

LEGISLATIVE GUIDE TO PENNSYLVANIA STATE SOLAR POLICY

2023-2024

Updated April 27, 2023

The Pennsylvania Solar [Center](#) is a nonprofit, nonpartisan 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 would likely have a moderate positive impact on solar OR PA Solar Center is neutral on the bill.



Bills of significant interest 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			
<i>Increases Renewable Goals in the AEPS to 30% with 14% Solar by 2030 and Enables Community Solar</i>			
	<u>SB 230</u>	Steven Santarsiero (D-Bucks County)	Referred to the Senate Consumer Protection and Professional Licensure Committee, March 15, 2023
COMMUNITY SOLAR/SHARED SOLAR			
<i>Enables Community or Shared Solar Programs in Pennsylvania</i>			
	<u>SB 550</u>	Prime: Rosemary Brown (R-Lackawanna, Monroe and Wayne Counties)	Referred to the Senate Consumer Protection and Professional Licensure Committee, April 13, 2023
	<u>MEMO</u>	Prime: Aaron Kaufer (R-Luzerne County) and Joseph Hohenstein (D-Philadelphia County)	Memo circulated on April 10, 2023 (this will likely be a companion bill to SB 550)
	<u>HB 330</u>	Prime: Perry Stambaugh (R-Perry, Juniata Counties)	Referred to the House Consumer Protection, Technology and Utilities Committee, March 13, 2023
	<u>MEMO</u>	Prime: Daniel Laughlin (R-Erie County)	Memo circulated on March 24, 2023 (this will likely be a companion bill to SB 330).
SOLAR FOR SCHOOLS			
<i>Allocates Grant Funding for Schools to go Solar</i>			
	<u>HB 1032</u>	Prime: Elizabeth Fiedler (D-Bradford, Philadelphia County)	Referred to the House Consumer Protection, Technology and Utilities Committee, April 26, 2023
	<u>MEMO</u>	Prime: Vincent Hughes (D-Montgomery and Philadelphia Counties) & Carolyn Comitta (D-Chester County)	Memo circulated on April 13, 2023 (this bill will likely be a companion bill to HB 137)
DECOMMISSIONING AND BONDING OF SOLAR ENERGY PROJECTS			
<i>Requires decommissioning plans and financial assurances</i>			
	<u>SB 211</u>	Prime: Gene Yaw (R-Bradford, Lycoming, Sullivan, Tioga and Union Counties)	Final Senate passage, March 8, 2023 Referred to the House Environmental Resources and Energy Committee, April 25, 2023
	<u>HB 925</u>	Prime: Kathy Rapp (R-Warren, Crawford and Forest Counties)	Referred to the House Consumer Protection, Technology and Utilities Committee, April 17, 2023

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LEGISLATIVE PROPOSALS THAT AMEND PENNSYLVANIA'S **ALTERNATIVE ENERGY PORTFOLIO STANDARDS (AEPS)** or RAISE 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 more than 860 MWⁱⁱ of operating capacity with over 22 GW proposed for the region in coming years.ⁱⁱⁱ

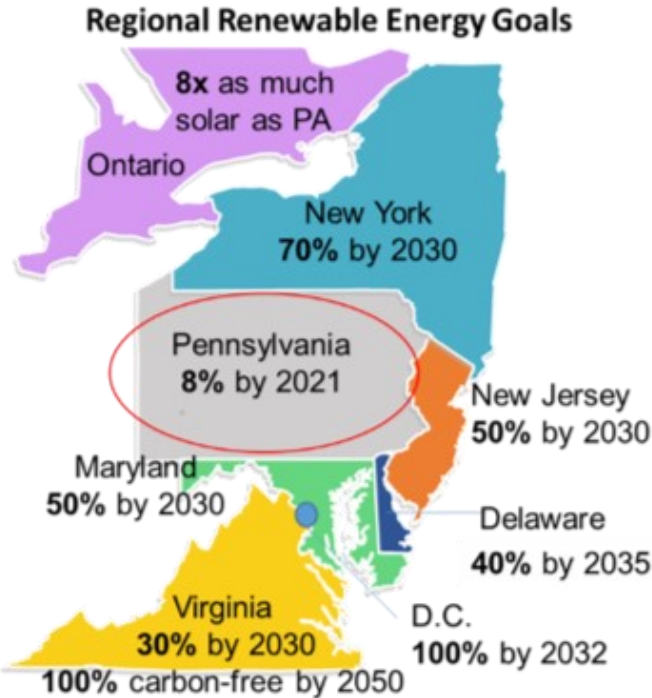
The AEPS set a goal of generating 18% of its electricity from various types of "alternative" energy by May 2021 with 8% to come primarily from renewable energy and 0.5% coming from in-state solar. Pennsylvania's Electric Distribution Companies (EDC) and Electric Generation Suppliers (EGS)^{iv} are obligated 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 today's marketplace. While the AEPS has fallen behind in comparison to its neighbors, many states have designed policy strategies to attract 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 (~\$35-\$40 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.



