

# Baker Electric

Established 1938



## Solar PPA Proposal

Prepared For

San Pasqual Union School  
District

760-745-4931 x1109

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Prepared By

Matt Van Note

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10/10/2023



**San Pasqual**  
Union School District  
*The Little School in the Valley*

*We deliver innovative electrical construction projects, specialty services, and renewable energy solutions across all market sectors.*

*#1 California Electrical  
Subcontractor*

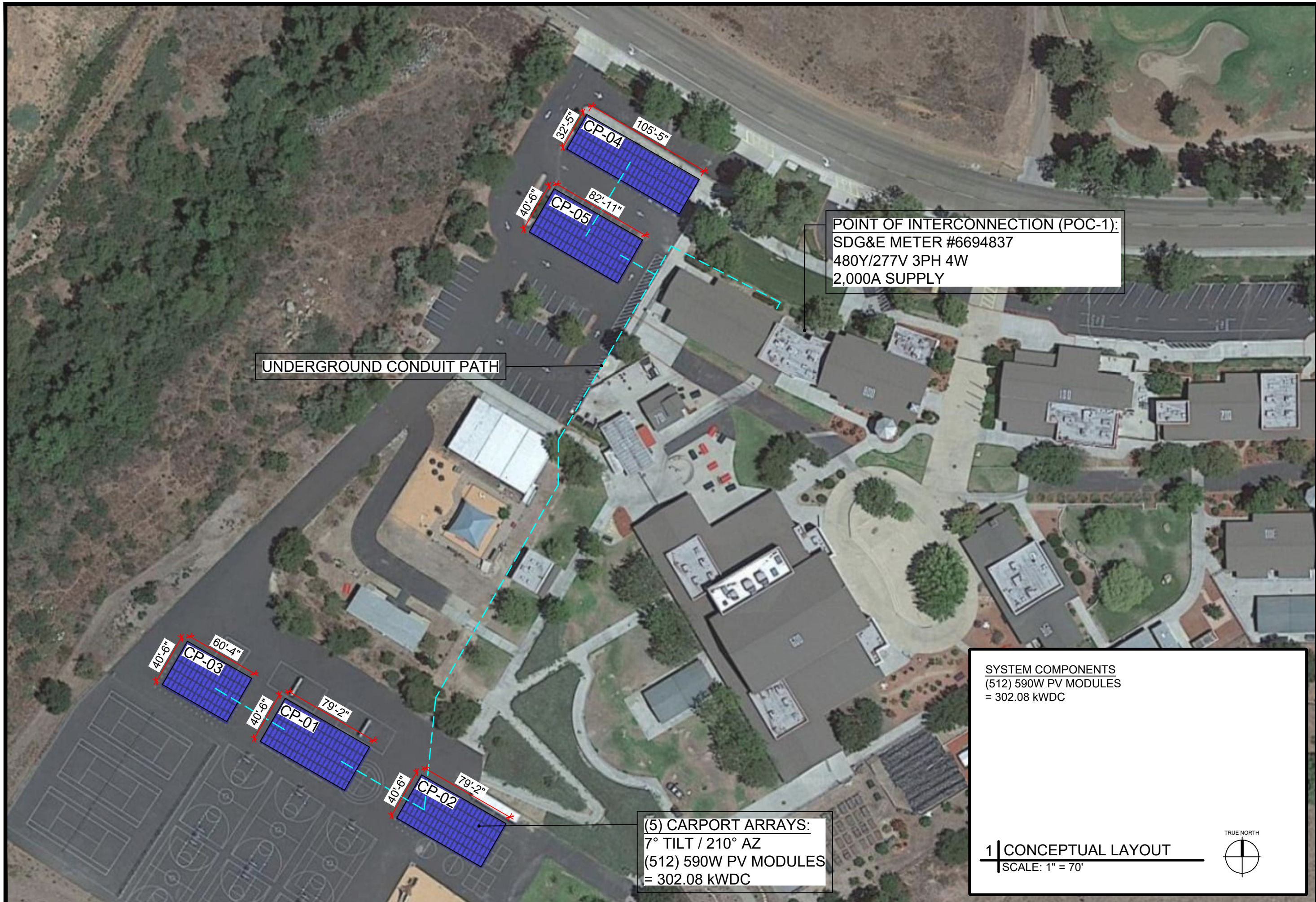
*#1 Nevada Electrical Subcontractor*

*#2 National Electrical Subcontractor*

*#5 California Solar Contractor*

*- Solar Power World Magazine*





UNDERGROUND CONDUIT PATH


POINT OF INTERCONNECTION (POC-1):  
 SDG&E METER #6694837  
 480Y/277V 3PH 4W  
 2,000A SUPPLY

(5) CARPORT ARRAYS:  
