



MEMO

TO: PENNSYLVANIA PUBLIC UTILITY COMMISSION

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RE: CLARIFICATION OF INTENT OF ACT 40 – 2017

DATE: 12/18/2017

With regard to the solar language in PA Act 40 of 2017 (formerly HB118), we would like to assure that the PUC's interpretation of the law correctly reflects the intent of the language before the public release of the tentative implementation order.

The Pennsylvania Solar Energy Industries Association (PASEIA) and the Solar Unified Network of Western Pennsylvania (SUNWPA) worked closely with Senator Mario Scavello who drafted the language that eventually became the solar provisions included in Act 40. The intent of the language was to rectify a problem in the language of the original AEPS so that only Pennsylvania-sited solar systems would qualify for the Solar Renewable Energy Credit (SREC) and that all out-of-state systems, whether they were registered in Pennsylvania previously or not, would no longer be eligible for Pennsylvania SRECs under the AEPS (unless under contract). However, the language of Act 40, as written, would still allow all in-state and out-of-state systems to qualify for Tier 1 AECs. The sole purpose of the law is to help encourage the adoption of solar energy within the commonwealth in order to increase jobs in the state rather than to continue to subsidize solar energy generation and jobs in other states - as has been the situation since the AEPS passed in 2004. The AEPS to date has resulted in an enormous oversupply of SRECs from out-of-state solar systems and subsequently, a decrease in jobs and solar generation opportunity within Pennsylvania. This has been an unintended consequence which Act 40 was established to correct.

Specifically, there are three points that we would like to ascertain are interpreted correctly in the implementation order so that the purpose of the Act 40 remains intact: 1) language relating to "certification," 2) contracts, and 3) banked SRECs. Finally, we present analysis showing that there are ample PA-generated SRECs to meet the AEPS solar requirement for RY2018 and RY2019, without the use of out-of-state systems.

1) "Certification" Language

Until October 30, 2017, the Alternative Energy Portfolio Standard (AEPS) of 2004 allowed all certified solar facilities located anywhere within PJM territory to sell the solar renewable energy credits (SRECs) that they generated into the PA for AEPS compliance. The solar language in Act 40 was intended to narrow down the list

of certified solar facilities eligible for AEPS solar compliance to only those facilities physically located within the boundaries of the Commonwealth. However, we are concerned that language of Act 40 could be misinterpreted and we would like to ascertain that its intent remains intact. Act 40 states:

.....(2) NOTHING UNDER THIS SECTION OR SECTION 4 OF THE "ALTERNATIVE ENERGY PORTFOLIO

STANDARDS ACT" SHALL AFFECT ANY OF THE FOLLOWING:

(I) A CERTIFICATION ORIGINATING WITHIN THE GEOGRAPHICAL BOUNDARIES OF THIS COMMONWEALTH GRANTED PRIOR TO THE EFFECTIVE DATE OF THIS SECTION OF A SOLAR PHOTOVOLTAIC ENERGY GENERATOR AS A QUALIFYING ALTERNATIVE ENERGY SOURCE ELIGIBLE TO MEET THE SOLAR PHOTOVOLTAIC SHARE OF THIS COMMONWEALTH'S ALTERNATIVE ENERGY PORTFOLIO COMPLIANCE REQUIREMENTS UNDER THE "ALTERNATIVE ENERGY PORTFOLIO STANDARDS ACT."

This above language was added in order to clarify that the intent of the law was to apply to all qualified certified solar systems located within Pennsylvania and to assure that they would remain eligible for AEPS SREC compliance and would be unaffected by Act 40. This is the only interpretation that will achieve the objectives of the law.

This language was not intended to grandfather certified solar systems that were located anywhere in PJM, but only those certifications that are identified as being located within the boundaries of Pennsylvania to continue to be eligible to meet AEPS compliance for the solar carve out or to continue to earn Pennsylvania SRECs that can be used to meet compliance.

If this interpretation is lost and out-of-state systems are permitted to be eligible for AEPS SREC compliance, Act 40 would serve no purpose as illustrated in the following figures. The supply for SRECS would remain far above the requirement (i.e., the demand) and the problem for which the law was intended to correct would not be eliminated.