Increase Tier I (Renewable Goals) to 30% with 14% Solar by 2030 in the AEPS and Enable Community Solar

Guide	Bill #	Sponsors		History
	SB 230	Prime: Steven Santarsiero (D-Bucks County)		Referred to Senate Consumer Protection and Professional Licensure Committee, March 15, 2023
		Republicans - 0	Democrats - 12	

Key Considerations:

→ This bill would:

1. increase the Tier 1 goal from 8% to 30%
2. increase the in-state solar carve-out from 0.5% to 14% by 2030
3. create three categories within the in-state solar carveout:
 - a) Customer Generators: Increase the *in-state solar carve-out to 4% and limit it to customer generators*. All existing solar systems should be grandfathered into this category. **(NOTE: Current in-state solar capacity is approaching 1%)**
 - b) Community Solar: Enable community solar and creates an *in-state community solar category at 2%*. Community solar developers could build facilities for which subscribers purchase subscriptions and pay for their allocation of solar on their utility bills.
 - c) Utility-Scale Solar: Create an in-state, utility-scale solar carve out *at 8%*;

→ For customer generators – The current in-state solar goal is 0.5% and includes all solar categories; however, the actual installed amount of in-state solar is almost 1%. In this proposal, all current projects would be grandfathered into the customer generation category, so an additional 3% (or about 3% of the state’s electricity) of new generation would be needed to meet the goal of 4%. With the federal incentives and high electricity prices, there are now municipalities, schools, businesses, farms and other large institutions rapidly installing solar that will increase demand in the market.

→ In-state solar applications for grid-scale solar currently in PJM’s queue is at 22 GW of solar. Even if half of this is built, this is nearly what is required to meet the 8 GW needed for 8% in-state grid-scale solar.

→ For community solar, a Penn State study estimated that there are currently a total of 235 community solar facilities across Pennsylvania in the planning process, with projected electrical generation capacity of 1,033 MW (or about 1% of Pennsylvania’s energy). Again, with an additional seven years until 2030, this goal is also achievable.



Clean Energy Standard with Carbon Capture and Hydrogen in Pennsylvania

Guide	Bill #	Sponsors		History
	MEMO	Prime: Sharif Street (D-Philadelphia County)		Memo circulated March 6, 2023
		Republicans - xx	Democrats - xx	

Key Considerations: ([based on 2021-2022 Session's SB 979](#))

- 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 may not have support and some of these new resource tiers that are suggested are expensive and likely not market-ready. Adding many more tiers increases the costs to ratepayers.

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

Guide	Bill #	Sponsors		History
<i>n/a</i>	SB 181	Prime: John DiSanto (R- Dauphin County)		Referred to Senate Consumer Protection and Professional Licensure Committee, January 30, 2023
		Republicans - 2	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 just a few existing waste coal and large hydropower facilities (that don't create more jobs).
- PA Solar Center has no position on this bill.

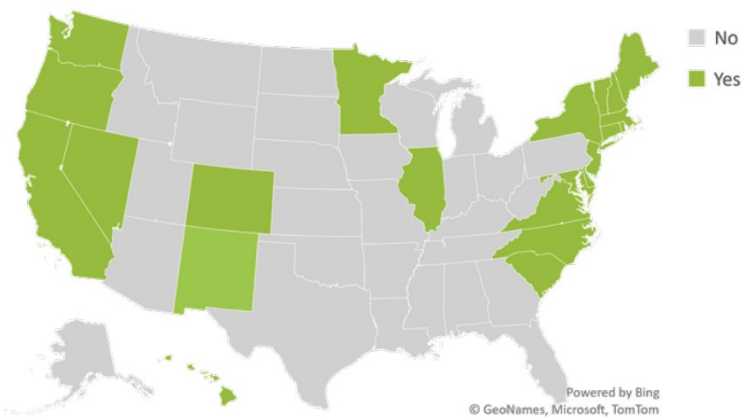


COMMUNITY SOLAR & SHARED SOLAR IN PENNSYLVANIA

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 credit on their electric bills for the electricity generated commensurate with their share. The intent of the program is to provide the option for renters, homeowners, businesses, nonprofits, and others to benefit from locally generated solar because they may be restricted in their ability to install solar panels onsite for some reason.^{ix}

Over a dozen 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, customer participation, 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. 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.



