



MEMORANDUM

Date: July 9, 2018

To: The Honorable Chairman and Members
Pima County Board of Supervisors

From: C.H. Huckelberry
County Administrator 

Re: **Solar Savings to Pima County**

The Board of Supervisors requested an individual analysis of the various solar power installations completed on County facilities. The attached July 2, 2018 memorandum from the Facilities Management Director indicates the solar savings to Pima County by site.

The savings will increase over time as electric rates increase. Three installations and four meters show negative savings, both are being analyzed in greater detail. The four negative adjustment areas relate to 2018 tax law changes and allowable reductions in energy credits, directed by the Arizona Corporation Commission. These cost savings should turn positive in 2021, 2023 and 2026. Almost all of our installations have been for shaded parking; hence, there is a secondary indirect benefit associated with the solar installations at each location.

It should be noted the actual installation of solar facilities costs the County no funds upon installation. Our savings come from receiving a fixed electric rate from the solar provider with a term of 20 years after installation. As utility rates increase, the County savings is to the difference between the fixed energy cost paid by the County to the solar provider and the actual cost of purchasing power from Tucson Electric Power if there were no solar installation.

CHH/anc

Attachment

c: Tom Burke, Deputy County Administrator for Administration
Lisa Josker, Director, Facilities Management



MEMORANDUM

FACILITIES MANAGEMENT

Date: July 2, 2018

To: C.H. Huckelberry
County Administrator

From: Lisa Josker, Director
Facilities Management

Via: Tom Burke
Deputy County Administrator - Administration

Re: Solar Savings to Pima County by Site Since Inception

Pima County has 20 individual solar power installations completed and connected to building specific electrical meters. Most buildings have only one meter and therefore one solar installation. The Juvenile Courts Building has two meters, therefore two solar installations. Below is a table showing the 20 installations, their locations and the date of inception. The column titled "Cost Savings To Date" shows the amount of money saved to date at each meter; the total amount saved thus far is \$219,891.07. The first completed and connected installation was at the Roger Road Wastewater facility in August 2010 and the latest are the canopies at Kino Sports Center Stadium and South Clubhouse in August of 2017. The Pima Air & Space Museum reimburses the electricity and solar costs paid by Pima County per their operating agreement.

The expansion and renovation at the Pima Animal Care includes two additional solar installations. Pima County competitively bid 18 additional solar installations at Pima County owned buildings, whose solar projects are in various stages of completion. As these solar installations are brought on-line we will continue to monitor the savings of actual solar costs over what would have been paid in electricity costs.

Both meters at the Juvenile Courts building, the PECOC Building at 22nd Street and the Roger Road Wastewater location are currently showing a negative in savings. Explanations and anticipated timeframe to begin savings are given below:

Solar Saving by Site Since Inception

Site Name	Solar Start M-Yr	Generation (kWh) To Date	Solar Expenses To Date	TEP Equivalent Expense To Date	Cost Savings To date	Solar Rate w/Tax
Roger Road WW	Aug-10	15,402,556	1,487,184.13	1,470,075.89	-17,108.24	\$0.097
Ina Road WW	Apr-11	13,686,323	1,064,142.45	1,115,486.21	51,343.76	\$0.078
Abrams	Jan-14	2,538,172	246,736.62	323,206.39	76,469.77	\$0.097
Fleet Services	Nov-14	3,862,674	533,775.24	560,233.14	26,457.90	\$0.138
PECOC	Dec-14	2,513,646	386,559.33	351,257.13	-35,302.20	\$0.154
Sheriff Administration	Dec-15	2,060,428	285,325.75	305,559.37	20,233.62	\$0.138
Adult Probation	Dec-15	832,139	115,236.32	121,041.62	5,805.30	\$0.138
Event Center (Kino YMCA)	Dec-15	1,522,684	206,041.39	217,190.09	11,148.70	\$0.135
Interagency Advocacy	May-16	1,042,833	133,482.62	154,127.25	20,644.63	\$0.128