 7° TILT / 210° AZ  
 (512) 590W PV MODULES  
 = 302.08 kWDC

SYSTEM COMPONENTS  
 (512) 590W PV MODULES  
 = 302.08 kWDC

1 | CONCEPTUAL LAYOUT  
 SCALE: 1" = 70'

TRUE NORTH




BAKER ELECTRIC  
 1298 PACIFIC OAKS PLACE  
 ESCONDIDO, CA 92029  
 760-746-2001

SYSTEM SIZE  
 302.08 kWDC

SAN PASQUAL UNION SCHOOL  
 15305 ROCKWOOD RD  
 ESCONDIDO, CA 92027

VERSION: 01  
 BY: AL  
 DATE: 09.20.2023  
 SHEET:

PVDD-01

# Project Summary

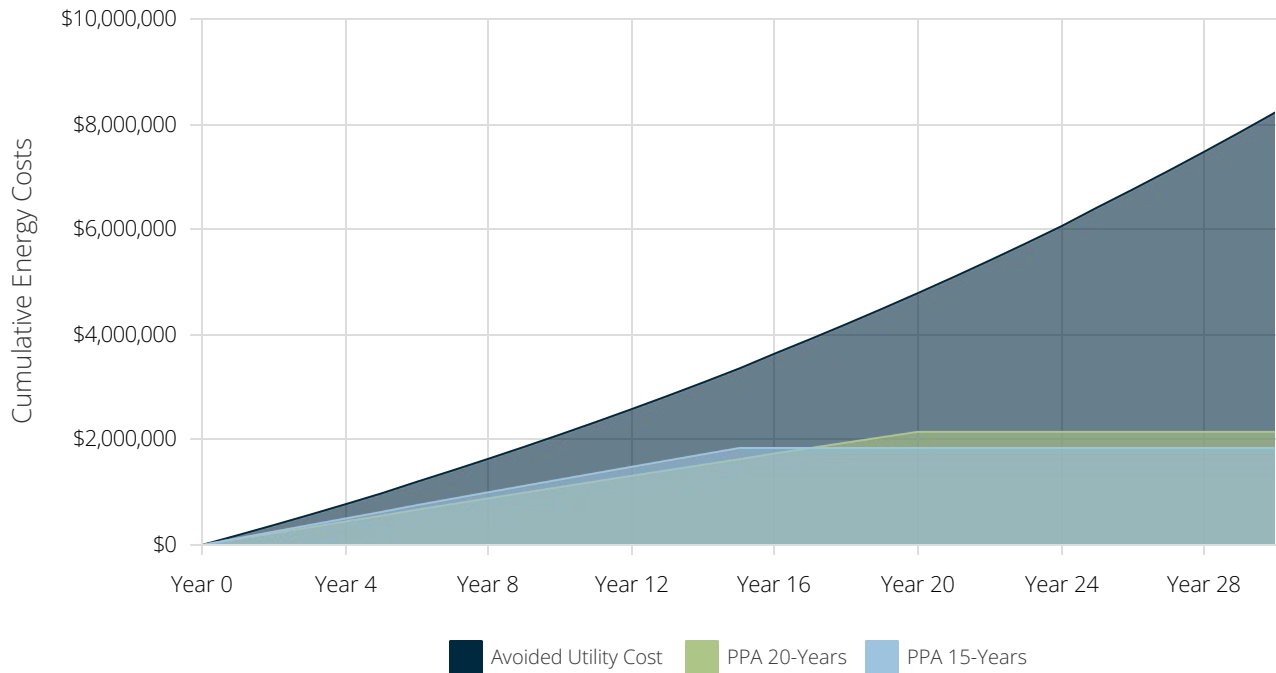
Payment Options	PPA 20-Years	PPA 15-Years
LCOE PV Generation	\$0.157 /kWh	\$0.135 /kWh
Net Present Value	\$2,155,377	\$2,199,302
Payback Period	0.0 Years	0.0 Years
Total Payments	\$2,150,217	\$1,844,434
Total Incentives	\$0	\$0
Net Payments	\$2,150,217	\$1,844,434
Electric Bill Savings - Term	\$8,230,696	\$8,230,696
Starting PPA Rate	\$0.23	\$0.26
Term	20 Years	15 Years