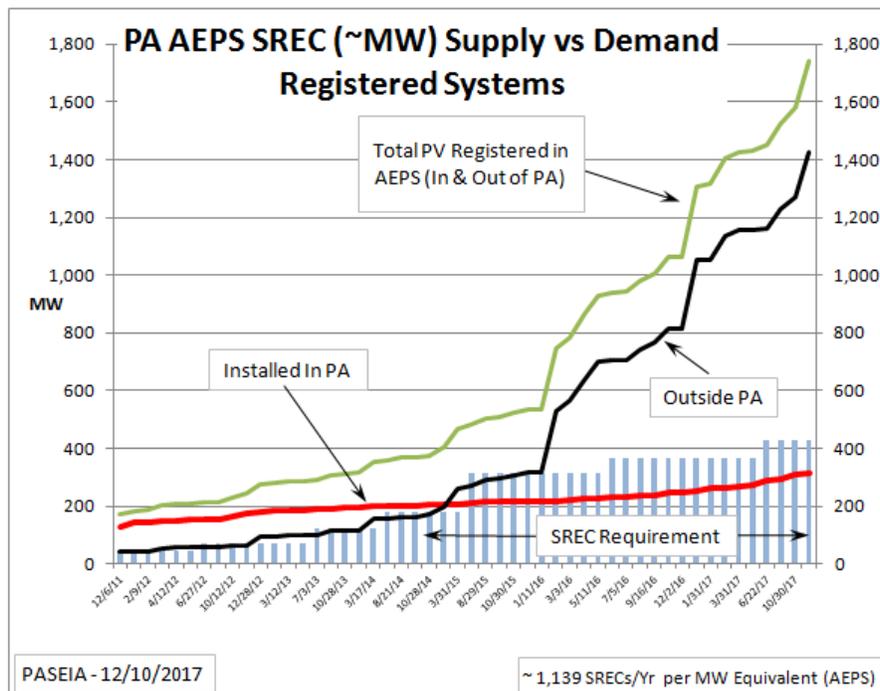


Figure 1. PA AEPS SRECs – Supply vs. Demand – Registered (Certified) Solar PV Systems

[Figure 1 shows the cumulative solar PV capacity of all the certified solar PV systems that have registered into the AEPS program regardless of state of origin. The metric for the solar requirement is in SRECs, where 1 SREC = 1 MWh. This shows the equivalent metric of solar PV capacity in MWs, where 1 MW will generate about 1,139 MWh/yr (1.139 SRECs/yr) (from the PUC AEPS Reports). The blue bars show the equivalent SREC requirement for the AEPS by reporting year in MWs. The red line shows the cumulative solar PV capacity installed in Pennsylvania, and the black line shows the cumulative qualified capacity of installations located outside of the state (within PJM territory). The green line shows the total of all the qualified systems certified under the AEPS Program.]

By October 30, 2017, when Act 40 was signed and enacted, 1,271 MWs of total solar PV capacity from qualified out-of-state facilities had been certified, which is more than four times the capacity of 308 MWs from certified systems installed in Pennsylvania.

The registrations (certifications) by state are shown in Figure 2, below.