State-level community solar enabling legislation*


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

Community solar programs attract investments from solar firms that specialize in developing and commissioning large scale solar installations that can engage local ratepayers to subscribe to their electricity usage to a community solar project.

Over the past few years, there have been several community solar proposals considered by the General Assembly. 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, the incentive mechanism, and maximum capacity requirements.



Enables Community Solar in Pennsylvania


Guide	Bill #	Sponsors		History
	SB 230	Prime: Steven Santarsiero (D-Bucks County)		Referred to Senate Consumer Protection and Professional Licensure Committee, March 15, 2023
		Republicans - 0	Democrats - 12	
Key Considerations:				
→ See above under AEPS for outline of all the bill provisions.				
<p><u>Community Solar:</u> This bill enables community solar and creates an <i>in-state community solar category at 2% in the solar carve out of Tier I of the AEPS</i>. Community solar developers could build facilities for which subscribers purchase subscriptions and pay for their allocation of solar on their utility bills. The bill creates an SREC mechanism that provides developers a similar incentive structure as all other renewable energy projects receive, making it consistent across all Tier I resources. This bill provides a comprehensive policy approach that enables community solar and updates the AEPS renewable energy goals in the state. This consistency will help utilities comply with the AEPS structure that they are already accustomed to rather than creating a new structure just for community solar. This bill essentially places a ceiling on the percentage of community solar which helps to control ratepayer impacts, while also stimulating the market to help community solar projects flourish and save subscribers money on their electricity bills.</p> <p>A Penn State <u>study</u> estimated that there are currently a total of 235 community solar facilities across Pennsylvania in the planning process, with projected electrical generation capacity of 1,033 MW (or about 1% of Pennsylvania’s energy). Again, with an additional seven years until 2030, this goal is also achievable.</p>				

Guide	Bill #	Sponsors		History
	SB 550	Prime: Rosemary Brown (R-Lackawanna, Monroe and Wayne Counties)		Referred to the Senate Consumer Protection and Professional Licensure Committee, April 13, 2023
		Republicans - 3	Democrats - 6	
	MEMO	Prime: Aaron Kaufer (R-Luzerne County) & Joseph Hohenstein (D-Philadelphia County)		Memo circulated on April 10, 2023 (will likely be a companion bill to SB 550)
		Republicans - 3	Democrats - 5	
Key Considerations:				
<p>→ SB 550 includes many of the same provisions as SB 472 and HB 1555 from the 2021-2022 session. There are several concerns with this bill’s approach to enabling community solar, including costly provisions for a Grid Service Payment (GSP) of \$0.18/watt (DC) that developers would receive from the utility and which would be paid by ratepayers.</p> <p>→ The community solar facility would be eligible to receive the GSP once it has a minimum subscription level of 75%. After a 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.</p>				



- **No other state has adopted a community solar program as described in SB 550 that uses a grid service payment.**
- This bill would provide the mechanism to permit the building of community solar projects of up to 20 megawatts for projects located on land regulated by the PA DEP under the 1) Land Recycling Program, 2) Solid Waste Program, or 3) Abandoned Mine Reclamation Proclamation and up to 5 MWac for all other community solar projects in Pennsylvania.
- There are provisions that require all community solar facilities to have a decommissioning plan and prescribes bonding amounts of no less than \$10,000 per MWac and no more than 20% of a community solar facility may enter a landfill. PA Solar Center believes decommission language should match that of SB211.
- This bill would require all community solar facilities, regardless of size, to conform to the Prevailing Wage Act for construction, operations, maintenance and decommissioning.
- EDCs (utilities) are permitted to keep the SRECs from these projects for the first 25 years. Because of this and without an increase to the solar carve out of the AEPS, these SRECs would severely dilute the current SREC market for distributed solar and for utility scale solar as the community solar SRECs would be taken first before other SRECs would be purchased by the EDCs.
- Some are concerned about the ratepayer impacts of the GSP and value stack because of the level of incentive and the lack of a ceiling on the amount of community solar that could receive the incentive. Some in the solar industry 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 "Shared" Solar in Pennsylvania

