

LEGISLATIVE GUIDE TO STATE SOLAR POLICY PENNSYLVANIA 2021-2022

Updated September 1, 2022

The Pennsylvania Solar Center is a nonprofit organization dedicated to helping all Pennsylvanians benefit from solar energy. With decades of experience represented by our staff, Board and partners, the Pennsylvania Solar Center provides research and education on important topics impacting Pennsylvania’s solar industry.

The following legislative guide contains information on policy proposals currently under consideration by Pennsylvania’s General Assembly that have potential to impact Pennsylvania’s solar industry. This document and its references are provided for educational purposes only and do not necessarily reflect the views or opinions of the Pennsylvania Solar Center’s funders, members, partners, Board, or individual staff.

LEGEND

These icons indicate if the PA Solar Center interprets the bill to have positive or negative impact to the solar industry in Pennsylvania as well as consideration of a bill’s likeliness to garner support. This is not intended to imply endorsement, lack of support, or otherwise, for any particular legislation.

	Bills of significant interest to watch and have potential positive impacts for solar development in Pennsylvania.
	Bills that are unlikely to pass in the current legislative session (<i>January 2021 to December 2022</i>) but would likely have a positive impact on solar.
	Bills of significant interested to watch and for which the Pennsylvania Solar Center has concern for the possible negative impact(s) on solar development in Pennsylvania.



Quick Reference Guide for Key Bills

Guide	Bill #	Prime Sponsors	History
INCREASING RENEWABLE ENERGY GOALS			
Increases Renewable Goals in the AEPS to 18% with 5.5% Solar by 2026			
	HB 1080	Christopher Quinn (R-Delaware County)	Referred to the House Environmental Resources and Energy Committee, April 1, 2021
	SB 501	Daniel Laughlin (R-Erie)	Referred to the Senate Consumer Protection and Professional Licensure Committee, April 9, 2021
Increases Renewable Goals in the AEPS to 15% with 2.5% Solar by 2030			
	HB 1394	Christopher Quinn (R-Delaware County)	Referred to the House Environmental Resources and Energy Committee, May 20, 2021
Creating a New Renewable Energy Standard Scheme (non-AEPS)			
	HB 1531	Christopher Quinn (R-Delaware County)	Referred to Consumer Affairs Committee, June 3, 2021
COMMUNITY SOLAR/SHARED SOLAR			
Enables Community Solar in Pennsylvania			
	HB 1555	Aaron Kaufer (R-Luzerne County)	Referred to Consumer Affairs Committee, June 3, 2021
	SB 472	Mario Scavello (R-Monroe and Northampton Counties)	Referred to Consumer Protection and Professional Licensure Committee, March 23, 2021
Enable Utilities to Manage Shared Solar Program			
	HB 1161	Prime: Lori Mizgorski (R-Allegheny County)	UPDATE: House passage. Referred to Senate Consumer Protection and Professional Licensure Committee, June 20, 2022
	SB 919	Prime: Daniel Laughlin (R-Erie)	Referred to Senate Consumer Protection and Professional Licensure Committee, October 25, 2021
EXPANDING COMMERCIAL PROPERTY CLEAN ENERGY (C-PACE)			
	SB 635	Prime: John Yudichak (I-Carbon and Luzerne Counties)	UPDATE: Approved by the Governor, July 7, 2022 as Act 43.
	HB 1760	Prime: Doyle Heffley (R-Carbon County)	House passage, January 24, 2022 Referred Senate Community, Economic and Recreational Development Committee, January 24, 2022
DECOMMISSIONING AND BONDING			
	SB 284	Prime: Gene Yaw (R-Bradford, Lycoming, Sullivan, Susquehanna and Union Counties)	UPDATE: Senate passage, referred to the House Environmental Resources and Energy Committee, April 14, 2022
	HB 2104	Prime: Kathy Rapp (R-Warren, Crawford, and Forest Counties)	UPDATE: House passage, referred to Senate Environmental Resources and Energy Committee, June 22, 2022



TABLE OF CONTENTS

LEGISLATIVE PROPOSALS THAT ADDRESS PENNSYLVANIA’S ALTERNATIVE ENERGY PORTFOLIO STANDARDS (AEPS) or RAISING RENEWABLE GOALS... 3	
COMMUNITY SOLAR/SHARED SOLAR POLICY	8
SOLAR DECOMMISSIONING AND BONDING POLICY	11
SOLAR ENERGY FINANCING AND TAX POLICY	14
OTHER POLICY PROPOSALS THAT COULD IMPACT SOLAR	16

LEGISLATIVE PROPOSALS THAT ADDRESS PENNSYLVANIA’S ALTERNATIVE ENERGY PORTFOLIO STANDARDS (AEPS) or RAISING RENEWABLE GOALS

Alternative Energy Portfolio Standards (AEPS) Act of 2004ⁱ

Background

The Alternative Energy Portfolio Standards Act of 2004 (AEPS) is Pennsylvania’s primary policy that has made measurable gains for Pennsylvania’s solar industry. When this legislation was adopted in 2004, less than 1 MW of solar electric generation capacity was installed. Today, the solar industry has created over 5,000 jobs and is now generating over 650 MWⁱⁱ of operating capacity with over 16 GW proposed for the region in coming years.ⁱⁱⁱ