## Combined Solar PV Rating

Power Rating: 302,080 W-DC

Power Rating: 257,704 W-AC-CEC

**Cumulative Energy Costs By Payment Option**



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# PV System Details

## General Information

Facility: 0065454811653 / 06694837  
 Address: 15305 Rockwood Rd Escondido CA 92027

## Solar PV System Rating

Power Rating: 302,080 W-DC  
 Power Rating: 257,704 W-AC-CEC

## Solar PV Equipment Description

Solar Panels: (512) Hanwha Q Cells Q.PEAK DUO XL-G11S 590  
 Inverters: (5) SMA Sunny Tripower\_Core1 50-US-41

## Energy Consumption Mix

Annual Energy Use: 476,381 kWh

## Solar PV Equipment Typical Lifespan

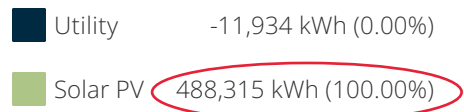
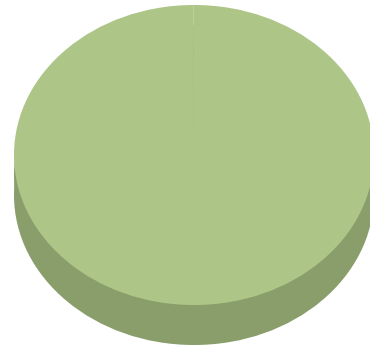
Solar Panels: Greater than 30 Years  
 Inverters: 15 Years

