in-state solar energy. It found that moving to 10% in-state solar on Pennsylvania’s grid decreases wholesale electricity price while creating tens of thousands of jobs and billions in economic benefit to local communities and to the state without compromising grid reliability.

³ Pennsylvania General Assembly. (2024). *House Bill 2277*. Retrieved from <https://www.legis.state.pa.us/cfdocs/billInfo/billInfo.cfm?sYear=2023&sInd=0&body=h&type=b&bn=2277>

⁴ PJM Interconnection. (2024). *PJM publishes 2024 long-term load forecast*. Retrieved from <https://insidelines.pjm.com/pjm-publishes-2024-long-term-load-forecast/>

⁵ PJM Interconnection. (2023). *PJM details resource retirements, replacements, and risks*. Retrieved from <https://insidelines.pjm.com/pjm-details-resource-retirements-replacements-and-risks/>

⁶ PJM Interconnection. (2024, April 23). *Interconnection reform is working, but will new generation actually get built? Inside Lines*. <https://insidelines.pjm.com/interconnection-reform-is-working-but-will-new-generation-actually-get-built/>

⁷ PJM Interconnection. (n.d.). *Serial service request status*. Retrieved June 19, 2024, from <https://www.pjm.com/planning/service-requests/serial-service-request-status>

⁸ U.S. Department of the Treasury. (October 20, 2023). *Fact Sheet: How the inflation reduction act’s tax incentives are ensuring all Americans benefit from the growth of clean energy*. Retrieved June 20, 2024, from <https://home.treasury.gov/news/press-releases/jy1830>

⁹ Pennsylvania Department of Environmental Protection. (June 16, 2023). *Pennsylvania’s Solar Future Plan*. <https://www.dep.pa.gov/Business/Energy/OfficeofPollutionPrevention/SolarFuture/Pages/Pennsylvania's-Solar-Future-Plan.aspx>

This study also found that increasing distributed solar requirements results in more jobs and greater economic benefit.

Solar energy is growing in Pennsylvania, however, solar currently provides less than 1.5% of Pennsylvania's electricity while over a quarter of the United States is currently achieving more than 5% of energy from solar.¹⁰ And when compared to other states with restructured electricity markets that have implemented renewable energy goals, Pennsylvania consistently ranks as one of the lowest costs of compliance.¹¹

A report conducted by Gabel Associates (2024) on behalf of MAREC-Action (Mid-Atlantic Renewable Energy Coalition, American Clean Power, and Advance Energy United modeled the framework of HB 1467 that called for Tier 1 expansion of the AEPS to 30% by 2030 with 14% in-state solar (8% utility-scale, 4% distributed, 2% community scale). This study found that, if enacted, the bill would result in more than \$13.1 billion investment in Pennsylvania over the next seven years and the creation of 129,000 jobs.¹²

Renewables and storage are reducing costs of electricity to consumers across the globe; however, the lack of action on making these benefits more widely available is twofold. According to the International Energy Association (IEA, 2024), "issues of affordability and fairness are central to clean energy transitions, with debate fueled by two misperceptions. First, that today's pressures on the cost of living are related to clean energy, rather than the real cause – the gas supply crunch that followed the Russian Federation's cuts to deliveries to Europe. Second, the view that clean energy technologies are always more expensive than fossil fuel-based ones, which is not supported by the data."¹³ **"The quicker you move on clean energy transitions, the more cost-effective it is for governments, businesses, and households," said IEA executive director Fatih Birol. "If policymakers and industry leaders put off action and spending today, we will all end up paying more tomorrow. ...the way to make energy more affordable for more people is to speed up transitions, not slow them down."**¹⁴

DISTRIBUTED RESOURCES

PRESS is the most innovative, comprehensive energy policy opportunity provided to the state to date. While working on its essential passage, we are eager to work with the legislature along with our industry coalition partners to also assure the inclusion of provisions that support distributed energy resources, including distributed solar, so that Pennsylvania will have the necessary infrastructure in

¹⁰ Glover, E. (2023, March 14). *The best and worst states for solar energy 2023*. Forbes Home. <https://www.forbes.com/home-improvement/solar/best-worst-states-solar/>

¹¹ Pennsylvania Department of Environmental Protection. (June 16, 2023). *Finding Pennsylvania's Solar*

Future. <https://www.dep.pa.gov/Business/Energy/OfficeofPollutionPrevention/SolarFuture/Pages/Finding-Pennsylvania%E2%80%99s-Solar-Future.aspx>

¹² <https://blog.advancedenergyunited.org/reports/economic-and-environmental-impact-of-governor-shapiros-30-x-30-alternative-energy-pledge>

¹³ International Energy Agency. (2023). Executive summary. In *Strategies for affordable and fair clean energy transitions*. Retrieved from <https://www.iea.org/reports/strategies-for-affordable-and-fair-clean-energy-transitions/executive-summary>

¹⁴ International Energy Agency. (2024, May 30). Rapid rollout of clean technologies makes energy cheaper, not more costly. *IEA*. Retrieved from <https://www.iea.org/news/rapid-rollout-of-clean-technologies-makes-energy-cheaper-not-more-costly>

place for effective management of the Commonwealth's future energy systems. Distributed solar, otherwise referred to as onsite solar or "customer-generator" in the AEPS, allows homeowners, nonprofits, businesses, municipalities, schools, farmers, manufacturers, warehouses, and many others generate electricity onsite to directly reduce their electricity bills.

