

Pennsylvania Update

MSSIA – 3rd Qrtly Mtg - 2021



Solar Update Highlights in PA – 6/24/2021

- Current in-state solar PV capacity in PA is **680 MW**, from a total of 31,668 systems, as of 10/21/2021.
- PJM Queue for PA –17.8 GW (490 applications: Active, Engineering/Procurement, and Under Construction-including in partial service); number of applications up 14% in less than a month (2.4 GW!!).
- RGGI in PA – THE obstacle for stalled solar policy in PA.

Three legislative hearings on solar in PA in recent months:

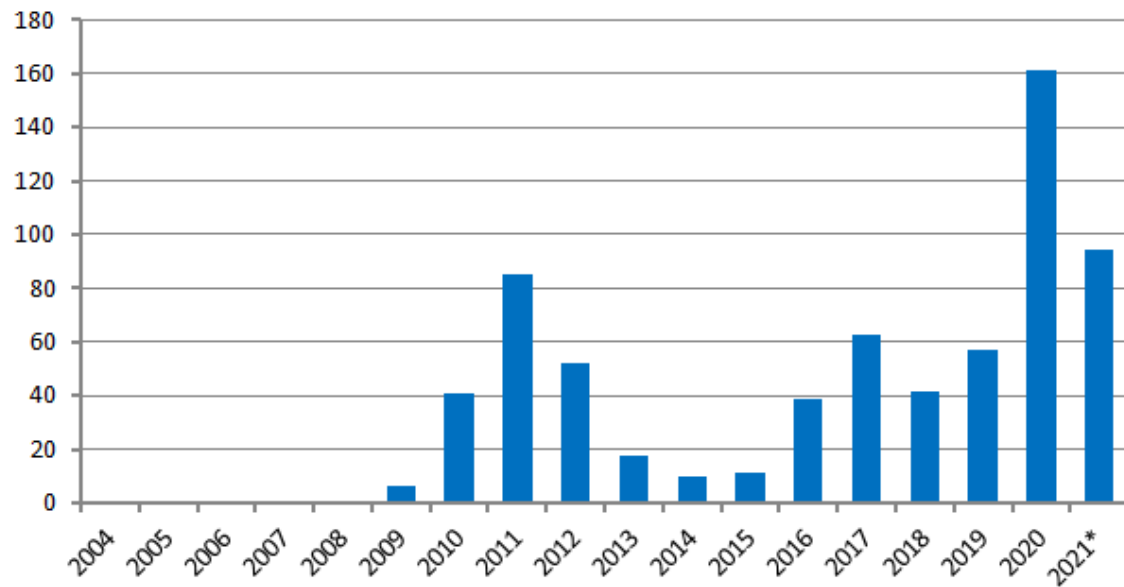
- 8/26/2021: House - Consumer Affairs Hearing on Solar Energy in PA
- 9/21/2021: Senate Ag & Rural Committee Hearing on Grid Scale Solar and Agrivoltaics
- 10/1/2021: Center for Rural Pennsylvania, chaired by Sen. Gene Yaw - to explore current policy approaches to solar development in rural Pennsylvania, and matters to consider when beginning and ending/decommissioning a solar project.

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- SolarAPP – Online solar permitting application software – Update – ICC 2018 and NEC 2017 will be in effect on 2/14/2022 – Game changer....