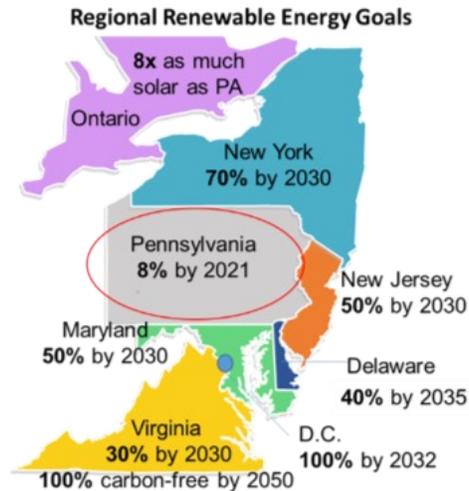
The AEPS set a goal of generating 18% of its electricity from various types of “alternative” energy by May 2021 with 8% to come primarily from renewable energy and 0.5% coming from solar. Pennsylvania’s Electric Distribution Companies (EDC) and Electric Generation Suppliers (EGS) ^{iv} are obligated to meet these goals through the purchase of Alternative Energy Credits (or also commonly referred to as Renewable Energy Credits or Solar Renewable Energy Credits – RECs or SRECs).

To date, the AEPS is the main policy that Pennsylvania has promulgated that explicitly supports solar generated electricity (net metering is the other important policy driver for onsite solar). However, Pennsylvania is losing its investment opportunities to neighboring states with policies that represent 2021’s marketplace. While the AEPS has fallen behind in comparison to its neighbors, many states have designed policy strategies to attract the investments from the solar industry (see picture below).

The AEPS’s current goals are outdated and much lower compared to most neighboring states.^v This policy drives the price of the REC/SRECs and since the goal



has been met and exceeded, the SREC price is quite low (~\$15-\$35 per credit^{vi}) when compared to neighboring states (MD: ~\$70-\$80^{vii} per credit; NJ: \$220-\$230^{viii} per credit.) Increasing Pennsylvania’s goals via the AEPS would increase investment into solar energy because it would increase demand for SRECs.



NEW CO-SPONSOR MEMO: Update the AEPS for PA Energy Independence and Jobs

Guide	Bill #	Sponsors		History
	HOUSE MEMO	Prime: David Zimmerman (R-Lancaster County)		This co-sponsor memo was introduced August 24, 2022, inviting other legislators to join as co-sponsors before the legislation is introduced.
		Republicans - TBD	Democrats - TBD	
Key Considerations:				
<ul style="list-style-type: none"> → <u>Close the Tier I border.</u> Similar to Act 40 of 2017 (AEPS Solar Carveout Border Closure) and Act 114 of 2020 (AEPS Tier II Border Closure), existing contracts for out-of-state resources will be honored until they expire, allowing out-of-state resources to be gradually phased out and provide time to build and fill the requirement with in-state resources. New utility scale solar should be moved into Tier I and excluded from the solar carve out. → <u>Restrict the Solar Carve-Out to Customer-Generators Only:</u> Currently, AEPS in-state solar is oversupplied, fast approaching 1% as of May 2021. Limiting the solar carve-out to customer-generators ensures homeowners, businesses, schools, and nonprofits are not pushed out by grid-scale solar that benefits from economies of scale. Existing in-state utility scale solar projects certified under the current solar carve-out would remain in the carve-out. New utility-scale solar projects certified after the effective date would qualify under the Tier I requirement. → <u>Increase the Solar Carve-Out:</u> With the Tier I border closed, the solar carve-out should then be increased from 0.5% to at least 2.0% by 2027. → This proposal would also update the Alternative Compliance Payment (ACP) System for Tier I and the Solar Carveout to decline by \$5 each year starting in 2027. It would also place a 15-year lifetime on SRECs and add multipliers for tax-exempt organizations (e.g., nonprofits, faith communities, schools, fire stations, community center, libraries, municipalities) as well as brownfields, abandoned mine lands and carports. 				



Increases Renewable Goals to 18% with 5.5% Solar by 2026

Guide	Bill #	Sponsors		History
	HB 1080	Prime: Christopher Quinn (R-Delaware County)		Referred to House Environmental Resources and Energy Committee, April 1, 2021
		Republicans - 2	Democrats - 16	
	SB 501	Prime: Dan Laughlin (R-Erie)		Referred to Senate Consumer Protection and Professional Licensure, April 9, 2021
		Republicans - 4	Democrats - 5	

Key Considerations:

- These companion bills increase the Tier I goal of the AEPS to 18% and sets the solar carve out to 5.5% by 2026.
- The solar carve out would be broken down so that 3.75% would come from utility-scale and 1.75% would come from distributed generation.
- The bills call for an energy storage study and for the EDCs to enter into long-term contracts for utility scale solar.
- These bills would result in an estimated 50,000 jobs, attract about \$15 billion in private investments to Pennsylvania, help save family farms through dedicated lease payments for utility scale solar and create a more diverse energy mix.
- 5.5% solar electricity on our grid will reduce wholesale energy costs for all Pennsylvanians, reducing dirty, expensive peaker plants to meet demand.
- The implementation of the will not require state funds.
- Since the bill was assigned into the House ERE Committee, it will likely not pass.