Distributed solar also benefits other electricity users by reducing distribution congestion and line loss because distributed solar energy directly serves local electricity needs,¹⁵ and it also creates a stronger grid that protects communities from the breakdowns that can occur from over reliance on centralized generation systems.¹⁶ Building onsite solar also has the largest opportunity to grow jobs compared to larger centralized energy sources¹⁷. Distributed solar is crucial for enabling utilities to manage solar output along with storage, demand response, and electric vehicles to effectively regulate power availability. Recently, California exceeded 100% of its energy demand with renewables and storage for more than 45 days straight and 69 of 75 days in a row, due in large part to distributed resources and storage.^{18 19} Further innovations in solar plus storage systems provide a new opportunity for grid operators to address peak demand throughout the year²⁰ and these updates will be necessary to replace the traditional base-load power of the past.

Programs and constructs such as demand response and virtual power plants (VPPs) are enabled by stronger support for distributed resources. Pennsylvania's Public Utility Commission is evaluating the benefits of distributed resources with its recently circulated advanced notice of proposed rulemaking²¹ related to federal action (FERC Order 2222²²) to enable flexible, distributed resources to participate in the reliability of the electric system and offer more cost effective and efficient methods for delivering electricity. Without strong support for distributed solar in PRESS, Pennsylvania could miss out on the opportunities enabled by distributed resources that support a stronger, more secure electrical grid. We cannot wait to build that infrastructure; it must start now.

As of June 2024, there are over 64,000 individual solar systems installed across Pennsylvania.²³ Once installed, solar systems produce energy for 30 years or more, providing electricity prices that are stable and predictable. According to the Lawrence Berkeley National Lab study, the effects of

¹⁵ Slaria, S., Robertson, M. Palmer, K. September, 2023). *Expanding the possibilities: When and where can grid-enhancing technologies, distributed energy resources, and microgrids support the grid of the future?* Resources for the Future. Retrieved June 20, 2024, from <https://www.rff.org/publications/reports/expanding-the-possibilities-when-and-where-can-grid-enhancing-technologies-distributed-energy-resources-and-microgrids-support-the-grid-of-the-future/>

¹⁶ .Dyson, M., Li, B. (2020). *Reimagining grid resilience*. Rocky Mountain Institute. Retrieved June 20, 2024, from <https://rmi.org/insight/reimagining-grid-resilience/>

¹⁷ Environmental Entrepreneurs (E2). (2023). *Clean jobs Pennsylvania 2023*. Retrieved June 20, 2024, from <https://e2.org/reports/clean-jobs-pennsylvania-2023/>

¹⁸ Lewis, M. (2024, May 21). *California exceeds 100 percent of energy demand with renewables over a record 30 days [update]*. Electrek. <https://electrek.co/2024/05/21/renewables-met-100-percent-california-energy-demand-30-days/>

¹⁹ Lewis, M. (2024, May 9). *Sunrun sets a record in California with the US's largest virtual power plant*. Electrek. <https://electrek.co/2024/05/09/sunrun-california-us-largest-virtual-power-plant/>

²⁰ U.S. Department of Energy Office of Energy Efficiency and Renewable Energy. (2023, June 16). *Solar integration: Solar energy and storage basics*. Energy.gov. <https://www.energy.gov/eere/solar/solar-integration-solar-energy-and-storage-basics>

²¹ Pennsylvania Public Utility Commission. (2024, February 22). PUC seeks comment on proposed rulemaking related to use of distributed energy resources and virtual power plants. Pennsylvania Public Utility Commission. <https://www.puc.pa.gov/press-release/2024/puc-seeks-comment-on-proposed-rulemaking-related-to-use-of-distributed-energy-resources-and-virtual-power-plants-0222024>

²² Federal Energy Regulatory Commission. (2020, September 17). FERC Order No. 2222 Fact Sheet: A New Day for Distributed Energy Resources. *FERC*. Retrieved from <https://www.ferc.gov/media/ferc-order-no-2222-fact-sheet>

²³ Pennsylvania Public Utility Commission. (Accessed March 14, 2024). *Pennsylvania Alternative Energy Credit Program*. PA Public Utility Commission. <https://pennaeps.com/reports/>

distributed solar on retail electricity prices are and remain negligible for the foreseeable future given that Pennsylvania's current penetration level of solar just over 1% of total retail electricity sales.²⁴

CASE STUDIES

In addition to the benefits cited above regarding distributed solar, onsite solar saves entities money on their electric bill that allows them to divert precious financial resources from their utility bills to the mission of their organizations, to hire more workers, save taxpayers money, or to serve their communities. The Pennsylvania Solar Center has observed firsthand the benefits of distributed solar projects by assisting a wide variety of stakeholders through the GET Solar Program. The GET Solar Program has or is currently assisting more than 300 different entities through the solar process, from conceptualization to installation. Some examples that highlight the local benefits of distributed solar include Homer Center School District, Berner International, a Pennsylvania-based air curtains and ventilation producer, and the Indiana Borough Regional Wastewater Treatment Facility.