Guide	Bill #	Sponsors	History
	HB 330	Prime: Perry Stambaugh (R-Perry and Juniata Counties) Republicans - 3 Democrats - 5	Referred to the House Consumer Protection, Technology and Utilities Committee, March 13, 2023
	MEMO	Prime: Daniel Laughlin (R-Erie County) Republicans - xx Democrats - xx	Memo circulated on March 24, 2023 (will likely be a companion bill to HB 330)

Key Considerations:

- This bill allows EDCs/utilities the exclusive right 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 gives 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 bill would allow EDCs to issue proposals from solar developers to build solar projects up to 30 MW within their service territory and enter into long-term Power Purchase Agreements (PPAs). The EDCs could 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.
- This bill would establish a "Solar Energy Rate" that has the potential to include "green premiums" assessed by the utility.

- This bill includes a provision that would require a minimum of 5% to a maximum of 15% of a community solar facility's power to be sold to low income customers. This low LMI carveout creates a community solar program that is not equitably accessible across an EDC's service territory, further restricting LMI customers from participating in community solar programs.
- **Customers that receive net metering services may not participate.**
- 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 30 MW, which is much larger than other community solar bills in other states – if this bill passes, it would create an unfair competitive advantage for the EDC programs because the EDC projects will benefit from economies of scale and a first-mover advantage to utilize high-value solar areas. Projects that are 30 MW in size are typically considered utility scale solar projects and are not in the true spirit of community-scale projects.
- 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 rather a type of "shared" solar.
- **Some utilities have already issued Requests for Proposals to purchase energy from utility scale solar projects and enter into long term contracts for the energy from those projects to supply a portion of their default service supply. The PA Solar Center applauds those utilities who are participating in this practice and encourages them to meet more of their default service with solar in order to stabilize energy prices. The fact that utilities can already participate in offering solar to their customers through default service also illustrates that lack of need for this particular bill.**

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 technical and economic characteristics of a 25 - 30 year solar system. 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 federal [Solar Investment Tax Credit \(ITC\)](#), which has supported a 10,000% growth in the solar industry since 2006, and has been further strengthened to include bonus credits for energy communities, low-income communities, and domestic content under the Inflation Reduction Act of 2022.


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 are permitted to implement on-bill-financing options to finance a solar systems to be paid over longer-terms, but currently none offer this option. Further, Pennsylvania already support a set of Sustainable Energy Funds that operate across the state to support clean energy projects; these funds receive cash from penalty payments for the utilities that do not comply with AEPS requirements.. 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.

BILLS THAT ADDRESS TAX POLICY

Solar State Tax Exemptions

Guide	Bill #	Sponsors		History
	SB 61	Prime: Vincent Hughes (D-Montgomery and Philadelphia Counties)		Referred to Senate Finance Committee, January 18, 2023
		Republicans - 0	Democrats - 11	
	HB 518	Prime: Ed Neilson (D-Philadelphia County)		Referred to House Finance Committee, March 17, 2023
		Republicans - 1	Democrats - 13	
	HB 520	Prime: Ed Neilson (D-Philadelphia County)		Referred to House Finance Committee, March 17, 2023
		Republicans - 0	Democrats - 14	

Key Considerations:

- HB 518 and SB 61 would exempt solar energy equipment from taxation at the retail point of sale during the installation, maintenance, or repair of solar energy devices.
- Eliminating this tax would bring down the cost of solar at the point of purchase for customers. [25 other states](#) have this exemption. Arizona, for example, provides a sales tax exemption for the retail sale of solar energy devices and for the installation of solar energy devices by contractors. Colorado exempts from the state's sales and use tax all sales, storage, and use of components used in the production of alternating current electricity from a renewable energy source.
- HB 520 exempts all solar devices from any PA property taxes. 36 states offer property tax exemption for solar systems. In Nevada, one of their renewable energy property tax exemptions allows businesses to apply for a property tax abatement of up to 55 percent for up to 20 years for real and personal property used to generate solar. Generation facilities must have a capacity of at least 10 megawatts.