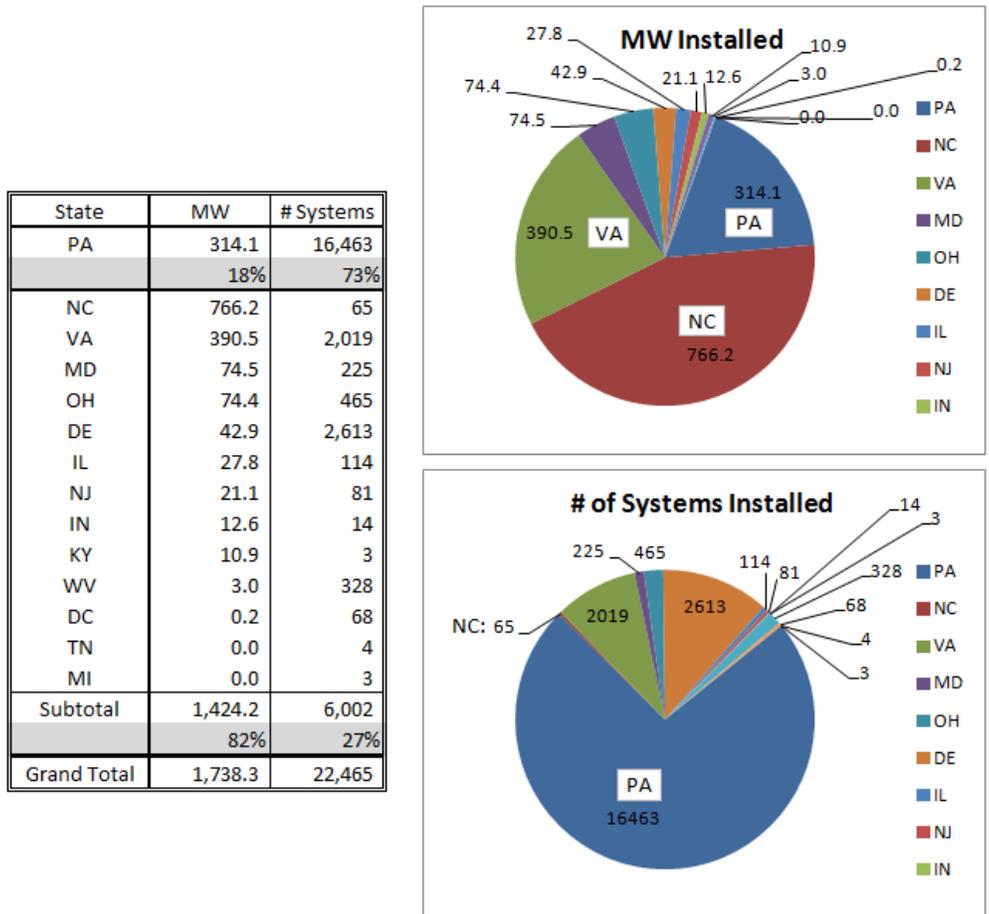


Figure 2. PA AEPS SRECs – Supply vs. Demand – Registered (Certified) Solar PV Systems by State by 12/9/2017