PV Capacity in PA

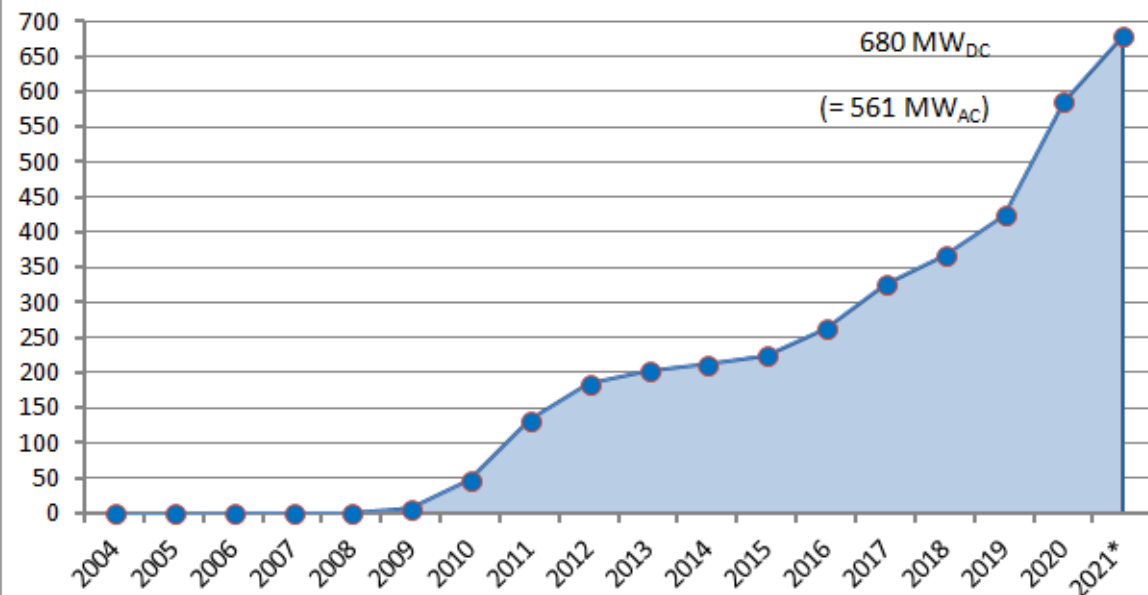
Annual & Cumulative

Annual Solar PV Capacity (MW_{DC}) Installed in PA



Installed Capacity (MW_{DC}) as of 10/21/2021 (AEPs Database)

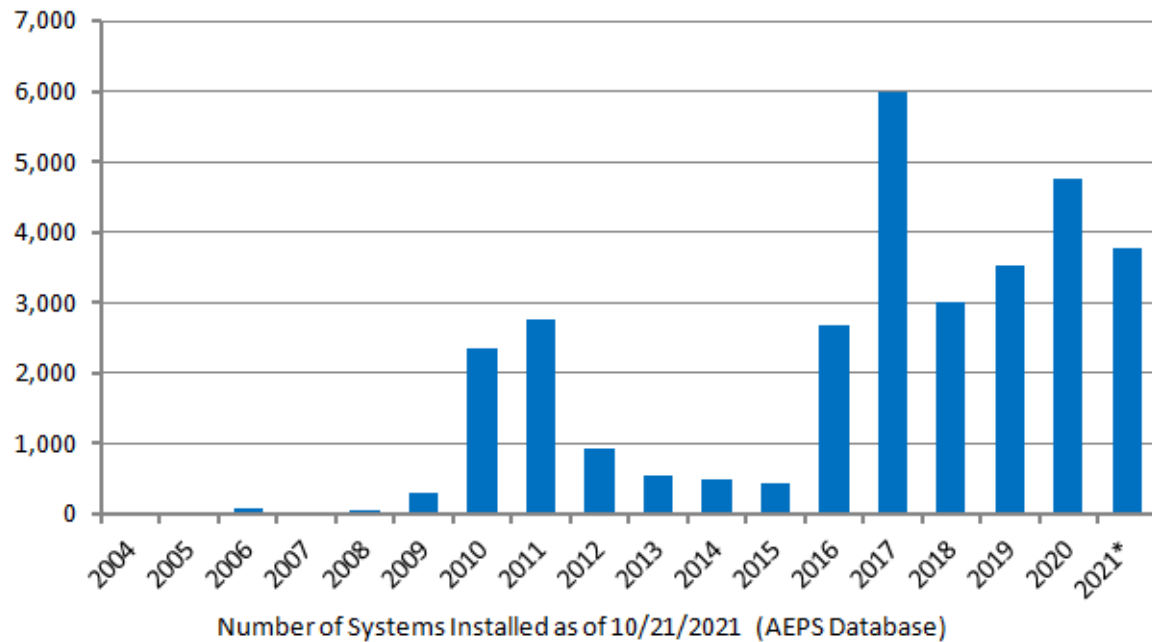
Cumulative Solar PV Capacity (MW_{DC}) Installed in PA