## Solar PV System Cost and Incentives

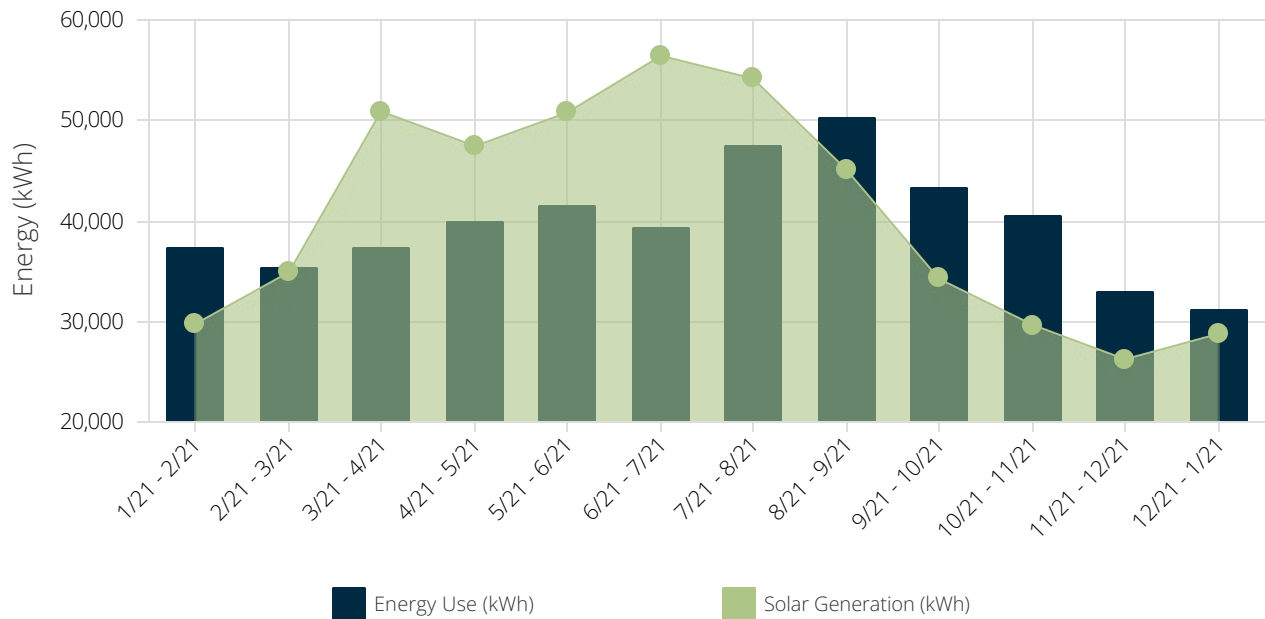
Solar PV System Cost \$1,635,374

Direct pay - 30% ITC **-\$490,612**

**Net Solar PV System Cost \$1,144,762**



## Monthly Energy Use vs Solar Generation



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# Utility Rates

You have the option to remain on your current rate schedule (AL-TOU) or switch to an alternative rate schedule (DG-R). The rates for each are shown below and your estimated electric bills are shown on the following page for each rate schedule.

Customer Charges					Energy Charges					Demand Charges				
Season	Charge Type	Rate Type	AL-TOU	DG-R	Season	Charge Type	Rate Type	AL-TOU	DG-R	Season	Charge Type	Rate Type	AL-TOU	DG-R
W1	kW: T < 500	per billing period	\$213.30	\$225.63	W1	On Peak	Import	\$0.31219	\$0.61424	W1	Flat Rate	Import	\$33.38	\$21.78
W1	kW: 500 < T	per billing period	\$766.91	\$811.24	W1	Off Peak	Import	\$0.18755	\$0.19631	W2	Flat Rate	Import	\$33.38	\$21.78
W2	kW: T < 500	per billing period	\$213.30	\$225.63	W1	Super Off Peak	Import	\$0.15139	\$0.16685	W3	Flat Rate	Import	\$33.38	\$21.78
W2	kW: 500 < T	per billing period	\$766.91	\$811.24	W2	On Peak	Import	\$0.31219	\$0.61424	S1	Flat Rate	Import	\$33.38	\$21.78
W3	kW: T < 500	per billing period	\$213.30	\$225.63	W2	Off Peak	Import	\$0.18755	\$0.19631	W1	On Peak	Import	\$28.83	\$0.95
W3	kW: 500 < T	per billing period	\$766.91	\$811.24	W2	Super Off Peak	Import	\$0.15139	\$0.16685	W2	On Peak	Import	\$28.83	\$0.95
S1	kW: T < 500	per billing period	\$213.30	\$225.63	W3	On Peak	Import	\$0.31219	\$0.61424	W3	On Peak	Import	\$28.83	\$0.95
S1	kW: 500 < T	per billing period	\$766.91	\$811.24	W3	Off Peak	Import	\$0.18755	\$0.19631	S1	On Peak	Import	\$47.45	\$4.51
					W3	Super Off Peak	Import	\$0.15139	\$0.16685					
					S1	On Peak	Import	\$0.30045	\$1.01579					
					S1	Off Peak	Import	\$0.19706	\$0.30937					
					S1	Super Off Peak	Import	\$0.16363	\$0.17688					

## Current Electric Bill

The table below shows your annual electricity costs based on the most current utility rates and your previous 12 months of electrical usage.