Increases Renewable Goals to 15% with 2.5% Solar by 2030

Guide	Bill #	Sponsors		History
	HB 1394	Prime: Christopher Quinn (R-Delaware County)		Referred to House Environmental Resources and Energy Committee, May 20, 2021
		Republicans - 7	Democrats - 10	

Key Considerations:

- This bill would increase the renewable goals in the AEPS to 15% by 2030 with the solar carve out for customer generators (distributed generation) to 2.5% by 2030.
- This bill does not include a specific increase to in-state utility scale solar in the solar carve out. Utility scale solar (both in Pennsylvania and anywhere in PJM) would be included in the larger Tier I goal increase, but it doesn't specify location.
- To assure Pennsylvania benefits from most of the jobs, the solar carve out should include a separate goal for in-state utility scale solar as in HB 1080/SB 501.
- Since the bill was assigned into the House ERE Committee, it will likely not pass.



Increases Renewable Goals to 30% with 10% Solar by 2030

Guide	Bill #	Sponsors		History
	SB 300	Prime: Steven Santarsiero (D-Bucks County)		Referred to Senate Consumer Protection and Professional Licensure Committee, April 20, 2021
		Republicans - 0	Democrats - 12	
Key Considerations:				
<ul style="list-style-type: none"> → This bill would increase renewables to 30% by 2030 with 10% coming from in-state solar. → The bill is similar to HB 1080/SB 501, but with higher renewable goals, and therefore, is unlikely to pass. 				

Creates a New Renewable Energy Standard System (non-AEPS)

Guide	Bill #	Sponsors		History
	HB 1531	Prime: Christopher Quinn (R-Delaware County)		Referred to House Consumer Affairs Committee, June 3, 2021
		Republicans - 1	Democrats - 1	
Key Considerations:				
<ul style="list-style-type: none"> → HB 1531 would require the addition of 7% renewables with 2.5% coming from distributed solar by 2030. (These percentages are additive to the current AEPS goals) → The bill doesn't specify that the solar carve out must be comprised of in-state generation only as is currently in the AEPS and this provision should be added. → The solar carve out does not include utility scale solar but it would be included in the larger goal. → An improvement of this bill would be to add a separate in-state solar carve out for utility scale solar as in HB 1080 and SB 501. → There is no Alternative Compliance Payment (ACP) set for the goals outside of the solar carve out. The ACP serves as a ceiling for the REC prices and protects ratepayers. → Many of the provisions and definitions that are explicit in the AEPS should be added including how the utilities will pay for the RECs traded under this scheme (e.g., ratepayers?). → Creating a new renewable energy standard outside of the AEPS that serves the same function as Tier I in the AEPS could be cumbersome and confusing with little added benefit. This approach would require additional rule making at the PUC that will delay benefit to the industry. → Several utilities have indicated that they support an extension of the AEPS and do not support the creation of a new trading scheme such as suggested in this bill. 				



Carbon Capture and a Clean Energy Standard in Pennsylvania

Guide	Bill #	Sponsors		History
	SB 979	Prime: Sharif Street (D-Philadelphia County)		Referred to Senate Consumer Protection and Professional Licensure Committee, January 4, 2022
		Republicans - 0	Democrats - 7	
Key Considerations:				
<ul style="list-style-type: none"> → This bill would rename the AEPS to be the Energy Future Act as well as create a Zero Emission Certificate (ZEC) program and a Carbon-Constrained Energy Credit. → The bill would add more qualifying facilities under the existing AEPS. The new tiers include Tier III for low-carbon coal, Tier IV for low-carbon natural gas, Tier V for existing nuclear, Tier VI for advanced nuclear, and 5) Tier VII for low-carbon hydrogen → Tier I renewable energy goals would increase to 15% with 5% solar by 2026 → Tier III (low-carbon coal) goals would be 2.5% by 2030 with 7.5% by 2048 → Tier IV (low-carbon natural gas) would be 2.5% by 2030 with 7.5% by 2048 → Tier VI (advanced nuclear) would be 0.5% by 2030 with 2.0% by 2048 → Tier VII (low-carbon hydrogen) would be 0.5% by 2030 with 2.0% by 2048 → A significant portion of this legislation is focused on the creation of a Zero Emission Certificate (ZEC) Program for Pennsylvania's existing nuclear power facilities, calling for research and further risk-analysis. → Under this legislation, EDCs would be required to purchase ZECs. EDCs would then be permitted to recover \$0.004/kWh from retail electricity customers and paid to PUC to support the ZEC program. → The bill aims to reduce CO2 emissions by 13.1% by 2026 based on 2020 levels, and eventually would reduce 100% of the CO2 emissions from the electricity sector by 2050. → This bill has no support from the majority party and some of these new resource tiers that are suggested are expensive and not market-ready. 				

Go 100% Pennsylvania

Guide	Bill #	Sponsors		History
	HB 100	Prime: Christopher Rabb (D-Philadelphia County)		Referred to House Environmental Resources and Energy Committee, September 22, 2021
		Republicans - 1	Democrats - 59	
	SB 872	Prime: Amanda Cappelletti (D-Delaware and Montgomery Counties)		Referred to Senate Environmental Resources and Energy Committee, September 22, 2021
		Republicans - 0	Democrats - 13	
Key Considerations:				
<ul style="list-style-type: none"> → These companion bills would not amend the AEPS, but would require Pennsylvania to meet 100% of its electricity needs from renewable sources by 2035 and 100% of all other energy needs (transportation, heating and cooling, industrial, etc.) with renewable energy by 2050. → Under these bills, renewable energy would be sourced from within Pennsylvania or the Mid-Atlantic region. → The bills call on the Governor to establish a Renewable Energy Center of Excellence to research renewable energy technology, practices, barriers and engagement models. 				