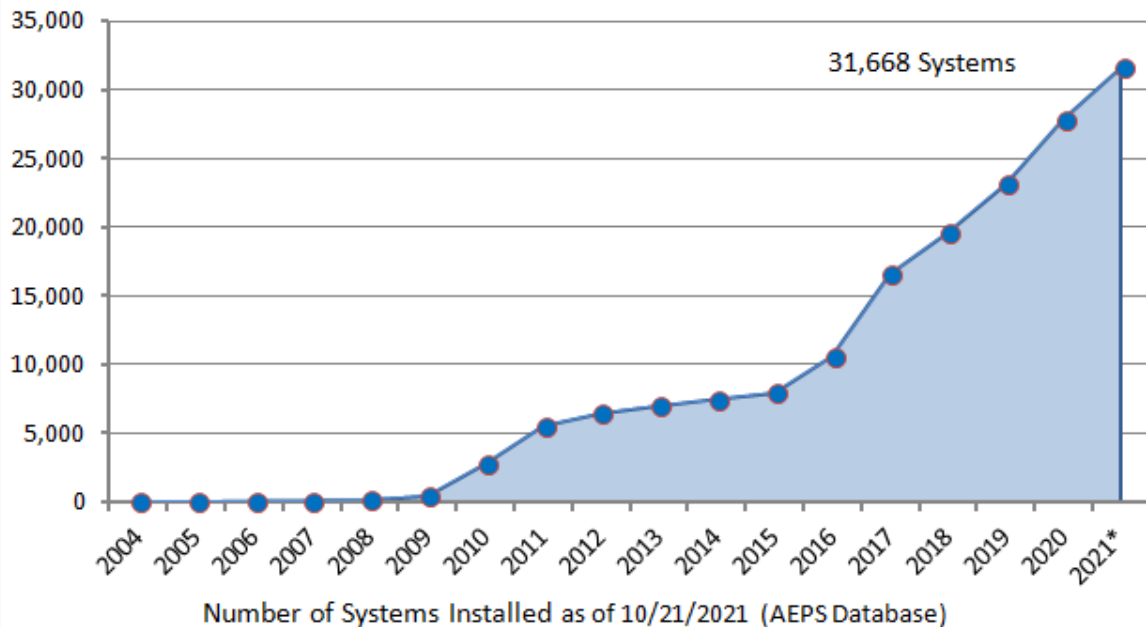
Installed Capacity (MW_{DC}) as of 10/21/2021 (AEPs Database)

Number of PV Systems in PA Annual & Cumulative

Annual Number of Solar PV Systems Installed in PA



Cumulative Number of Solar PV Systems Installed in PA



Breakdown Of PV Installations in PA & PJM Queue for PA Solar Applications

Cumulative PV Installed in PA		
Capacity (DC)	# of Systems	Total MW
≤ 15 kW	27,057	215
> 15 kW to ≤ 250 kW	4,376	145
> 250 kW to ≤ 1 MW	170	82
> 1 MW to ≤ 3 MW	45	70
> 3 MW to ≤ 5 MW	13	48
> 5 MW to ≤ 10 MW	1	6
> 10 MW	6	114
Total	31,668	680

* as of 10/21/2021 as per PA AEPS (PUC)

PJM Queue for PA

As of 10/21/2021

Status	# of Apps	Max Facility Output (MFO)			Total Cap IC Queue Position
		Total Cap AC MW	Capacity Range		
			Min	Max	
Active	414	16,772	0.2	401.6	8,462
Engineering/Procurement	75	1,001	1.2	150.0	553
Under Construction	1	20	20.0	20.0	8
Part in Srvc - Under Const	0	-	-	-	-
Sub-Total	490	17,793			9,022
In Service	13	195	3.3	20.0	57
Grand Total*	503	17,988			9,079

