

Memo

To: Roseville Finance Commission
From: Michelle Pietrick, Finance Director
Date: February 9, 2021
Re: Item #5: Review Solar project results

Background

At the August 18, 2020 Finance Commission meeting a brief update was provided on the various solar projects the City has implemented over the past few years. Due to staggering implementation there was not sufficient data available at that point in time to answer the Commission's questions.

Public Works Director Marc Culver will review the projects and results regarding savings achieved. Attached is a spreadsheet that outlines data on Electric costs and cost under solar production. Mr. Culver will go through this with the Commission as there are some items that are impacting the outcomes we are seeing with regard to electricity costs and savings.

Staff Recommendation

Not applicable.

Requested Commission Action

For information purposes only. No formal Commission action is necessary.

Prepared by: Michelle Pietrick, Finance Director
Attachments: City of Roseville Electric and Solar Summary

City of Roseville Electric and Solar Summary

Name	Period	Electric kWh	Electric Dollars	Electric Dollars/\$F	\$/kWh	Solar Production						TOTAL Electric + Solar Cost			
						MWh	kWh	Monthly Cost	Months in billing	Annual Payments	\$/kWh produced				
City Hall	Jan 2014 - Dec 2014	800,311.94	\$68,378.83	\$1.09	\$0.0854										
City Hall	Jan 2015 - Dec 2015	803,166.30	\$64,623.38	\$1.03	\$0.0805										
City Hall	Jan 2016 - Dec 2016	762,170.88	\$66,603.53	\$1.06	\$0.0874										
City Hall	Jan 2017 - Dec 2017	745,402.35	\$65,866.84	\$1.05	\$0.0884										
City Hall	Jan 2018 - Dec 2018	775,953.53	\$71,020.79	\$1.13	\$0.0915										
City Hall	Jan 2019 - Dec 2019	716,780.59	\$63,115.16	\$1.01	\$0.0881	31.5	31,500	\$326.39	9	\$2,937.51	\$0.0933	\$66,052.67		Pre Solar Last Full Year	\$71,020.79
City Hall	Jan 2020 - Dec 2020	595,011.76	\$53,158.97	\$0.85	\$0.0893	43.94	43,940	\$330.85	12	\$3,970.20	\$0.0904	\$57,129.17		Post Solar First Full Year	\$57,129.17
City Hall														Savings	20%
Fire Station No. 4	Jan 2014 - Dec 2014	336,859.78	\$31,277.50	\$0.89	\$0.0929										
Fire Station No. 4	Jan 2015 - Dec 2015	321,187.10	\$28,334.25	\$0.81	\$0.0882										
Fire Station No. 4	Jan 2016 - Dec 2016	313,858.82	\$30,078.24	\$0.86	\$0.0958										
Fire Station No. 4	Jan 2017 - Dec 2017	336,014.43	\$32,134.17	\$0.92	\$0.0956										
Fire Station No. 4	Jan 2018 - Dec 2018	365,423.04	\$35,592.62	\$1.02	\$0.0974										
Fire Station No. 4	Jan 2019 - Dec 2019	323,298.66	\$31,069.07	\$0.89	\$0.0961	31.34	31,340	\$326.39	9	\$2,937.51	\$0.0937	\$34,006.58		Pre Solar Last Full Year	\$35,592.62
Fire Station No. 4	Jan 2020 - Dec 2020	292,288.24	\$29,341.64	\$0.84	\$0.1004	41.23	41,230	\$330.85	12	\$3,970.20	\$0.0963	\$33,311.84		Post Solar First Full Year	\$33,311.84
Fire Station No. 4														Savings	6%
Public Works	Jan 2014 - Dec 2014	282,127.02	\$27,702.16	\$0.47	\$0.0982										
Public Works	Jan 2015 - Dec 2015	285,460.33	\$26,856.99	\$0.45	\$0.0941										
Public Works	Jan 2016 - Dec 2016	273,099.80	\$27,800.74	\$0.47	\$0.1018										
Public Works	Jan 2017 - Dec 2017	254,367.06	\$26,954.51	\$0.45	\$0.1060										
Public Works	Jan 2018 - Dec 2018	243,645.29	\$26,690.84	\$0.45	\$0.1095										
Public Works	Jan 2019 - Dec 2019	144,624.48	\$16,293.05	\$0.27	\$0.1127	62.66	62,660	\$1,263.64	7	\$8,845.48	\$0.1412	\$25,138.53		Pre Solar Last Full Year	\$26,690.84
Public Works	Jan 2020 - Dec 2020	116,955.52	\$11,794.76	\$0.20	\$0.1008	142.19	142,190	\$1,254.95	12	\$15,059.40	\$0.1059	\$26,854.16		Post Solar First Full Year	\$26,854.16
Public Works														Savings	-1%
Skating Center	Jan 2014 - Dec 2014	1,750,986.18	\$136,334.52	\$2.73	\$0.0779										
Skating Center	Jan 2015 - Dec 2015	1,724,939.65	\$127,730.68	\$2.55	\$0.0740										
Skating Center	Jan 2016 - Dec 2016	1,691,021.43	\$133,869.76	\$2.68	\$0.0792										
Skating Center	Jan 2017 - Dec 2017	1,792,097.00	\$145,772.30	\$2.92	\$0.0813										
Skating Center	Jan 2018 - Dec 2018	1,784,292.45	\$148,107.72	\$2.96	\$0.0830										
Skating Center	Jan 2019 - Dec 2019	1,822,401.54	\$148,946.97	\$2.98	\$0.0817										
Skating Center	Jan 2020 - Dec 2020	1,012,881.59	\$83,136.44	\$1.66	\$0.0821										

Highlighted cells indicate years used for calculations. The first highlighted cell for each facility is the last full year of non-solar production. The other two cells reflect some solar production (2019) and a full year of solar production (2020).

Xcel bills are complicated. There are factors such as Demand charges that are impacted by the solar production. Also, 2020 is an anomaly itself. Clearly less energy would have used in City Hall in 2020, but maybe more in the Fire Station as they brought on a full time staff and transitioned to a different mode of operation.

Finally, Community Solar is brought on line in 2020. We are still assembling the data on that program and waiting for a full year of operation and credits. 2021 hopefully will show us the true cost benefits of the solar programs we have enabled over the past two years.