- These bills call for the installation of an additional 100 MW of solar and other clean energy capacity on Pennsylvania lands as well as goals for the future.
- Because there the goals are so lofty and there is little majority support, this bill is likely not to pass.

Expands Combined Heat and Power under the AEPS Tier II (non-solar bill)

Guide	Bill #	Sponsors		History
n/a	SB 929	Prime: John DiSanto (R- Dauphin and Perry Counties)		Referred to Senate Consumer Protection and Professional Licensure Committee, November 9, 2021
		Republicans - 5	Democrats - 1	

Key Considerations:

- This bill would amend the AEPS Tier II by adding combined heat and power systems that serve commercial, institutional or industrial facilities within Pennsylvania.
- Facilities must have an operating efficiency of at least 60%
- Qualifying combined heat and power facilities would qualify for Tier II credits for systems up to 50 MW of combined generation on site.
- This bill has no impact on solar but may help to reduce the escalating credit price for Tier II credits, which is dominated by waste coal.

COMMUNITY SOLAR/SHARED SOLAR POLICY

Community solar is a business model that requires enabling legislation in Pennsylvania to allow solar projects to benefit multiple customers from an off-site solar array. In other states where community solar is permitted, electric customers can buy or lease a percentage of an off-site solar array and receive bill credits for the electricity generated commensurate with their share. The intent of the program is to provide the option for homeowners, businesses, nonprofits, and others to benefit from locally generated solar because they are restricted in their ability to install solar panels on their property.^{ix}

Over 30 states have established community solar programs across the U.S. that represent a variety of approaches as well as similar characteristics that address subscriber eligibility, low-income customer subscription minimums, project size limitations and ownership models.

It is important to evaluate the programmatic goals of a community solar program. First, community solar development projects are different from utility scale solar installations in that community solar arrays require customer subscriptions from ratepayers within certain areas. A utility scale solar array sells electricity via the wholesale electricity market that is then bought by utilities or other large energy users

and provided to customers. A community solar project provides customers with an opportunity to better manage the amount of electricity sourced from solar.

Community solar attracts investments from solar firms that specialize in developing and commissioning large scale solar installations that can engage local ratepayers to subscribe to their electricity.

An important consideration for any community solar program is addressing the disparities faced by low-income and disenfranchised communities in accessing solar energy. For these programs, it is often required to provide a certain percentage of services to low- to moderate-income customers while mandating that rates will not exceed the default service rate. ^x

Over the past few years, there have been several community solar proposals considered by the General Assembly while none have passed out of committee. Some of the concerns in Pennsylvania include requiring prevailing wage regardless of the size of the development, ownership opportunities of community solar installations, minimum subscription requirements, grid service payments and maximum capacity requirements.

Enables Community Solar in Pennsylvania

Guide	Bill #	Sponsors		History
	HB 1555	Prime: Aaron Kaufer (R-Luzerne County)		Referred to House Consumer Affairs Committee, June 3, 2021
		Republicans - 17	Democrats - 32	
	SB 472	Prime: Mario Scavello (R-Monroe and Northampton Counties)		Referred to Senate Consumer Protection and Professional Licensure Committee, March 23, 2021
		Republicans - 8	Democrats - 12	

Key Considerations:

- These bills provide the mechanism to permit the building of community solar projects up to 5 megawatts (MW) in Pennsylvania.
- Community solar developers could build facilities for which subscribers purchase subscriptions and pay for their allocation of solar on their utility bills. The bill includes provisions for a Grid Service Payment (GSP) of \$0.18/watt (DC) that developers would receive from the utility through the first five years after passage of the bill. The GSP cannot be acquired until the project has a minimum subscription level of 75% for the first year. After the five-year period, the Public Utility Commission (PUC) will calculate a value stack payment that subscribers would receive based on the grid services that community solar project provides and the subscribers would pay that amount.
- There are provisions to require all community solar facilities to be built with prevailing wage and requires bonding and recycling. EDCs are permitted to keep the SRECs from these projects.
- This bill is geared for the larger community solar projects and could be improved to encourage small community solar or shared solar projects. For instance, system sizes less than 500 kilowatts (and all rooftop systems) could be exempt from compliance with bonding and prevailing wage requirements as well as having to include descriptions for land use on their website, etc., since these will make smaller project



uneconomical. These changes would support the use of community solar for projects that allow, for instance, several homeowners to create a shared solar project or a company sharing their solar energy with a nearby fire station or library.

- Some industry companies are concerned about the unknown and uncertain price of the value stack payment that will be determined by the PUC in the future and how to incorporate that into their financial modeling, since investors need certainty before agreeing to finance projects.

Enables Community Solar in Pennsylvania

Guide	Bill #	Sponsors	History
	HB 1396	Prime: Christopher Quinn (R-Delaware County) Republicans - 4 Democrats - 15	Referred to House Environmental Resources and Energy Committee, May 14, 2021

Key Considerations:

- This bill permits community solar and is similar to HB 531 from the 2021-2020 session, but is unlikely to move out of committee.
- This bill provides for full net metering benefits to subscribers rather than the GSP as described in HB 1555/SB 472 above, but the full net metering provision was controversial for utilities who voiced some opposition to community solar receiving the full net metering benefit.