Site Name	Solar Start M-Yr	Generation (kWh) To Date	Solar Expenses To Date	TEP Equivalent Expense To Date	Cost Savings To date	Solar Rate w/Tax
Kino Service Center	May-16	748,918	95,861.50	109,399.28	13,537.78	\$0.128
Elections Center	May-16	1,132,871	137,831.52	164,837.46	27,005.94	\$0.122
NRPR Administration	Dec-16	654,481	90,559.25	97,509.22	6,949.97	\$0.138
Nanini Library	Dec-16	613,145	78,482.59	90,306.23	11,823.64	\$0.128
Sporting Chance	Jan-17	705,192	90,264.54	98,021.66	7,757.12	\$0.128
Juvenile Courts Meter 1	Mar-17	1,146,549	158,645.63	142,859.55	-15,786.08	\$0.138
Juvenile Courts Meter 2	May-17	1,403,181	194,155.33	178,531.64	-15,623.69	\$0.138
Medical Examiner	May-17	552,968	76,513.13	84,111.04	7,597.91	\$0.138
Kino South Clubhouse	Aug-17	230,821	31,938.27	33,815.29	1,877.02	\$0.138
Kino Stadium	Aug-17	572,628	79,233.36	83,889.97	4,656.61	\$0.138
Pima Air & Space Museum	Dec-17	950,761	131,554.88	141,956.50	10,401.62	\$0.138
All Solar Project Totals		52,172,969	\$5,623,523.85	\$5,843,414.92	\$219,891.07	

Explanation of Negative Cost Savings:

1. For the Roger Road WESC, 2947 W Calle Agua Nueva location, due to the 2018 tax law changes, per direction from the Arizona Corporation Commission, TEP is currently applying a "Tax Adjustment Credit" to every account. TEP's filed tax adjustment credit rate for the remaining periods of 2018 is \$0.0056/kwh. Barring further revisions by the ACC this will drop to \$0.0032/kWh in 2019, \$0.0020/kWh in 2020, and \$0.00/kWh in 2021. Without any other rate changes estimated timeframe for the Roger Road WESC site to demonstrate savings over equivalent TEP costs is January of 2026.
2. For the PECOC Building, 3434 E. 22nd Street location, if PECOC remains on the MGS (Medium General Service) Rate, the rate difference will be effectively neutral from June through September 2018. If TEP implements demand charges in October 2018, then the average estimated TEP rate will increase to approximately \$0.0.168/kWh. Due to the 2018 tax law changes and per direction from the Arizona Corporation Commission, TEP is currently applying a "Tax Adjustment Credit" to every account. TEP's filed tax adjustment credit rate for the remaining periods of 2018 is \$0.0056/kwh. Barring further revisions by the ACC this will drop to \$0.0032/kWh in 2019, \$0.0020/kWh in 2020, and \$0.00/kWh in 2021. Without any other rate changes estimated timeframe for the PECOC site to demonstrate savings over equivalent TEP costs is January of 2023.
3. For the Juvenile Courts 1 & 2 location, the current equivalent TEP rate is slightly above the Solar PV rate (\$0.142/kWh vs \$0.138/kWh). Due to the 2018 tax law changes, per direction from the Arizona

Corporation Commission, TEP is currently applying a "Tax Adjustment Credit" to every account. TEP's filed tax adjustment credit rate for the remaining periods of 2018 is \$0.0056/kwh. Barring further revisions by the ACC this will drop to \$0.0032/kWh in 2019, \$0.0020/kWh in 2020, and \$0.00/kWh in 2021. Without any other rate changes the estimated timeframe for Juvenile 1 (East) to demonstrate savings over equivalent TEP costs is approximately January of 2021; the estimated timeframe for Juvenile 2 (West) to demonstrate savings over equivalent TEP costs is approximately May of 2021.

It is projected solar cost savings at all locations will increase over the 20-year term of the agreements as electricity rates increase.

LJ/PO/dlm