* Total Applications categorized as "Solar & Storage" = 89

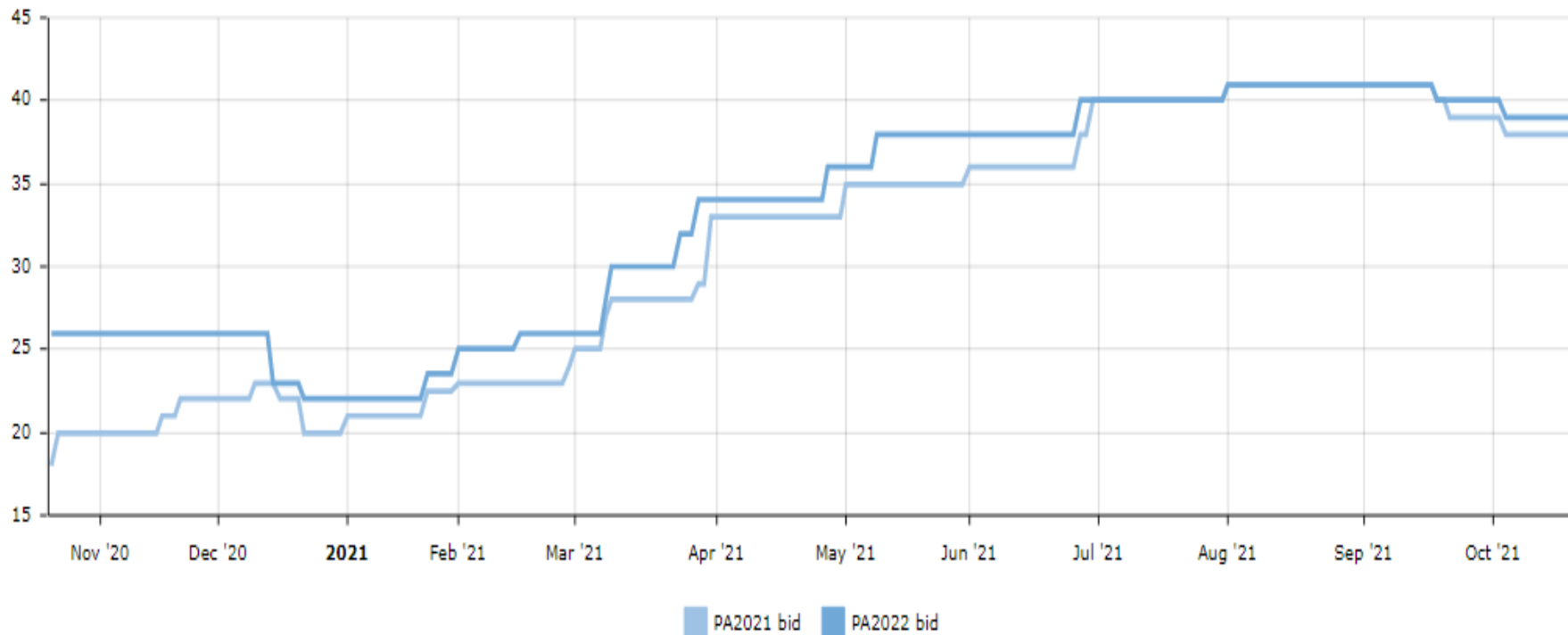
Current PA SACP = \$76.48/SREC

Current PA SREC Prices

PA

Latest Bid Price: \$39.00

Bid Prices for PA - Last Twelve Months (LTM)