Enables "Shared" Solar in Pennsylvania

Guide	Bill #	Sponsors	History
	HB 1161	Prime: Lori Mizgorski (R-Allegheny County) Republicans - 16 Democrats - 13	House passage. Referred to Senate Consumer Protection and Professional Licensure Committee, June 20, 2022
	SB 919	Prime: Daniel Laughlin (R-Erie) Republicans - 6 Democrats - 9	Referred to Senate Consumer Protection and Professional Licensure Committee, October 25, 2021

Key Considerations:

- These bills allow EDCs to issue proposals from solar developers to build solar projects up to 20 MW within their service and enter into long-term Power Purchase Agreements (PPAs).
- The EDCs can then solicit their customers to become subscribers to the facility to purchase a portion of the power and be credited on their electric bill, similar to a community solar program.
- A percentage of the power must be sold to lower income customers.
- This bill allows only EDCs/utilities to sanction the building of community solar-like projects but doesn't permit non-EDC entities to build solar projects for which they can solicit customers to get credit on their bills for the power generation. Therefore, it sets up a non-competitive situation that give the utilities full control over the building of these projects -- or not (they may opt not to build at all since there is little incentive for them to do so).
- This is not a true community solar program that allows private entities to build the projects and solicit customers to get credit through the EDC billing program.
- In addition, this bill permits EDC projects to be up to 20 MW, which is four times the size of projects allowed in the other community solar bills – if both this bill and the community solar bills are passed, this bill creates an unfair competitive advantage for the EDC programs because the EDC projects will benefit from economies of scale.



→ The PA Solar Center does not consider this bill as enabling a true community solar program that would meet the market needs for community solar demand but is a type of “shared” solar.

SOLAR DECOMMISSIONING AND BONDING POLICY

Bonding and decommissioning refer to activities that deal with the end of life of a solar system.

Decommissioning is the process of dismantling and removing the solar equipment from a site at the end of the contract or at the end of the life of the system. Decommissioning a solar photovoltaic system typically includes removing the panels, wiring, inverters, and mounting system as well as restoring the land and/or infrastructure to a condition determined in a decommissioning plan. Often when land owners are leasing their land for large-scale solar development, the leasing agreements between the landowner and solar developer will articulate the process for decommissioning.

Currently, only 15 states have adopted statewide decommissioning legislation. Those states that have adopted decommissioning legislation often require a decommissioning plan prior to project construction as well as advanced proof of financial security for the costs associated with decommissioning. Of the 15 states with decommissioning legislation, eight have enacted a model that sets a statewide decommissioning standard and enables localities to adopt programs that fit their needs.

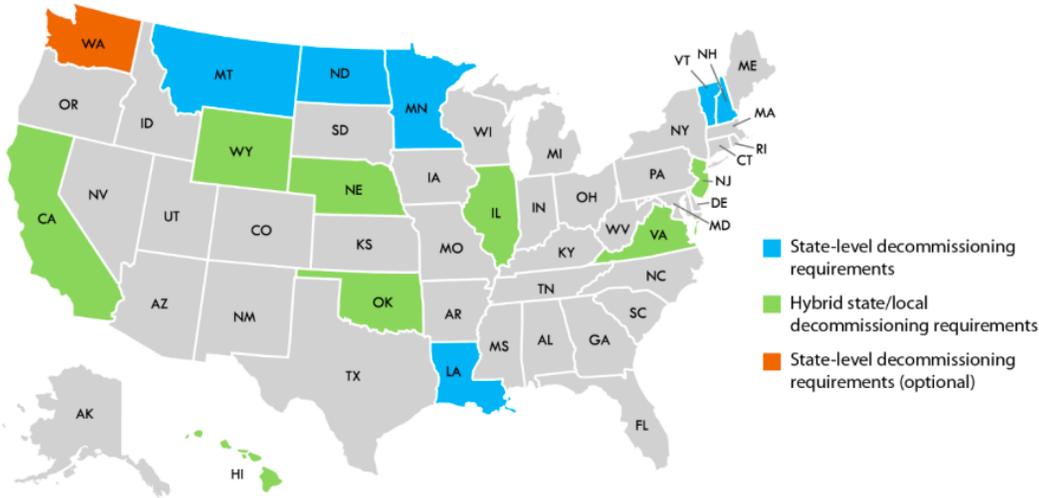


Figure 1. Map of state solar decommissioning policies in the United States

Map: NREL Survey of Federal and State-Level Solar System Decommissioning Policies in the United States <https://www.nrel.gov/docs/fy22osti/79650.pdf>

An important aspect of any decommissioning standard is the calculation methods used to determine financial assurance for land owners, local governments, and project developers. If the policy's requirements are overly stringent, the policy will raise costs and potentially discourage development. Further, if decommissioning legislation doesn't appropriately account for salvageable materials at deconstruction or requires unnecessarily large financial assurances too early in a project's useful life, then projects can be stalled and diverted to more inviting regions.

A bond is often issued at the beginning of the project that will ensure that there is money at the end of the life of the system to dismantle the system. This is important so that the landowner is not fiscally responsible for the removal of the system and also to ensure that the equipment will not be abandoned as much other energy infrastructure has done throughout the state.

