

Solar Update Highlights in PA – 2/13/2019

- Current in-state solar PV capacity in PA is 373.1 MW, from a total of 20,109 PV systems. The solar requirement by June 1, 2019 is about 500 MW – We're short!!
- PA Solar Future Plan – Completed; What it takes to get 10% solar by 2030; Link to Plan on MSSIA website. Next Steps.
- Big Solar in PA – Two 70 MW solar projects are being installed in PA. One 70 MW plant will be constructed in York County by Community Energy which will result as a solar PPA for the City of Philadelphia, ultimately meeting 30% of their carbon reduction goals - this will not impact the AEPS solar carve out. The other - Penn State announced their deal with Lightsource BP for 70 MW in Franklin County PA.
- C-PACE (Act 30) – A draft of the PENNSYLVANIA C-PACE PROGRAM MANUAL was out for public comment for about almost two months last year; waited to hear back on the revision.
- AEPS-2 – A small working group (including PASEIA) drafted a platform for modernizing the AEPS Tier 1 and Solar Requirement. Opened it up to all solar professionals, and held a teleconference call late January, 2019, followed by a lobby day in Harrisburg, with more than 20 solar professionals visiting over 30 legislators. More on following slide....
- PECO Interconnection Issues – 4 kV distribution lines continue to be problematic, although it seems to be less so in recent weeks. PECO just came out with a statement that they will spend approximately \$61 million on system upgrades that will replace a number of existing 4kV facilities with 13kV/34kV units across their service territory into 2020. Because of the operating characteristics of the higher voltage facilities, these upgrades may allow for new distributed generation installations, like solar, in previously constrained areas where interconnection was difficult.
- Community Solar – Now more than 100 participants in the PA Community Solar Coalition. House Bill is currently being drafted and has at least 34 House Rep co-sponsors on the bill. (Aaron Kaufer, R-Luzerne) Expect that the bill will be referred to the House Consumer Affairs Committee; eight of the bi-partisan co-sponsors are on this committee; House bill expected to be introduced in a couple of weeks. Senator Scavello is the lead sponsor of the bill on the senate side. Rep. Kaufer has scheduled a press conference on the community solar bill on Tuesday, February 19 at 10 AM in the Capitol Media Center. Tabled at the PA Association for Sustainable Agriculture (PASA) Conference trade show room last weekend, with at least 20 coalition members participating.
- Nuke Bailout -
- Carbon Cap & Trade for PA –

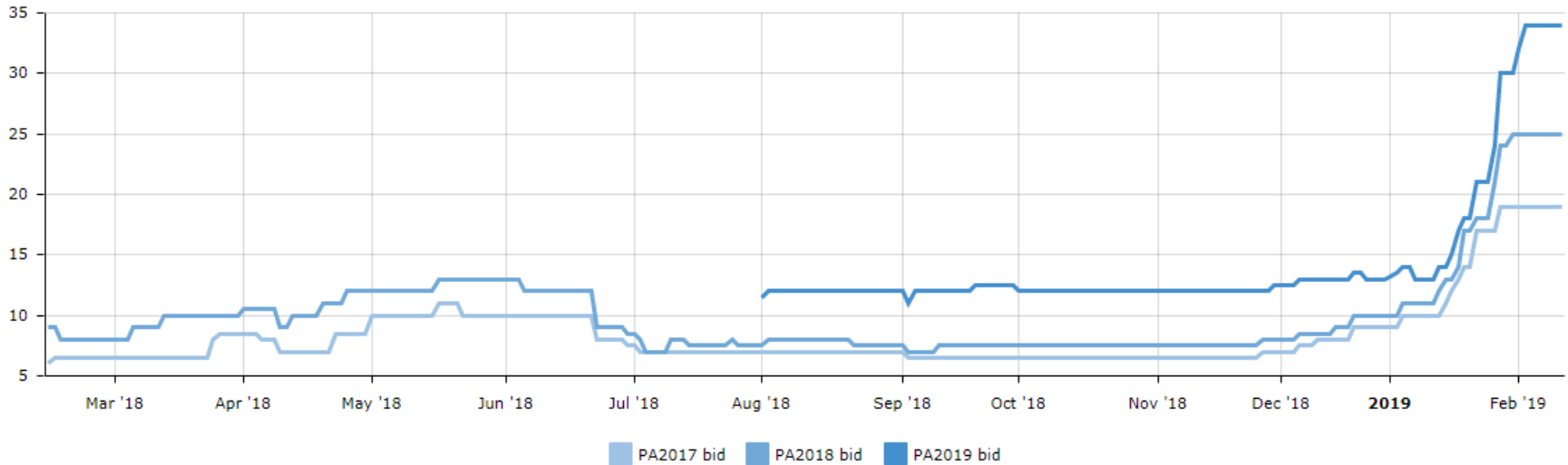
Current PA SREC Prices



PA OH

Latest Bid Price: \$34.00

Bid Prices for PA - Last Twelve Months (LTM)



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Modernizing the PA AEPS (AEPS 2.0)

**Increase Tier 1 from 8% to 30% by 2030,
Which includes increasing the Solar Requirement from
0.5% to 10% of in-state solar**

Update Pennsylvania's renewable energy goals to

30 percent by 2030

A reasonable approach to keep Pennsylvania competitive

Surrounding State Renewable Energy Targets

Electricity Sales Target Goals

State	Renewable Target	Target Year	Approx. Target Goal in electricity sales (MWh) (2017 data)	Clean Energy Jobs per million residents (2017) by state
New Jersey	50.0%	2030	36,691,470	1,321
New York	50.0%	2030	72,496,217	918*
Maryland*	25.0%	2020	14,825,971	1,312
Ohio	12.5%	2026	18,330,473	804
Pennsylvania	8.0%	2021	11,439,271	681

*Maryland is poised to raise their requirement to 50%

Robust New Renewable Energy Target Scenarios for PA by 2030 *

(in percentages and electric sales)

State	Renewable Target	Target Goal (based on 2017 electricity sales, MWh)	Potential Jobs Estimates*
Pennsylvania	25%	36,747,724	43,500
Pennsylvania	30%	42,897,269	52,200
Pennsylvania	50%	71,495,448	87,000

*Estimates calculated by scaling current 8,700 renewable energy jobs at current 5% renewable generation to 25%, 30% and 50% renewable energy targets.