SOLAR DECOMMISSIONING AND BONDING POLICY

Bonding and decommissioning refer to activities that deal with the end of life of a solar system and the financial requirements to carry out those activities.

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.

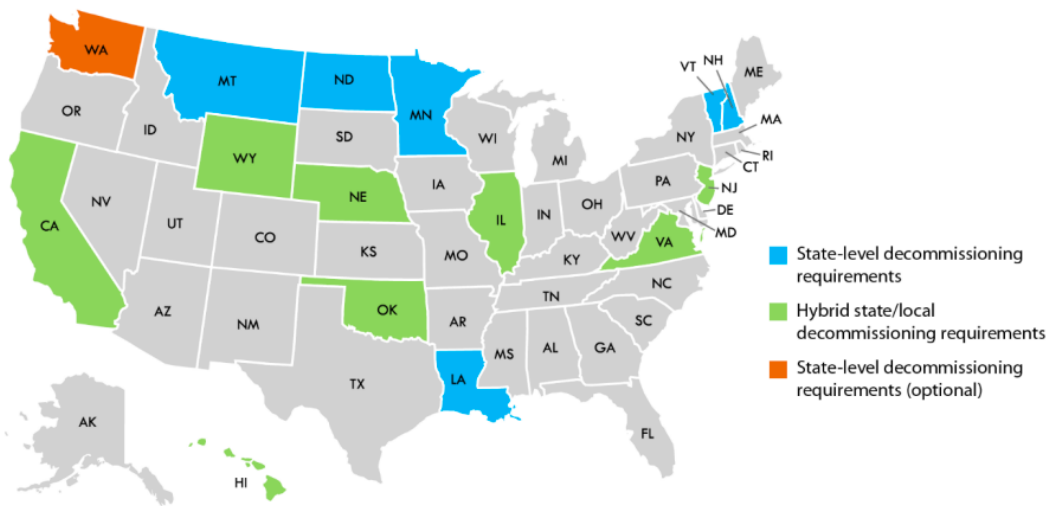


Figure 1. Map of state solar decommissioning policies in the United States



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.

Guide	Bill #	Sponsors		History
	SB 211	Prime: Gene Yaw (R-Bradford, Lycoming, Sullivan, Tioga and Union Counties)		Final Senate passage, March 8, 2023 Referred to the House Consumer Protection, Technology and Utilities Committee, April 25, 2023
		Republicans - 7	Democrats - 0	
	HB 925	Prime: Kathy Rapp (R-Warren, Crawford and Forest Counties)		Reported with request to re-refer to Environmental Resources and Energy Committee, April 25, 2023
		Republicans - 15	Democrats - 0	

Key Considerations:

- SB 211 and HB 925 would create statewide decommissioning requirements and proof of financial assurance for solar facilities larger than 2MWac except for net-metered customer-generators and facilities owned and/or operated by a qualified agricultural operation. HB 925 includes additional requirements for facilities planned for specific USDA-NRCS soil classifications and facilities using more than 10 acres.
- These bills would require the PA DEP to consult with the solar industry in the development of a statewide standard decommissioning plan and for decommissioning plans to be submitted to the appropriate county recorder of deeds.
- Under SB 211 and HB 925, decommissioning would be required to take effect 18 months after a facility has stopped producing electricity (unless actively recommencing generation) as well as baseline restoration requirements.
- SB 211 and HB 925 both would require a specific percentage of the decommissioning costs to be secured through a financial assurance mechanism 30 days before construction commences. SB 211 includes considerations for salvage value, and HB 925 does not consider salvage value. Bonded amounts are to be updated every 5 years until year 25. Decommissioning amount is to be determined by a third-party.
 - SB 211:
 - 30 days before construction: 10% of decommissioning cost;
 - Year 5: 10% of decommissioning cost;
 - Year 10: 40% minus salvage value but not less than 25% of decommissioning cost;
 - Year 15: 60% minus salvage value but not less than 40% of decommissioning cost;
 - Year 20: 80% minus salvage value but not less than 60% of decommissioning cost;