Bonding legislation is important to assure that financial resources will be available as necessary, especially for projects on farmland and other usable land. However, bonding policy must consider the appropriateness of bond rates based on a number of variables, including project-specific factors as well as site-specific values.

Solar Decommissioning and Bonding Requirements

Guide	Bill #	Sponsors		History
	SB 284	Prime: Gene Yaw (R-Bradford, Lycoming, Sullivan, Susquehanna and Union Counties)		Senate passage, referred to the House Environmental Resources and Energy Committee, April 14, 2022
		Republicans - 9	Democrats - 0	
	HB 2104	Prime: Kathy Rapp (R-Warren, Crawford, and Forest Counties)		House passage, referred to Senate Environmental Resources and Energy Committee, June 22, 2022
		Republicans - 15	Democrats - 0	

Key Considerations:

- SB 284 and HB 2104 would create statewide decommissioning requirements for solar facilities larger than 2MWAC except for net-metered customer-generators and facilities owned and/or operated by a qualified agricultural operation. HB 2104 includes additional requirements for facilities planned for specific USDA-NRCS soil classifications and facilities using more than 10 acres.
- Both bills require the PA DEP to consult with the solar industry in the development of a statewide standard decommissioning plan.
- Both bills would require decommissioning plans to take effect 18 months after a facility has stopped producing electricity (unless actively recommencing generation) as well as baseline restoration requirements.
- SB 284 and HB 2140 require a specific percentage of the decommissioning costs to be secured through a financial assurance mechanism 30 days after construction commences. Plans are to be updated every 5 years until year 25. Decommissioning costs are to be determined by a third-party.
- SB 284 permits the salvage value to be included in the decommissioning cost calculation at year 10. HB 2104 does not consider salvage value



- Neither bill acknowledges that the solar industry standard is to provide financial assurances in their land lease agreements with landowners. There are a number of different bonding or other options that are available to ensure that solar panels are removed at the end of their life.
- The provisions and processes outlined in these bills could create overly burdensome regulations and procedures that may significantly delay or deter solar development in Pennsylvania.

SOLAR RECYCLING POLICY

Recycling refers to utilizing products that were used to support a system, such as steel racking systems, electrical components, and the photovoltaic modules themselves, and putting them to use in another way. It is expected that there will be a large need for solar recycling specialists to develop innovative business models to keep up with the expected demand that will peak in 25-30 years as more than 75% of utility-scale solar came online in the last 5 years.^{xi}

PV panels typically consist of glass, aluminum, copper, silver and semiconductor materials that can be successfully recovered and reused. Approximately 95% of all solar panels installed globally are made of silicon crystalline PV solar cells, which are the most efficient cells on the market today. The panels are made from common materials -- glass, aluminum, and steel -- and the cells are constructed using silica sand. The other components include ethylene vinyl acetate (EVA) encapsulate (commonly used as padding in sports equipment such as ski boots, bike saddles, running shoes), and the electrical components in the junction box. There is no cadmium in silicon-based solar cells.

By weight, more than 80 percent of a typical PV panel is glass and aluminum – both common and easy-to-recycle materials. In addition, many functioning solar panels that are decommissioned can be resold and reused for many years to come.

While most PV panels have a useful life of 30 years or more, like any technology, they will inevitably reach the end-of-life. High-value recycling, like the [Solar Energy Industries Association \(SEIA\) National PV Recycling Program](#), helps minimize lifecycle impacts and recover valuable and energy-intensive materials, increasing sustainability within the PV industry.

The PA Solar Center recommends that the PA Dept. of Environmental Protection establish a working group to study the appropriate methods of recycling and reuse of PA solar equipment as well as study the economic development potential of helping PA create a regional recycling industry.



Solar Recycling

Guide	Bill #	Sponsors		History
	SB 530	Prime: Cris Dush (R-Cameron, Clearfield, Clinton, Elk, Jefferson, McKean, Potter, and Tioga Counties)		Referred to Senate Environmental Resources and Energy Committee, April 8, 2021
		Republicans - 3	Democrats - 0	
Key Considerations: <ul style="list-style-type: none"> → This bill calls for solar panels to be added to the state's "Controlled Device Recycling Act," which would require solar manufacturers, importers and installers to setup reclamation and recycling programs and include the costs for that in their pricing. → Several waste recycling companies testified at the committee's hearing in 2020 and stated that it is not appropriate for solar panels to be added to the Controlled Device Recycling Act because of the nature of the equipment. → While solar recycling programs are important – and could create additional job opportunities in the supply chain in Pennsylvania if done appropriately – this process laid out in this bill is burdensome to the solar industry in PA. 				

SOLAR ENERGY FINANCING AND TAX POLICY

An important component of any solar project is accessing a broad set of financing tools and incentives to bolster the economic opportunities afforded to solar stakeholders. For example, programs that enable safe and secure financing over a long period of time aligns the long-term characteristics of a 25 - 30 year solar systems. This scenario provides solar shareholders with a more balanced accounting of value that enables net positive growth in year 1.

Other programs, such as grants and rebate programs, provide direct payments to owners once project milestones are achieved, providing certain, calculable contributions to the projects financial success. Other programs aim to reduce the financial requirements of a solar project by providing exemptions from tax payments or credits for desirable development projects. One of the most successful programs that has supported the solar industry has been the [Solar Investment Tax Credit \(ITC\)](#), which has supported a 10,000% growth in the solar industry since 2006.