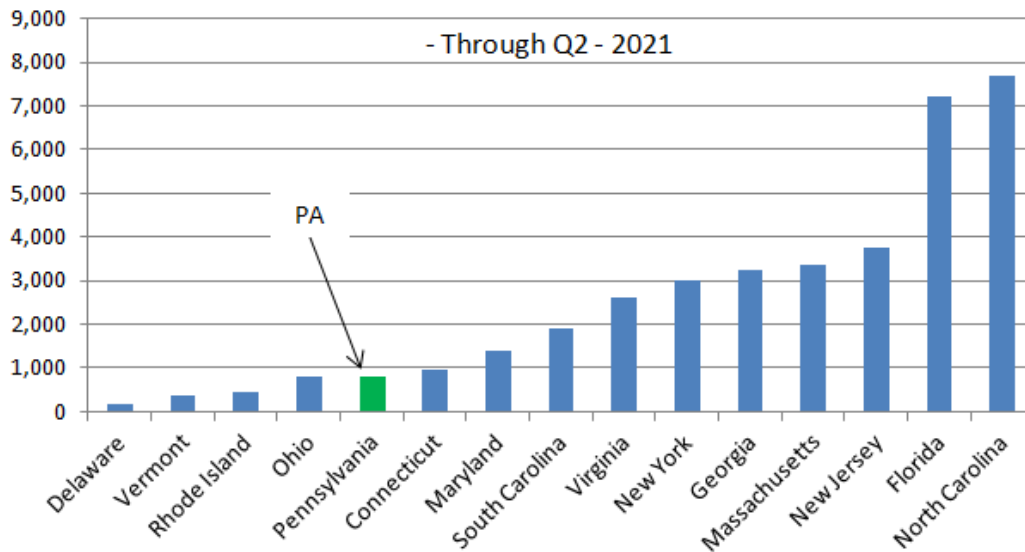


This graph is protected by copyright laws and contains material proprietary to SRECTrade, Inc. All bid pricing and notes included are indicative and subject to change. Please contact us for most current markets. If a market is not quoted herein, please [contact us](#) directly for further information.

Solar in Other East Coast States Compared to PA

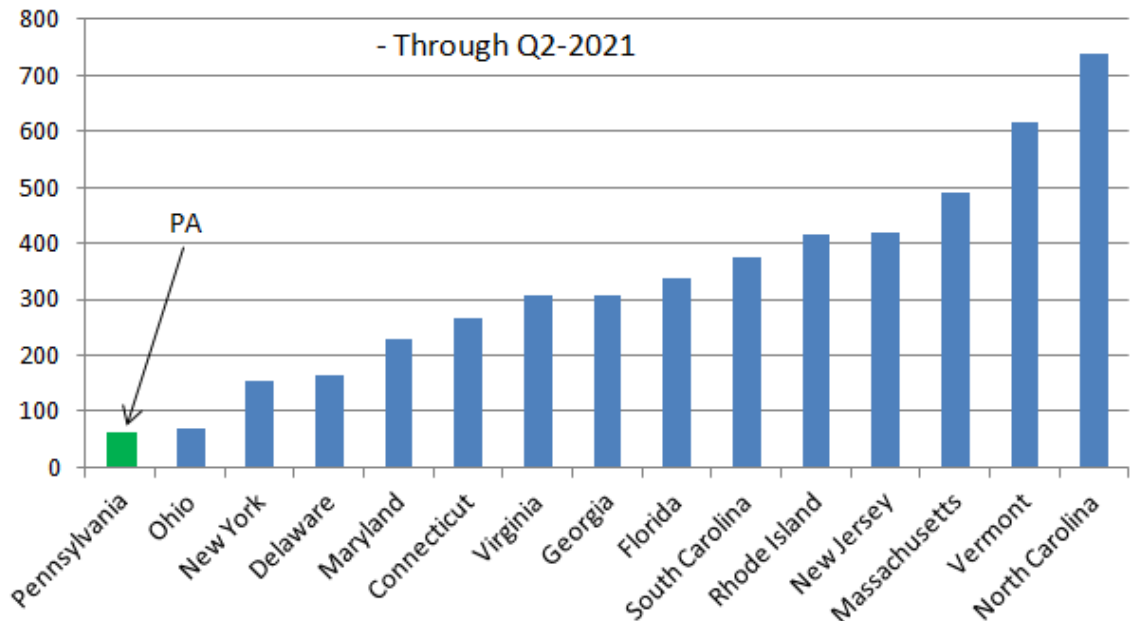
Solar in Pennsylvania Ranks 22nd in the Nation