At Homer Center School District, the Pennsylvania Solar Center assisted in the conceptualization of a 1.69 MW ground-mount and rooftop solar system that would offset over 100% of the high school and middle school's annual electricity usage, saving the district an estimated \$152,480 per year, including more than \$55,000 in Alternative Energy Credits (based on the current AEPS credit price). This savings potential represents more than merely a reduction in operating costs in the budget for Homer Center. The school district is currently witnessing a loss in tax revenue due to the closure of Homer City Generating Station, so the potential solar installation for this school district would provide immediate economic and social benefits, such as retaining educators and staff in this rural school district. While there are other economic development needs of the community to offset the total loss of this plant in the region, distributed solar is an immediate opportunity for the school to save funds. Providing a stable credit price (by assuring distributed solar credit prices are available in PRESS) will assure the financial benefit of this project in the community.

Another example of a distributed solar project that the Pennsylvania Solar Center provided assistance with is Berner International. Berner installed an 886-kW system with a payback period of less than 2 years by leveraging the USDA Rural Energy for America Program.²⁵ The system would provide an annual cost savings of more than \$70,000 per year, offsetting 160% of current energy use and enabling this business to hire more workers and be more productive. Berner built a larger system because they have plans to expand, and they included energy cost projections in their plans to offset energy use for future infrastructure recognizing the significant cost savings of generating on-site electricity with solar.²⁶

²⁴ Barbose, G. (2020). Putting the potential rate impacts of distributed solar into context. Energy Analysis and Environmental Impacts Division Lawrence Berkeley National Laboratory (Report No. LBNL-1007060). Michigan Public Service Commission. https://www.michigan.gov/-/media/Project/Websites/mpsc/workgroups/dgpi/LaRoy_lbnl-1007060.pdf

²⁵ United States Department of Agriculture. (2024). *Rural energy for America program renewable energy systems & energy efficiency improvement guaranteed loans & grants*. USDA Rural Development. <https://www.rd.usda.gov/programs-services/energy-programs/rural-energy-america-program-renewable-energy-systems-energy-efficiency-improvement-guaranteed-loans>

²⁶ Berner International, S. (2024, January 11). *Berner goes solar, PENNSYLVANIA MANUFACTURER ON TRACK TO ACHIEVE NET ZERO WITH ROOFTOP SOLAR*. Berner Air Curtains. <https://berner.com/news/berner-goes-solar/>

The Indiana Borough Regional Wastewater Treatment Facility is in the process of obtaining funding to install a 480-kW ground-mounted system offsite that leverages Pennsylvania’s virtual net metering aggregation law, enabling the Water Treatment Plant to save an estimated \$45,000 annually in electricity costs that offsets about 20% of the facility’s electricity demand. Given the long-term energy needs of wastewater treatment facilities, the long-term investment would save up to \$1.2 million over the 25-year life of the system, which provides important cost savings that can be passed on to its customers and reinvested into the facility.

Entity	Solar System Size	Annual Cost Savings	Total Energy Offset	Payback Period
Homer Center School District	1.69 kW	\$152,480	117%	8 years
Berner International	886 kW	\$71,475	160%	6.6 years
Indiana Borough Regional Wastewater Treatment	480 kW	\$46,600	19.5%	8 years

The savings projections for all of these projects will be elevated if the credit price is maintained and strengthened throughout the life of the project through PRESS.

IN-STATE REQUIREMENTS

Requiring that a percentage of resources are built in-state is crucial for sending a signal to companies to invest resources, including workforce, in Pennsylvania. One additional consideration for the Committee pertaining to PRESS is the provision that would require 10% in-state Tier I resources by 2030 without any preceding incremental increases in Tier I requirements. The PA Solar Center and our industry partners are examining the possible impacts of this immediate increase, and concerns expressed by companies that this sudden shift could have to the credit market. The PA Solar Center and industry partners are interested in working with the legislature to further explore the market signals to assure the achievement of this goal of 10% in-state Tier I by 2030.

CONCLUSION

In conclusion, Pennsylvania must prepare for the modern energy economy in order to meet our future energy needs, to take full advantage of technologies of the 21st century grid, to provide thousands of new energy economy jobs to our citizens, and to create energy security and reliability. Pennsylvania can unlock the benefits of a diversified resources mix through the PRESS legislation (HB 2277). This legislation will save consumers money, create a reliable grid, and bring billions of investment to our communities. Along with our renewable energy industry trade group partners, we look forward to working closely with the General Assembly to bring the business expertise to the table to further inform the content of the bill and to maximize the possible economic development potential of this bill that our collective thousands of companies can help to realize through their investment decisions in the next 10 years.

Thank you for the opportunity to submit comments on this important topic. The Pennsylvania Solar Center is always available to discuss the costs and benefits of solar with any member of the Committee. We applaud your efforts on this important issue of creating an affordable, reliable, and secure energy future for all Pennsylvanians.