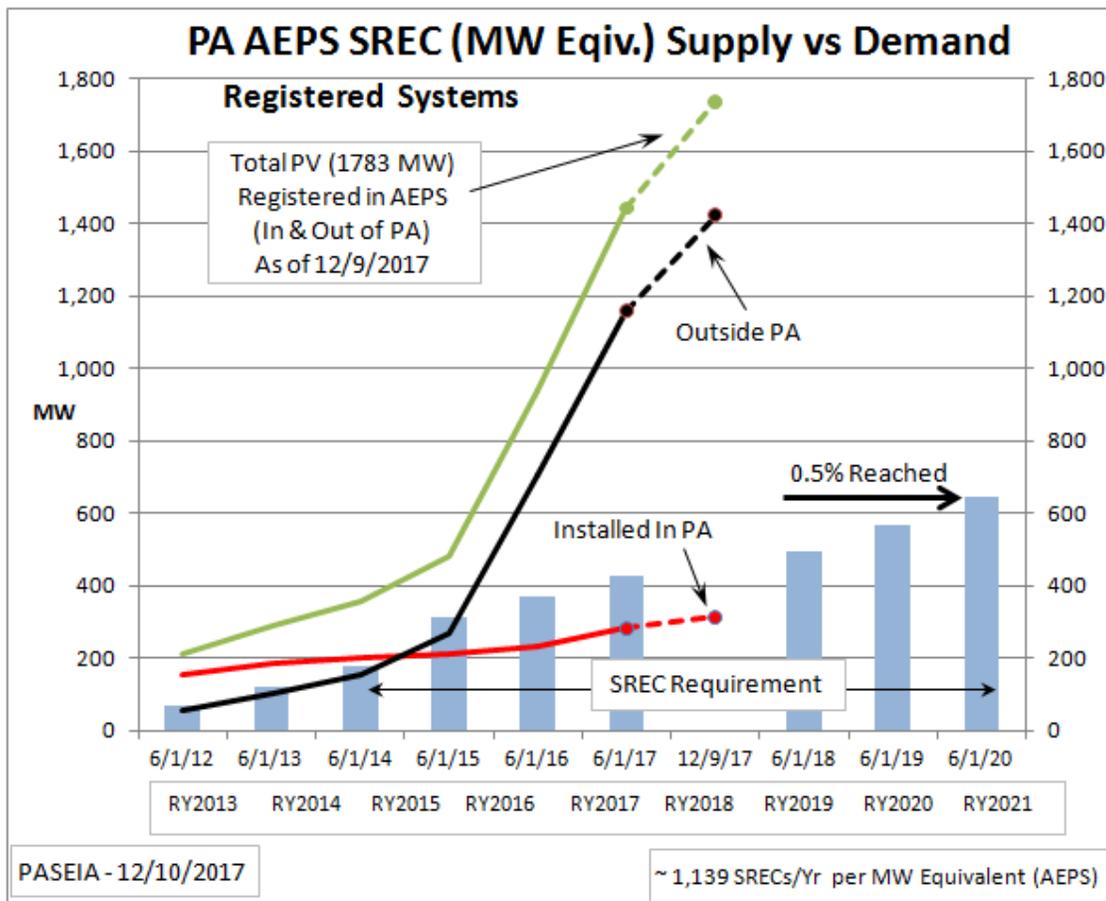


Figure 3. PA AEPS SRECs – Supply vs. Demand – Registered (Certified) Solar PV Systems Out to 2021

Figure 3 shows similar results as Figure 1, but relative to the final SREC equivalent requirement at the end of the AEPS in 2021. The figure clearly shows that an overwhelming amount of eligible capacity is from out-of-state, which exceeds the estimated total requirement of 645 MWs by 2021 (as estimated in Table 7 of the PUC 2016 Annual Report - AEPS Act of 2004).

If all out-of-state certified solar PV facilities up through the enactment of Act 40 are grandfathered in to sell their SRECs into the AEPS solar compliance market place, then Pennsylvania-based PV will see no benefit and Act 40 will be rendered useless. This is an unreasonable result and out-of-state SRECs will continue to be purchased to meet the lion’s share of AEPS solar requirement through 2021.

We also note that on November 10, 2017, 11 days after the effective date of Act 40, the very largest solar PV facility with a capacity of more than 140 MW from Virginia was certified as a qualified system in the AEPS. It seems the out-of-state solar facilities continued to be certified up through November 30, 2017 – even after the enactment date of Act 40. We see this as problematic and hope that the PUC works to rectify this situation so that the implementation date is as specified in the law.

2) Contracts

Continuing the discussion on the exception clause in this section in Act 40, with regard to contracts,

(2) NOTHING UNDER THIS SECTION OR SECTION 4 OF THE "ALTERNATIVE ENERGY PORTFOLIO STANDARDS ACT" SHALL AFFECT ANY OF THE FOLLOWING:

.....

(II) CERTIFICATION OF A SOLAR PHOTOVOLTAIC SYSTEM WITH A BINDING WRITTEN CONTRACT FOR THE SALE AND PURCHASE OF ALTERNATIVE ENERGY CREDITS DERIVED FROM SOLAR PHOTOVOLTAIC ENERGY SOURCES ENTERED INTO PRIOR TO THE EFFECTIVE DATE OF THIS SECTION.

(3) THIS SECTION SHALL APPLY TO CONTRACTS ENTERED INTO OR RENEWED ON OR AFTER THE EFFECTIVE DATE OF THIS SECTION.

A “contract” referred to above would be one with only an entity, such as the electric distribution company or the electric generation supplier, required to comply with the AEPS provisions. Contracts with parties other than those obligated to comply with the AEPS requirement are irrelevant under Act 40. Further, SREC contracts used to satisfy AEPS compliance are the only ones that would be reasonably accessible to the PUC. Any other contracts regarding SREC transactions for other purposes would be nearly impossible to track.