### Rate Schedule: SDCP - AL-TOU

Time Periods	Energy Use (kWh)			Max Demand (kW)		Charges				
	On Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Other	NBC	Energy	Demand	Total
1/21/2022 - 2/21/2022 W1	6,180	21,674	9,474	152	80	\$213	\$1,338	\$6,091	\$7,380	\$15,022
2/21/2022 - 3/21/2022 W1 / W2	5,995	15,484	13,895	146	96	\$213	\$1,268	\$5,611	\$7,472	\$14,564
3/21/2022 - 4/21/2022 W2	6,478	14,349	16,487	186	136	\$213	\$1,337	\$5,872	\$10,130	\$17,552
4/21/2022 - 5/21/2022 W2 / W3	6,563	22,089	11,247	179	120	\$213	\$1,430	\$6,465	\$9,248	\$17,356
5/21/2022 - 6/21/2022 W3 / S1	6,989	25,950	8,623	207	135	\$213	\$1,490	\$7,049	\$11,408	\$20,160
6/21/2021 - 7/21/2021 S1	6,363	26,087	6,764	167	142	\$213	\$1,405	\$6,754	\$12,312	\$20,684
7/21/2021 - 8/21/2021 S1	7,254	32,804	7,317	206	164	\$213	\$1,698	\$8,143	\$14,657	\$24,712
8/21/2021 - 9/21/2021 S1	7,846	34,865	7,524	275	207	\$213	\$1,800	\$8,659	\$19,001	\$29,673
9/21/2021 - 10/21/2021 S1	6,417	30,157	6,804	291	170	\$213	\$1,555	\$7,429	\$17,779	\$26,977
10/21/2021 - 11/21/2021 S1 / W1	6,235	26,814	7,468	200	129	\$213	\$1,452	\$6,746	\$10,514	\$18,926
11/21/2021 - 12/21/2021 W1	5,439	19,586	7,940	141	102	\$213	\$1,181	\$5,392	\$7,797	\$14,584
12/21/2021 - 1/21/2022 W1	5,135	17,824	8,262	125	68	\$213	\$1,119	\$5,078	\$6,817	\$13,227
<b>Total</b>	<b>76,894</b>	<b>287,683</b>	<b>111,805</b>	-	-	<b>\$2,560</b>	<b>\$17,073</b>	<b>\$79,290</b>	<b>\$134,516</b>	<b>\$233,438</b>



# New Electric Bill

## Rate Schedule Option 1: SDCP - AL-TOU

Time Periods Bill Ranges & Seasons	Energy Use (kWh)			Max Demand (kW)		Charges				
	On Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Other	NBC	Energy	Demand	Total
1/21/2022 - 2/21/2022 W1	4,688	348	2,562	107	61	\$213	\$754	\$1,644	\$5,330	\$7,942
2/21/2022 - 3/21/2022 W1 / W2	2,290	793	-2,613	101	73	\$213	\$667	\$452	\$5,272	\$6,604
3/21/2022 - 4/21/2022 W2	-1,738	-2,437	-9,411	113	65	\$213	\$553	\$1,938	\$5,646	\$4,474
4/21/2022 - 5/21/2022 W2 / W3	-1,513	-3,808	-2,232	89	64	\$213	\$552	\$1,253	\$4,705	\$4,217
5/21/2022 - 6/21/2022 W3 / S1	-2,373	-5,417	-1,426	113	52	\$213	\$545	\$1,674	\$5,562	\$4,645
6/21/2021 - 7/21/2021 S1	-4,675	-11,008	-1,531	136	63	\$213	\$444	\$3,207	\$7,529	\$4,979
7/21/2021 - 8/21/2021 S1	-2,873	-3,539	-390	171	61	\$213	\$549	\$1,381	\$8,602	\$7,984
8/21/2021 - 9/21/2021 S1	798	5,015	-616	180	114	\$213	\$701	\$941	\$11,417	\$13,273
9/21/2021 - 10/21/2021 S1	2,711	5,170	1,258	178	80	\$213	\$726	\$1,712	\$9,737	\$12,388
10/21/2021 - 11/21/2021 S1 / W1	4,728	4,522	1,620	127	108	\$213	\$732	\$2,198	\$7,598	\$10,740
11/21/2021 - 12/21/2021 W1	5,055	-105	1,776	116	75	\$213	\$684	\$1,586	\$6,034	\$8,518
12/21/2021 - 1/21/2022 W1	4,590	-5,424	3,274	100	65	\$213	\$638	\$824	\$5,212	\$6,887
<b>Total</b>	<b>11,688</b>	<b>-15,890</b>	<b>-7,729</b>	<b>-</b>	<b>-</b>	<b>\$2,560</b>	<b>\$7,543</b>	<b>\$597</b>	<b>\$82,645</b>	<b>\$92,151</b>