Total Solar Capacity (MW_{DC}) Installed by State on the East Coast



Nat. Solar Energy Industries Assoc. - www.seia.org/states-map

Total Solar PV Installed per Capita (MW_{DC}/Million)



Solar Update Highlights in PA – 10/21/2021

Legislative Activity –Solar Bills Introduced in Pennsylvania

Excerpts below from PA Solar Center - *PA State Solar Legislative Guide*:

https://pasolarcenter.org/wp-content/uploads/2021/07/PA-Solar-Center-Solar-Legislative-Guide_070121_1211-2.pdf

Increasing the Renewable Energy Goals in Pennsylvania

- **HB 1080** and **SB 501** (companion bills) increase the renewable energy goals to 18% with the solar carve out set at 5.5% by 2026. The solar carve out is specified that 3.75% would come from utility scale solar and 1.75 % 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.
- **HB 1394** would increase the renewables goals in the AEPS to 15% by 2030 with the solar carve out for customer generators (distributed generation) only to 2.5% by 2030. This bill does not include an increase in utility scale solar.
- **HB 1531** would create a new renewable energy scheme (different from the AEPS) that 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. It does not include utility scale solar. There is no Alternative Compliance Payment (ACP) set for the non-solar renewable goals.
- **SB 300** would increase renewables to 30% by 2030 with 10% coming from in-state solar. The bill is similar to SB 501, but with more aspirational goals.

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Community Solar/Shared Solar

- **SB 472**– This bill provides the mechanism to allow community solar projects up to 5 megawatts (MW) in PA. 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 \$0.225/watt (DC) per year that developers would receive from the utility through the first five years after passage of the bill. After that point, 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. No minimum subscription require
- **HB 1555** – This bill, introduced later, is similar to SB 472 above with a GSP of \$0.18/watt (DC) and an added requirement of a minimum subscription level of 75% for the first year before receiving the GSP. . Some other changes are also included, as compared to SB 472.
- **HB 1161** - This bill allows 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, but it is really just a green energy supplier.
- **HB1396** - This bill permits community solar and is similar to HB 531 from the previous session. It provides for full net metering benefits to subscribers rather than the GSP as described above, but the full net metering provision was controversial for utilities who voiced some opposition to community solar receiving the full net metering benefit.