If the Commission finds that the language of the Act refers to “contracts” other than those used for AEPS compliance, then the purpose of Act 40 will be rendered useless. The result will be that even more out-of-state SRECs will be purchased to meet the AEPS solar requirement through 2021.

3) Banked SRECs

We are concerned about how banked SRECs by out-of-state facilities that are not under contract (as stated above) will be categorized and permitted to fulfill the AEPS SREC requirement. Although not implicitly addressed in the solar language in Act 40, the intent of the law is that all out-of-state systems will no longer qualify to meet the compliance of the AEPS SREC; however, they could still be eligible for selling into the Tier 1 AECs market place. This classification would also include all *banked* SRECs from those out-of-state facilities as well. The interpretation of eligibility for these banked SRECs should occur at the time when the SREC is sold to meet the AEPS obligation, *not* when the SREC was generated. Generation does not imply intent to sell into the PA AEPS market, because these systems are often registered in multiple state compliance markets. This interpretation is also crucial for achieving the intent of the law, because the number of banked out-of-state SRECs (and not currently under contract for AEPS compliance) equates to most of the remaining SREC obligation through 2021.

Table 7 shows the estimated annual solar demand or SREC requirement, from the PUC *2016 Annual Report - AEPS Act of 2004*.

Table 7: Solar Demand for Pennsylvania and installed capacity

Year	Generation Requirement (MWh)	Estimated Needed Capacity (MW)	Capacity Installed in Pennsylvania
2015	204,255	179	223
2016	364,442	320	232
2017	419,460	368	
2018	488,333	429	
2019	562,615	494	
2020	647,152	568	
2021	734,469	645	

PUC 2016 Annual Report - AEPS Act of 2004

The remaining four years of the solar requirement for the AEPS totals about 2,430,000 MWh (2.43 million SRECs). The graph in Figure 4 presents the annual number of banked and uncommitted SRECs from certified solar PV systems located in and out of Pennsylvania, clearly showing the huge oversupply of banked out-of-state credits.

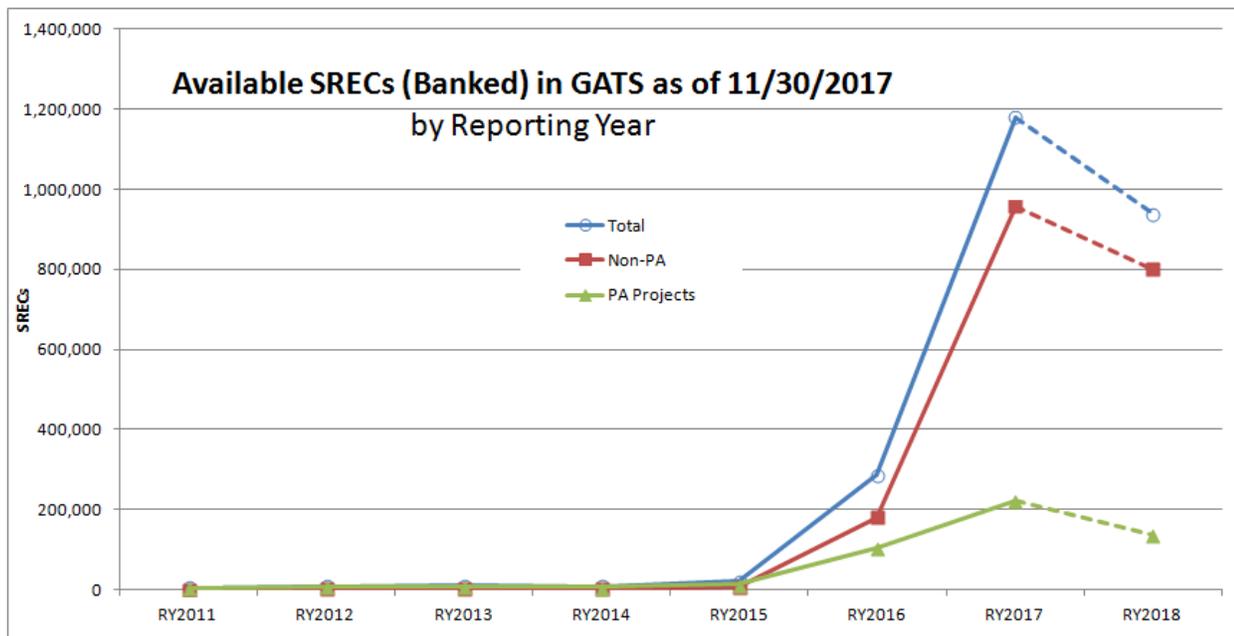


Figure 4. Available SRECs (Banked) in GATS from Certified Solar PV System – In & Out of PA