- Year 25: 100% minus salvage value but not less than 70% of decommissioning cost.
 - HB 925
 - 30 days before construction: 10% of decommissioning cost;
 - Year 5: 10% of decommissioning cost;
 - Year 10: 25% of decommissioning cost;
 - Year 15: 40% of decommissioning cost;
 - Year 20: 60% of decommissioning cost;
 - Year 25: 70% of decommissioning cost.
- Salvageable material is limited to steel, aluminum and copper.
- This bill does not acknowledge 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 managed appropriately. **Having a statewide standard is not necessarily a negative issue. Some solar developers prefer to have one set standard rather than navigate different requirements in different regions or counties.**
- **PA Solar Center would prefer to see SB 211 pass rather than HB 925 because the House bill does not include salvage value which is an important factor when calculating end of life values.**

SOLAR RECYCLING POLICY

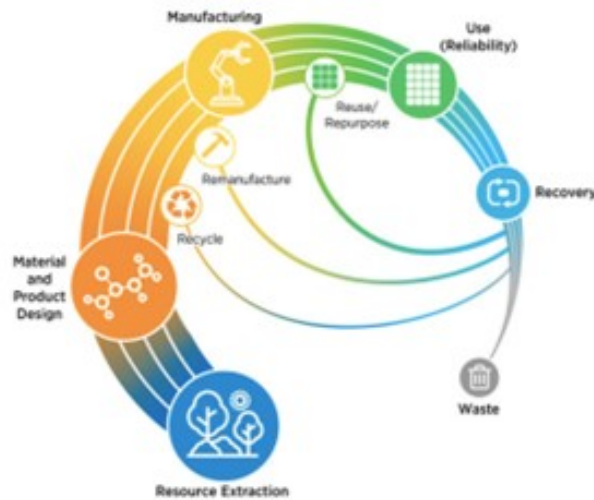
According to a U.S. Department of Energy study on the solar supply chain, over 90% of the components of a solar panel can be recycled. The National Renewable Energy Laboratory reports that solar that has reached its end-of-life could reach 1 million metric tons by 2030 and up to 10 million metric tons by 2050. These facts present significant opportunities for Pennsylvania to leverage its manufacturing skillsets and legacy of innovation to take advantage of the growing interest in domesticating the solar supply chain.

PV panels typically consist primarily 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.





Circular economy principles aim to transition from the traditional, linear economic model of “take-make-consume-dispose” to a model that relies on the cost benefits of collection, remanufacturing, recycling, and repurposing. Solar developers, distributors, manufacturers, and others along the solar supply chain can integrate circular economy practices into their operations and build strategic partnerships with entities that recycle glass, aluminum, scrap metal and electronics to strengthen the needed growth in solar repair, recycling, refurb, and resale services. For EoL solar materials that do not currently have established recycling or refurbishing options, materials must be managed safely and discarded carefully following federal, state and local guidance and regulations. Circular economy approaches seek to avoid landfill waste, including the sourcing of materials that cannot be recycled or refurbished.

Pennsylvania’s total solar capacity has consistently increased for over a decade and will continue to grow for decades to come. While the global solar supply chain develops, Pennsylvania businesses, landowners, citizens, and local governments are best served by a localized solar supply chain. New market opportunities exist in solar repair, recycling, refurb, and resale that will lead to expanded employment and enhanced competitiveness in the solar market. Localized supply chains decrease manufacturing and installation costs and increase jobs, local tax revenues, and consumer trust. Federal programs are available to re-equip, expand or establish facilities that produce or recycle solar. The federal Advanced Energy Project Credit provides a tax credit of up to 30% for these projects and it prioritizes investments in energy communities, which includes a majority of Pennsylvania. Pennsylvania can further strengthen the incentive to invest in the Commonwealth’s solar supply chain by advancing state programs that provide financial assistance for manufacturers of solar equipment that focus on growing the solar workforce.

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. The PA Center also recommends that the state avoids creating a separate recycling program that may differ from national programs that are developing.



- Favorable for solar




- Some possible benefit or PA Solar Center Neutral



- Possibly Unfavorable



Solar Recycling

Guide	Bill #	Sponsors		History
	SB 455	Prime: Cris Dush (R-Cameron, Centre, Clinton, Elk, Jefferson, McKean, and Potter Counties)		Referred to Senate Environmental Resources and Energy Committee, March 14, 2023
		Republicans - 4	Democrats - 0	
Key Considerations:				
<ul style="list-style-type: none"> → This bill calls for solar panels to be added to the state's "Covered Device Recycling Act," which would require solar manufacturers, importers and installers to establish reclamation and recycling programs and include these costs 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 Covered 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 unnecessarily burdensome and expensive to the solar industry in PA. → The PA Solar Center opposes this bill. 				