## New Rate Schedule Option 2: SDCP - DG-R

Time Periods Bill Ranges & Seasons	Energy Use (kWh)			Max Demand (kW)		Charges				
	On Peak	Off Peak	Super Off Peak	NC / Max	On Peak	Other	NBC	Energy	Demand	Total
1/21/2022 - 2/21/2022 W1	4,688	348	2,562	107	61	\$226	\$797	\$3,087	\$2,389	\$6,499
2/21/2022 - 3/21/2022 W1 / W2	2,290	793	-2,613	101	73	\$226	\$705	\$1,109	\$2,148	\$4,188
3/21/2022 - 4/21/2022 W2	-1,738	-2,437	-9,411	113	65	\$226	\$585	\$2,601	\$2,523	\$732
4/21/2022 - 5/21/2022 W2 / W3	-1,513	-3,808	-2,232	89	64	\$226	\$584	\$1,762	\$1,784	\$831
5/21/2022 - 6/21/2022 W3 / S1	-2,373	-5,417	-1,426	113	52	\$226	\$576	\$3,596	\$2,365	\$429
6/21/2021 - 7/21/2021 S1	-4,675	-11,008	-1,531	136	63	\$226	\$470	\$7,772	\$3,246	\$3,831
7/21/2021 - 8/21/2021 S1	-2,873	-3,539	-390	171	61	\$226	\$581	\$3,824	\$3,999	\$981
8/21/2021 - 9/21/2021 S1	798	5,015	-616	180	114	\$226	\$742	\$2,056	\$4,434	\$7,458
9/21/2021 - 10/21/2021 S1	2,711	5,170	1,258	178	80	\$226	\$767	\$4,229	\$4,237	\$9,459
10/21/2021 - 11/21/2021 S1 / W1	4,728	4,522	1,620	127	108	\$226	\$774	\$4,529	\$2,953	\$8,482
11/21/2021 - 12/21/2021 W1	5,055	-105	1,776	116	75	\$226	\$723	\$3,126	\$2,598	\$6,673
12/21/2021 - 1/21/2022 W1	4,590	-5,424	3,274	100	65	\$226	\$675	\$2,208	\$2,240	\$5,348
<b>Total</b>	<b>11,688</b>	<b>-15,890</b>	<b>-7,729</b>	<b>-</b>	<b>-</b>	<b>\$2,708</b>	<b>\$7,978</b>	<b>\$788</b>	<b>\$34,916</b>	<b>\$46,390</b>

Annual Electricity Savings: **\$187,048**



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# PPA 20-Years

## Assumptions and Key Financial Metrics

Total Payments	\$2,150,217	PV Degradation Rate	0.45%	Energy Cost Escalation Rate	3.0%
Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%	End of Term Buyout Payment	\$0
Payment Escalation Rate	0%	Starting PPA Rate	\$0.23	Upfront Payment	\$0
Term	20 Years				

Years	PPA Payments	O&M / Equipment Replacement	Electric Bill Savings	State Tax Effect	Federal Tax Effect	Total Cash Flow	Cumulative Cash Flow
Upfront	-	-	-	-	-	-	-
1	-\$112,312	-	\$187,048	-	-	\$74,736	\$74,736
2	-\$111,807	-	\$191,792	-	-	\$79,986	\$154,721
3	-\$111,301	-	\$196,653	-	-	\$85,352	\$240,073
4	-\$110,796	-	\$201,633	-	-	\$90,837	\$330,910
5	-\$110,291	-	\$206,735	-	-	\$96,444	\$427,354
6	-\$109,785	-	\$211,961	-	-	\$102,176	\$529,530
7	-\$109,280	-	\$217,315	-	-	\$108,035	\$637,565
8	-\$108,774	-	\$222,799	-	-	\$114,025	\$751,590
9	-\$108,269	-	\$228,417	-	-	\$120,148	\$871,738
10	-\$107,764	-	\$234,171	-	-	\$126,407	\$998,145
11	-\$107,258	-	\$240,065	-	-	\$132,807	\$1,130,952
12	-\$106,753	-	\$246,102	-	-	\$139,349	\$1,270,301
13	-\$106,247	-	\$252,285	-	-	\$146,037	\$1,416,338
14	-\$105,742	-	\$258,617	-	-	\$152,875	\$1,569,213
15	-\$105,237	-	\$265,102	-	-	\$159,866	\$1,729,079
16	-\$104,731	-	\$271,744	-	-	\$167,013	\$1,896,092
17	-\$104,226	-	\$278,546	-	-	\$174,320	\$2,070,412
18	-\$103,720	-	\$285,511	-	-	\$181,791	\$2,252,203
19	-\$103,215	-	\$292,643	-	-	\$189,428	\$2,441,631
20	-\$102,709	-	\$299,947	-	-	\$197,237	\$2,638,868
21	-	-	\$307,425	-	-	\$307,425	\$2,946,293
22	-	-	\$315,082	-	-	\$315,082	\$3,261,374
23	-	-	\$322,921	-	-	\$322,921	\$3,584,296
24	-	-	\$330,948	-	-	\$330,948	\$3,915,243
25	-	-	\$339,165	-	-	\$339,165	\$4,254,408
26	-	-	\$347,578	-	-	\$347,578	\$4,601,986
27	-	-	\$356,190	-	-	\$356,190	\$4,958,176
28	-	-	\$365,006	-	-	\$365,006	\$5,323,182
29	-	-	\$374,030	-	-	\$374,030	\$5,697,212
30	-	-	\$383,268	-	-	\$383,268	\$6,080,479
Totals:	-\$2,150,217	-	\$8,230,696	-	-	\$6,080,479	-