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Solar Bonding Requirements

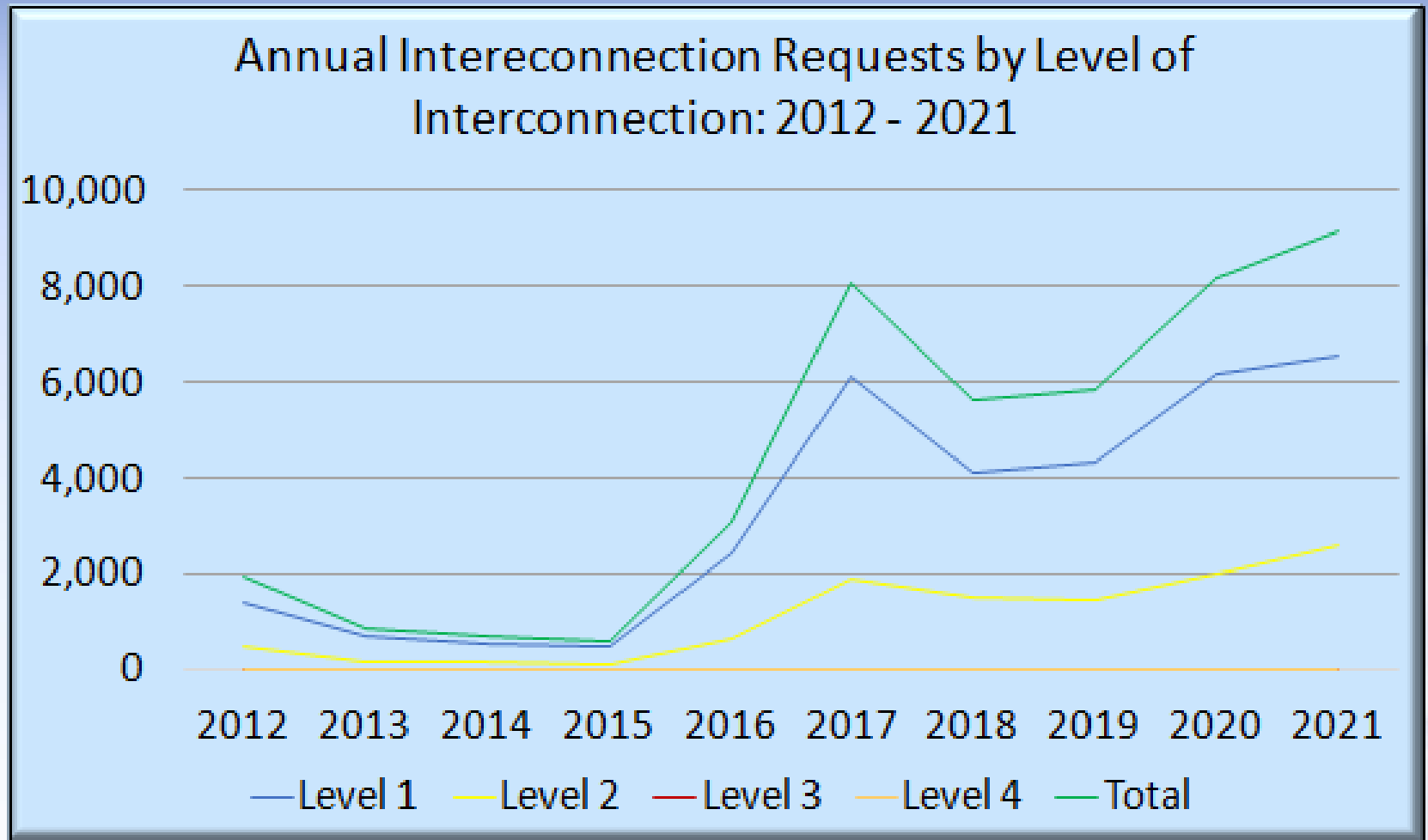
- **SB284** - This bill requires alternative energy projects included in the AEPS, including solar and wind, that generate power not used for onsite consumption to issue a bond to the Pennsylvania Department of Environmental Protection to cover “hazardous liabilities, decommissioning, to create a reclamation plan, and disposal/recycling of the project.” An amendment to this bill prohibits the use of solar panels that contain polysilicon sourced from the Xinjiang Province in China or that used forced labor in manufacturing.

Solar Panel Recycling

- **SB 530** - 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.