In the past, Pennsylvania has implemented programs such as the [PA Sunshine Program](#) which provided direct rebates for residential and small business solar systems. Although this first-come, first served program helped develop hundreds of new solar installations across the state, it did not provide a sustainable financial model for future opportunities. The program could have opened access to larger systems and enabled a rotational financing model that supports marginal projects with the financial rewards of highly favorable projects.

Another important aspect of financing energy systems is the ability of utilities to provide customers with accessible and fair options for making energy choices. In Pennsylvania, utilities can implement on-bill-financing options to finance a solar systems to be paid over longer-terms. Further, Pennsylvania's utilities already



support a set of Sustainable Energy Funds that operate across the state to support clean energy projects. These Funds can be better leveraged at institutional levels to maximize investment of funds that originate from customers that are paying to support these programs.

Enhances Commercial Property Assessed Clean Energy (C-PACE)

Guide	Bill #	Sponsors		History
	SB 635	Prime: John Yudichak (I-Carbon and Luzerne Counties)		Approved by the Governor, July 7, 2022 as Act 43
		Republicans - 3	Democrats - 7	
	HB 1760	Prime: Doyle Heffley (R-Carbon County)		House Third Consideration and final passage, January 24, 2022 Referred to Senate Community, Economic and Recreational Development Committee, January 24, 2022
		Republicans - 1	Democrats - 4	
Key Considerations:				
<ul style="list-style-type: none"> → Act 43 amends the current Commercial Property Assessed Clean Energy (C-PACE) program to include multi-family residential buildings that are five or more units which was not previously included. → Currently, the law permits the establishment of C-PACE programs in order to create “low-cost, long-term financing for energy efficiency, water conservation and renewable energy projects.” → Act 43 expands C-PACE eligibility to include indoor air quality, and resiliency improvements including “any fixture, product, system, equipment, device, material or interacting group of fixtures, products, systems, equipment, devices or materials intended to increase resiliency or improve the durability of real property, including flood mitigation, wind resistance, energy storage, microgrids and backup power generation or otherwise designated by a local government entity.” → For the information on the current C-PACE program and counties that have passed C-PACE programs, visit: https://pennsylvaniacpace.org/ 				



Solar Tax Exemptions

Guide	Bill #	Sponsors		History
	SB 218	Prime: Vincent Hughes (D-Montgomery and Philadelphia Counties)		Referred to Senate Finance Committee, February 11, 2021
		Republicans - 0	Democrats - 11	
	HB 1124	Prime: Ed Neilson (D-Philadelphia County)		Referred to House Finance Committee, April 7, 2021
		Republicans - 0	Democrats - 16	
	HB 1138	Prime: Ed Neilson (D-Philadelphia County)		Referred to House Finance Committee, April 7, 2021
		Republicans - 0	Democrats - 12	
Key Considerations:				
<ul style="list-style-type: none"> → These bills would exempt solar energy equipment from taxation at the sale at retail or at the installation, maintenance, or repair of solar energy devices. → Currently, solar developers pay this tax when they purchase equipment. Customers don't usually see a line item for this tax, but the developers roll the cost into the total price of the solar projects, so eliminating this would bring down the cost of solar. Many other states have this exemption. → HB 1138 exempts all solar devices from any PA property taxes. Many states also have this exemption. 				

OTHER POLICY PROPOSALS THAT COULD IMPACT SOLAR

The following policy proposals have been introduced in Pennsylvania's General Assembly and are being tracked by the PA Solar Center.

Sale of Alternative Energy Credits

Guide	Bill #	Sponsors		History
	SB 945	Prime: Gene Yaw (R-Bradford, Lycoming, Sullivan, Susquehanna, and Union Counties)		Second Senate Consideration, January 26, 2022 Re-referred to Senate Appropriations Committee, January 26, 2022
		Republicans - 4	Democrats - 1	
Key Considerations:				
<ul style="list-style-type: none"> → This bill would require the Department of General Services to sell credits derived from eligible projects under the AEPS that have been authorized by agencies under the jurisdiction of the Pennsylvania Governor (not institutions of the state's system of higher education or political subdivisions) → Proceeds from the sale of alternative energy credits would be deposited into a Marcellus Legacy Fund to plug orphan and abandoned oil and gas wells. → This bill was introduced in response to the Pennsylvania Governors announcement to install new solar arrays totaling 191 MW to produce nearly 50% of state government's electricity (PULSE (Project to Utilize Light and Solar Energy)) → The Solar Renewable Energy Credits that the PULSE installations generate would be retired upon purchase by the Commonwealth to ensure that the existing SREC market is not disrupted by a large influx of state-owned credits. 				



Ensures Homeowners in an HOA Can Access Solar Energy

Guide	Bill #	Sponsors		History
	SB 826	Prime: Katie Muth (D-Berks, Chester, and Montgomery Counties)		Referred to Senate Urban Affairs and Housing Committee, July 26, 2021
		Republicans - 0	Democrats - 10	
	HB 1996	Prime: Liz Hanbidge (D-Montgomery County)		Referred to House Urban Affairs Committee, October 21, 2021
		Republicans - 1	Democrats - 13	

Key Considerations:

- These companion bills would amend Title 68 (Real and Personal Property), to make explicit that homeowners that are part of a homeowner’s association have the right to install solar panels on their property’s roof.