System financial returns are estimated and based on current State/Federal incentives, utility tariffs, facility energy usage and local typical meteorological data. Actual financial returns may vary due to changes in incentives, utility tariffs, facility energy use patterns and meteorological conditions.



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# PPA 15-Years

## Assumptions and Key Financial Metrics

Total Payments	\$1,844,434	PV Degradation Rate	0.45%	Energy Cost Escalation Rate	3.0%
Federal Income Tax Rate	0.0%	State Income Tax Rate	0.0%	End of Term Buyout Payment	\$0
Payment Escalation Rate	0%	Starting PPA Rate	\$0.26	Upfront Payment	\$0
Term	15 Years				

Years	PPA Payments	O&M / Equipment Replacement	Electric Bill Savings	State Tax Effect	Federal Tax Effect	Total Cash Flow	Cumulative Cash Flow
Upfront	-	-	-	-	-	-	-
1	-\$126,962	-	\$187,048	-	-	\$60,086	\$60,086
2	-\$126,390	-	\$191,792	-	-	\$65,402	\$125,489
3	-\$125,819	-	\$196,653	-	-	\$70,834	\$196,323
4	-\$125,248	-	\$201,633	-	-	\$76,385	\$272,708
5	-\$124,676	-	\$206,735	-	-	\$82,058	\$354,767
6	-\$124,105	-	\$211,961	-	-	\$87,856	\$442,623
7	-\$123,534	-	\$217,315	-	-	\$93,781	\$536,404
8	-\$122,962	-	\$222,799	-	-	\$99,837	\$636,240
9	-\$122,391	-	\$228,417	-	-	\$106,026	\$742,266
10	-\$121,820	-	\$234,171	-	-	\$112,351	\$854,617
11	-\$121,248	-	\$240,065	-	-	\$118,817	\$973,434
12	-\$120,677	-	\$246,102	-	-	\$125,425	\$1,098,858
13	-\$120,106	-	\$252,285	-	-	\$132,179	\$1,231,037
14	-\$119,534	-	\$258,617	-	-	\$139,083	\$1,370,120
15	-\$118,963	-	\$265,102	-	-	\$146,139	\$1,516,260
16	-	-	\$271,744	-	-	\$271,744	\$1,788,004
17	-	-	\$278,546	-	-	\$278,546	\$2,066,549
18	-	-	\$285,511	-	-	\$285,511	\$2,352,060
19	-	-	\$292,643	-	-	\$292,643	\$2,644,703
20	-	-	\$299,947	-	-	\$299,947	\$2,944,650
21	-	-	\$307,425	-	-	\$307,425	\$3,252,075
22	-	-	\$315,082	-	-	\$315,082	\$3,567,156
23	-	-	\$322,921	-	-	\$322,921	\$3,890,078
24	-	-	\$330,948	-	-	\$330,948	\$4,221,025
25	-	-	\$339,165	-	-	\$339,165	\$4,560,191
26	-	-	\$347,578	-	-	\$347,578	\$4,907,768
27	-	-	\$356,190	-	-	\$356,190	\$5,263,958
28	-	-	\$365,006	-	-	\$365,006	\$5,628,964
29	-	-	\$374,030	-	-	\$374,030	\$6,002,994
30	-	-	\$383,268	-	-	\$383,268	\$6,386,262
Totals:	-\$1,844,434	-	\$8,230,696	-	-	\$6,386,262	-

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