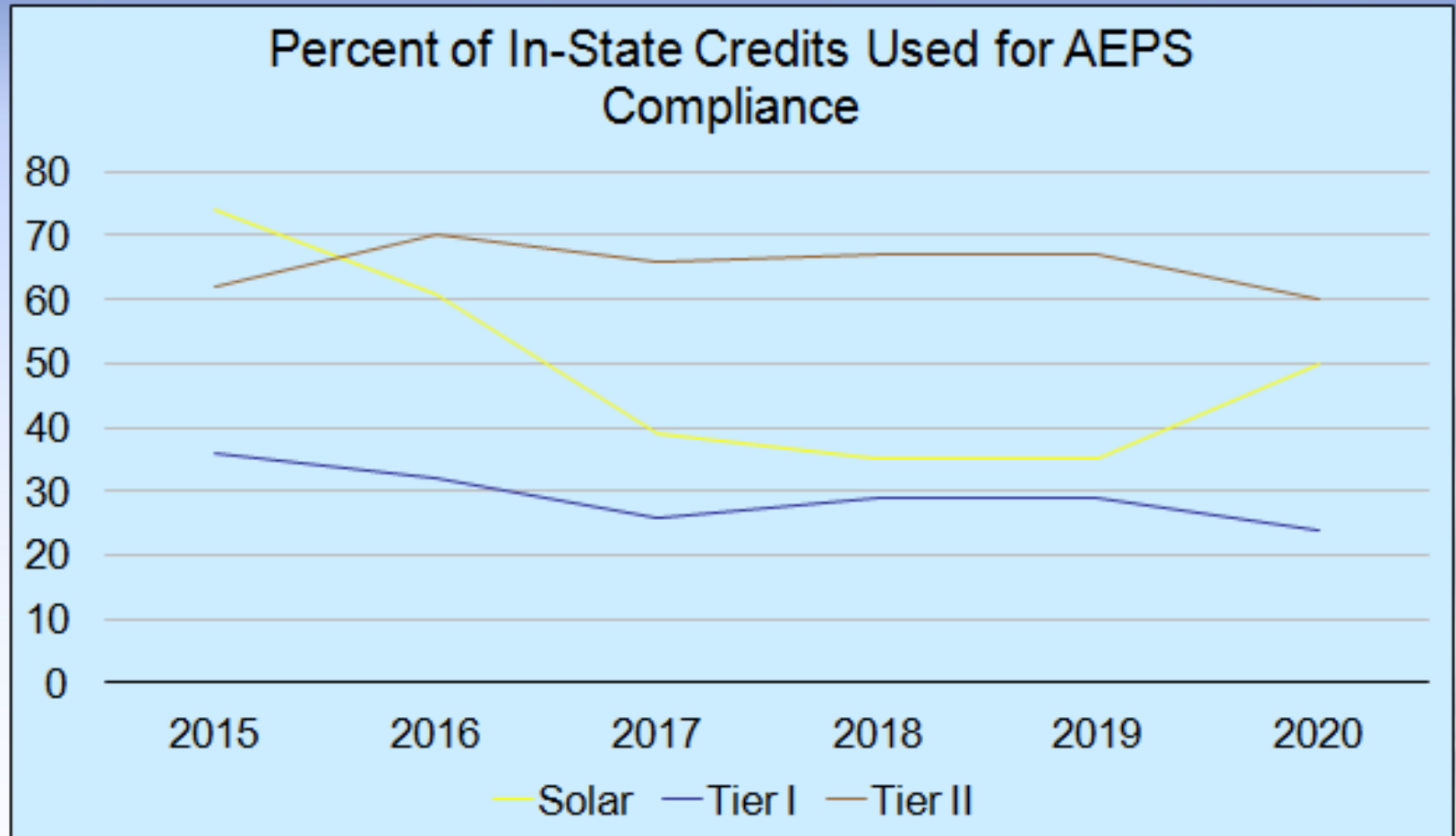


Customer-Generators



Courtesy of the PA PUC – Presented at PA Renewable Energy Summit 2021

Use of In-State Resources



Courtesy of the PA PUC – Presented at PA Renewable Energy Summit 2021



PPAs and Other

Additional buildout of renewables from numerous power purchase agreements.

- At least 9 Solar PPAs supporting the buildout of 820 MWac
- At least 2 Hydro PPAs supporting the development of ~25 MW.

In PA but tied to NY ISO transmission:

- 400 MW solar project in Clearfield County
- Similarly large solar project planned in Clinton County



PJM Stats of PA & Surrounding States

PJM Status	DE		MD		NJ		OH		PA		WV	
	<u>Proj.</u>	MW	<u>Proj.</u>	MW	<u>Proj.</u>	MW	<u>Proj.</u>	MW	<u>Proj.</u>	MW	<u>Proj.</u>	MW
Under Construction	0	0	4	195	11	49	2	503	2	120	0	0
Engineering & Procurement	10	214	30	666	8	30	16	2,630	73	1,199	2	98
Active	12	638	42	2,661	62	1,499	233	29,964	352	14,343	37	5,541
TOTAL	22	852	76	3,522	81	1,578	251	33,097	427	15,662	39	5,639
PERCENT OF TOTAL	2%	1%	8%	6%	9%	3%	28%	55%	48%	26%	4%	9%

Courtesy of the PA PUC – Presented at PA Renewable Energy Summit 2021