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.


Solar for Pennsylvania Schools

Guide	Bill #	Sponsors		History
	HB 1032	Prime: Elizabeth Fiedler (D-Bradford, Philadelphia County)		Referred to the House Consumer Protection, Technology and Utilities Committee, April 26, 2023
		Republicans - 2	Democrats - 32	
	MEMO	Prime: Vincent Hughes (D-Montgomery and Philadelphia Counties) and Carolyn Comitta (D-Chester County)		Memo circulated April 13, 2023 (this is likely a companion bill to HB 137)
		Republicans - xx	Democrats - xx	
Key Considerations:				
<ul style="list-style-type: none"> → The "Solar for Schools Act" would fund a \$500 million competitive grant program that would fund up to 50% of a solar project's costs for school districts, intermediate units, career and technical schools, schools for the deaf or blind, community colleges and technology colleges. → The bill would authorize the Department of Community and Economic Development (DCED) to oversee the program's administration including technical assistance as well as developing educational materials on solar and the Inflation Reduction Act. → Eligible applicants would be required to conduct a feasibility analysis and any employer or contractor that is assigned to a project funded by this program must pay prevailing wages. 				



- Preference is given to projects that demonstrate the greatest amount of solar energy production relative to existing usage at the school and schools in low-income communities.
- The program would encourage schools to integrate solar into educational curriculum and encourage schools to direct energy costs savings to environmental and health hazard remediation, indoor air quality and other facility improvements.
- While the PA Solar Center supports this bill, we would like to see this bill include a revolving loan fund that would be available to schools with a combination of grants and loans. With the Inflation Reduction Act, schools are eligible to receive a direct pay option of 30% of the cost of the system and possible additional adders totaling up to 50% or more of the system cost. With this amount benefit plus a long-term loan or a combination of grants+loans, the schools could realize enormous costs savings immediately. A revolving loan fund would enable the state to assist more schools to go solar with a lower amount to money.


Transitioning to 100% Renewables by 2050

Guide	Bill #	Sponsors	History
	MEMO	Prime: Christopher Rabb (D-Philadelphia County) Republicans - xx Democrats - xx	Memo circulated on April 3, 2023
	MEMO	Prime: Amanda Cappelletti (D-Delaware and Montgomery Counties) & Katie Muth (D-Berks, Chester, and Montgomery Counties) Republicans - xx Democrats - xx	Memo circulated on April 3, 2023

Key Considerations: ([based on 2021-2022 Session's SB 872](#))

- These 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.
- These bills would 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 the goals are so lofty, these bills are likely not to pass.


Ensures Homeowners in an HOA Can Access Solar Energy

Guide	Bill #	Sponsors	History
	SB 31	Prime: Katie Muth (D-Berks, Chester, and Montgomery Counties) Republicans - 0 Democrats - 10	Referred to Senate Urban Affairs and Housing Committee, January 18, 2023

Key Considerations:

- This bill 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.


Sale of Alternative Energy Credits

Guide	Bill #	Sponsors		History
	MEMO	Prime: Gene Yaw (R-Bradford, Lycoming, Sullivan, Susquehanna, and Union Counties)		Memo circulated on December 5, 2022
		Republicans - xx	Democrats - xx	

Key Considerations ([based on 2021-2022 Session's SB 945](#))

- 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.
- The PA Solar Center opposes this bill.

Prevailing Wages for Renewable Energy

Guide	Bill #	Sponsors		History
	HB 949	Prime: Elizabeth Fiedler (D-Philadelphia County)		Referred to the House Labor and Industry Committee, April 17, 2023
		Republicans - 0	Democrats - 27	

Key Considerations:

- This bill would require renewable energy projects **of any size** 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.
- The federal Inflation Reduction Act already requires projects greater than 1 MW to include prevailing wage if the projects want to receive the 30% tax credit. The PA Solar Center does not support creating a more stringent requirement than already set by the federal legislation.



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.sretrade.com/markets/rps/srec/pennsylvania>

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

^{viii} https://www.sretrade.com/markets/rps/srec/new_jersey

^{ix} <https://www.energy.gov/eere/solar/community-solar-basics>