The total of out-of-state banked SRECs for Reporting Year 2016 and 2017, plus what has already been accumulated for RY2018, before Act 40 was enacted, is about 1.94 million SRECs. These would be sufficient to meet the next 3 out of 4 years of the AEPS requirement, without any SRECs coming from PA solar facilities, which again would be detrimental to the intent of the law.

Unless banked, out-of-state SRECs are under active contracts for AEPS compliance, they should only be eligible for AEPS Tier 1 compliance.

If all out-of-state, banked and not contracted-for SRECs are permitted to meet the AEPS solar requirement then ACT 40 will be largely ineffective for promoting Pennsylvania PV sources throughout the remaining years of the AEPS.

4) Status of PA Generated SRECs to Meet the AEPS Solar Requirement

According to Table 7 above, the AEPS solar requirement for RY2018 is 488,333 SRECs. The Figure below shows that as of November 30, 2017, solar facilities located in Pennsylvania have banked 465,483 SRECs from 2016, 2017 and 6 months of 2018. By May 31, 2018, there will be more than enough PA solar generated SRECs to meet the RY2018 solar obligation. Also, there are additional out-of-state SRECs under contract for AEPS compliance, which can also be used for compliance as stated in Act 40.

In other words, there are no supply constraints on SRECs for RY2018, if only PA-generated SRECs are permitted to satisfy compliance.

Enough SRECs Available for RY2018 and RY2019

Estimated RY2018 SREC Requirement	488,333	(from PUC 2016 AEPS Report)
Total RY2018 Already Retired		
Actual PA systems SRECs retired for RY2018	5	(as of 12/15/2017)
Actual Out-of-State systems SRECs retired for RY2018	126	(as of 12/15/2017)
Remaining RY2018 SREC Requirement	488,202	
<u>BANKED SRECs from PA Systems</u>		
SRECs Generated from PA Systems	105,631	RY2016 : Banked SRECs
	222,293	RY2017 : Banked SRECs
	137,559	RY2018 : Reported SRECs (11/30/2017)
Subtotal	465,483	
<u>SRECs Expected to be Retired from PA Systems Generated in RY2018</u>		
RY2018 SRECs from Existing PA Systems --> (314 MW of total capacity)	147,974	Expected PA SRECs to be reported from Dec 2017 through May 2018
RY2018 SRECs from New PA Systems -->	8,238	SREC generation based on new PA installations at 4 MW/month From Dec 2017 - May 2018
Subtotal	156,212	PA SRECs - 12/1/2017 - 5/31/2018
Grand Total of PA Generated SRECs for RY2018	621,695	
	133,493	Excess RECS over RY2018 requirement
<u>Further Backup for RY2018 & RY2019 SRECs from Certified Out-Of-State Facilities Under Contracts</u>		
Total Out-of-State SRECs Banked for 2016, 2017 & 2018	1,937,432	(mix : w/ & w/o contracts)
Assuming only 10% Eligible are Applied -->	193,743	Additional Banked SRECs

The supply of PA-only SRECs will also be sufficient for the RY2019 requirement of 562,515 SRECs. The above analysis shows an estimated surplus of PA SREC from RY2018, plus a conservative out-of-state SREC retirement from contracts, and the full year of solar generation of existing and new solar facilities installed in Pennsylvania in RY2019 (expected to be well over 400 MW of accumulated PV capacity). The number of available SRECs will exceed the RY2019 compliance requirement as well.

We appreciate your consideration of this information about the interpretation of the law so that it will fulfill the intent and objectives of Act 40.