RENEWABLE ENERGY IS A JOBS INCUBATOR

168%

Solar job growth increase in U.S. since 2010: 93,000 to 250,000+ jobs.^{iv}

Top Two Fastest Growing Jobs in U.S.

Solar Installer and Wind Technician^v

8,700

of PA Renewable Energy Jobs in 2017^{vi}



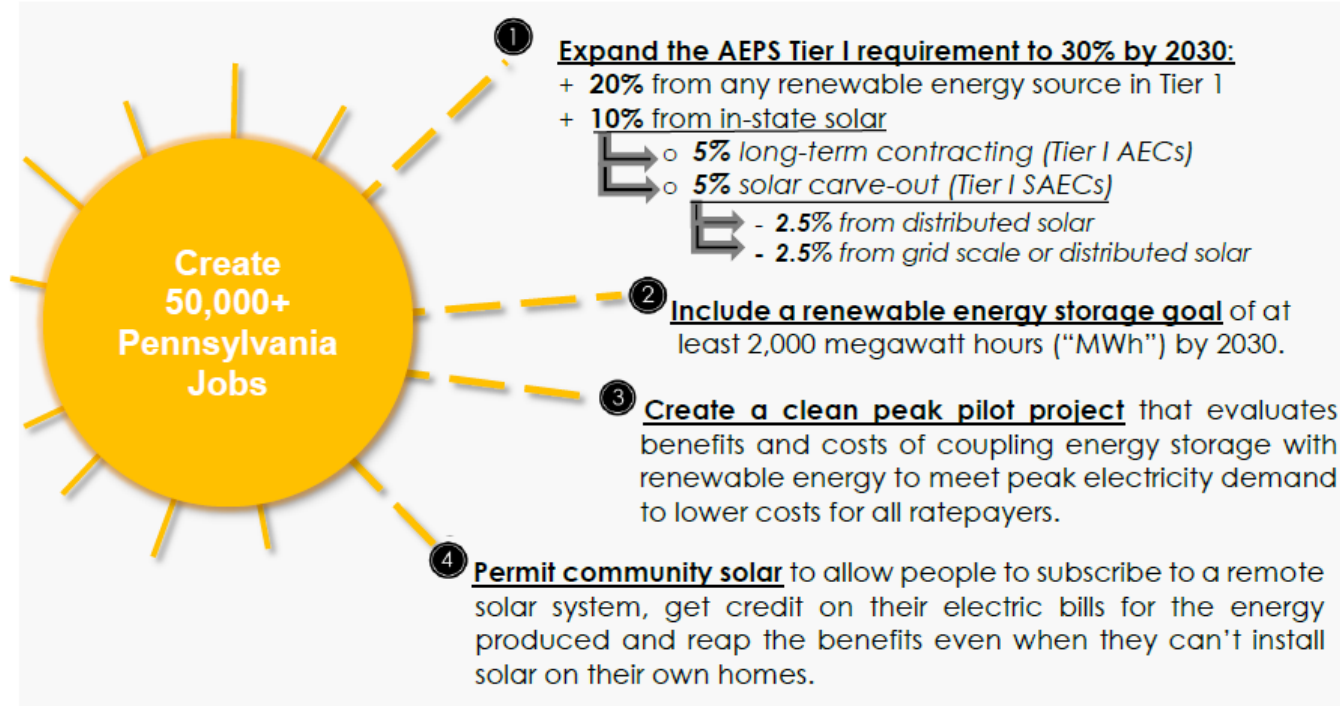
PA DEP Finding Pennsylvania's Solar Future Plan

Moving PA to 10 percent solar by 2030 would create about **30,000 direct solar jobs and upwards of 100,000 jobs** throughout the entire supply chain.¹



¹Kling Family Focus Farms, EIS Solar, West Milton, P.A.

Modernize Pennsylvania's Outdated Renewable Energy Goals



In 2004, Pennsylvania enacted the **Alternative Energy Portfolio Standard (AEPS)** – 15 years ago. Act 213 requires retail electricity suppliers to purchase 18 percent of wholesale electricity from "alternative" generation sources by 2021 with:

↳ Only 8 percent coming from Tier I renewable energy resources

↳ One-half (0.5) percent from photovoltaic solar

The other 10 percent comes from Tier II sources (non-renewable). PA is on schedule to meet these goals.

Percent Renewable Energy Generation

18% United Statesⁱ

5% Pennsylvania

Pennsylvania Rankings (2017)

26th Installed Solar Capacityⁱⁱ

19th Solar Jobs Rankingⁱⁱⁱ

18th Installed Wind Capacity

Still being revised:

10% In-State Solar as a Solar Carve Out
2.5% Minimum for Solar Distributed Generation
7.5% Unspecified Solar

Both with their own ramp up and SACP schedules, with Solar DG ramping up a bit slower than the Unspecified Solar (which would primarily be grid scale solar).

Tentatively setting the Solar DG SACP at \$100/SREC or \$150/SREC set through the step down of the ITC, then reduce the SACP by X% per year.

At least 30% - 50% of all solar must undergo long term contracts (LTC). Expect competitive procurement of grid scale solar development.