Prevailing Wages for Renewable Energy

Guide	Bill #	Sponsors		History
	HB 2018	Prime: Pam Snyder (D-Greene, Fayette, and Washington Counties)		Referred to House Labor and Industry Committee, October 27, 2021
		Republicans - 1	Democrats - 17	

Key Considerations:

- This bill would require renewable energy projects that are supported by public funds in Pennsylvania to pay workers at least prevailing wage.
- Projects that would be required to conform to this requirement include projects that produce renewable energy or a project that provides energy-related goods and services (EV infrastructure, weatherization) and is financed, funded or paid for, in whole or in part, with funds of a public body, which shall include federal, state or local tax credits, tax abatements, grants, loans, government stimulus or public bonds.
- This bill does not reference to the size parameters of renewable energy projects that would be required to conform to this requirement, leaving smaller systems at a potential disadvantage to compete with similar energy development projects.

Prohibiting Municipal Restrictions to Utility Services

Guide	Bill #	Sponsors		History
	SB 275	Prime: Gene Yaw (R-Bradford, Lycoming, Sullivan, Susquehanna, and Union Counties)		Signed in Senate and House, Vetoed by the Governor, July 11, 2022
		Republicans - 10	Democrats - 2	
	HB 1947	Prime: Timothy O’Neal (R-Washington County)		House Third Consideration and Final Passage, January 26, 2022 Referred to Senate Local Government Committee, January 31, 2022; Senate referred to Appropriations June 29, 2022
		Republicans - 16	Democrats - 0	

Key Considerations:

- This legislation seeks to “place decisions regarding restrictions on the use of any energy source in housing and commercial energy applications solely within the purview of the state.”
- These bills would amend Title 53 (Municipalities Generally) of the PA Consolidated Statutes to restrict municipalities from prohibiting “connection or reconnection of



utility service based upon the type of source of energy to be delivered to an individual consumer within the municipality.”

- The PA State Association of Township Supervisors, State Association of Boroughs, and Municipal League all testified in opposition noting local governments do not have the authority to limit utility connections and that the bill could inhibit local government’s ability to implement local climate action.
- The Energy Association of PA, Consumer Energy Alliance, Builders Guild of Western PA and others testified in support of the bill stating that uniformity in policy best serves the public’s interest and that limiting energy options would undermine environmental protections and economic development attributable to natural gas.
- This policy proposal is similar to legislation that has been introduced in several states and recently adopted in Texas, Arizona, Louisiana, Oklahoma and Tennessee. The language that passed in Arizona addresses local government concerns, such as infringement on local governments ability to manage roadways and the Texas bill doesn’t limit the ability of a local governments to choose utility services for the properties they own.
- Utility service restriction prohibitions have been introduced by local governments to restrict natural gas utility connections for new and substantial renovation projects. Local governments that have adopted these ordinances intend to restrict new natural gas utility connections to reduce carbon emissions, improve air quality, and meet climate goals.
- Some in the restaurant industry oppose measures by local governments to prohibit natural gas services, stating that operating costs in the food services industries would be disproportionately impacted. The natural gas industry does not support natural gas restrictions stating that consumers are being denied the opportunity to choose while restricting natural gas leads to higher construction and electric costs.

ⁱ Pennsylvania General Assembly. 2004 Act 13

<https://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2004&sessInd=0&act=213>

ⁱⁱ <https://www.seia.org/states-map>

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

^{iv} The terms “Electric Distribution Company” and “Electric Generation Supplier” are defined in 52 Pa. Code §75.1 (relating to definitions under the Alternative Energy Portfolio Standard)

- *EDC—Electric distribution company*—The public utility providing facilities for the jurisdictional transmission and distribution of electricity to retail customers, except building or facility owners/operators that manage the internal distribution system serving the building or facility and that supply electric power and other related electric power services to occupants of the building or facility.
- *EGS—Electric generation supplier*—
 - (i) A person or corporation, including municipal corporations which choose to provide service outside their municipal limits except to the extent provided prior to December 16, 2006, brokers and marketers, aggregators or any other entities, that sells to end-use customers electricity or related services utilizing the jurisdictional transmission and distribution facilities of an EDC or that purchases, brokers, arranges or markets electricity or related services for sale to end-use customers utilizing the jurisdictional transmission and distribution facilities of an EDC.
 - (ii) The term excludes building or facility owner/operators that manage the internal distribution system serving the building or facility and that supply electric power and other related power services to occupants of the building or facility.
 - (iii) The term excludes electric cooperative corporations except as provided in 15 Pa.C.S. Chapter 74 (relating to generation choice for customers of electric cooperatives).

^v <https://www.ncsl.org/research/energy/renewable-portfolio-standards.aspx>

^{vi} <https://www.srectrade.com/markets/rps/srec/pennsylvania>

^{vii} <https://www.srectrade.com/markets/rps/srec/maryland>



-
- viii https://www.srectrade.com/markets/rps/srec/new_jersey
- ix <https://www.energy.gov/eere/solar/community-solar-basics>
- x <https://www.nrel.gov/state-local-tribal/blog/posts/understanding-some-key-differences-in-community-solar-policy-across-the-states.html>
- xi <https://www.nrel.gov/docs/fy22osti/79650.pdf>

