



# Solar Electric System

## Proposal and Financial Report

Optimized for 1201 Idylberry Rd, San Rafael, CA

10/19/2016

Prepared By:

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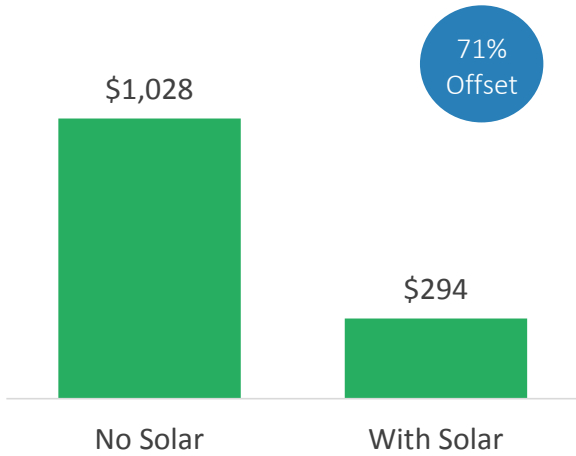
[jalderson@solarcraft.com](mailto:jalderson@solarcraft.com)

For:

Ted Arleo

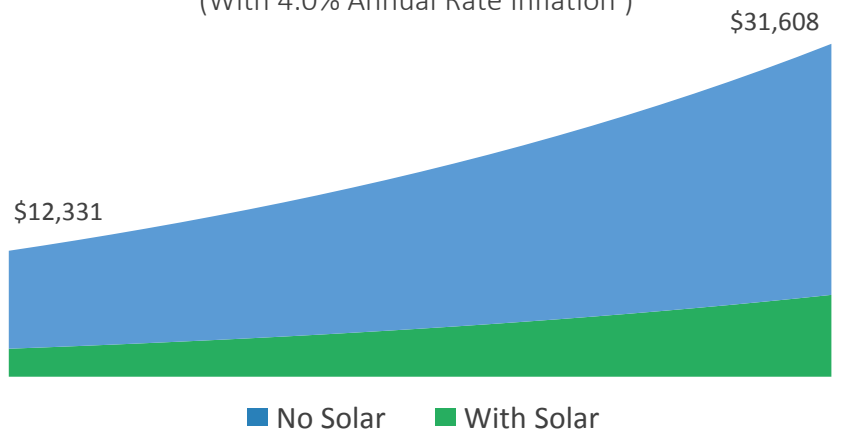
# Financial Projections

Monthly Bill Comparison



Annual Bill Comparison over 25 Years

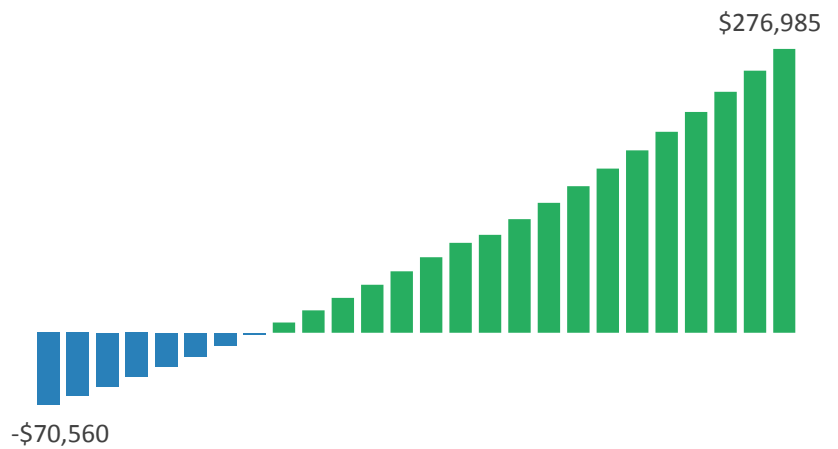
(With 4.0% Annual Rate Inflation)



System Cost



Cumulative Cash Flow



## Compare Investment Opportunities

U.S. Treasury  
30 Year Security  
(As of 10/1/2015)



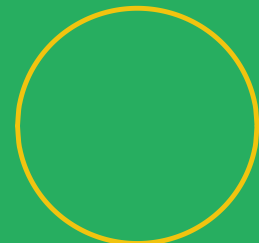
2.9% IRR <sup>1</sup>

S&P 500  
Annualized Return  
(2000 to 2014)



4.2% IRR <sup>2</sup>

Solar System  
Compound Return  
(2016 to 2040)



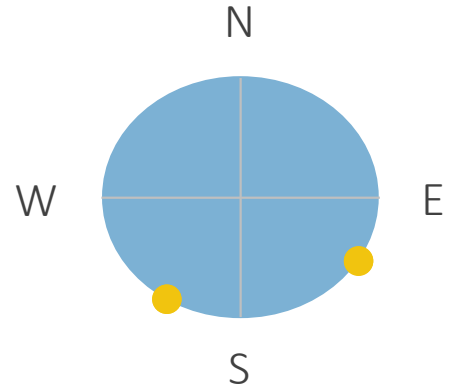
15.2% IRR

# System Overview

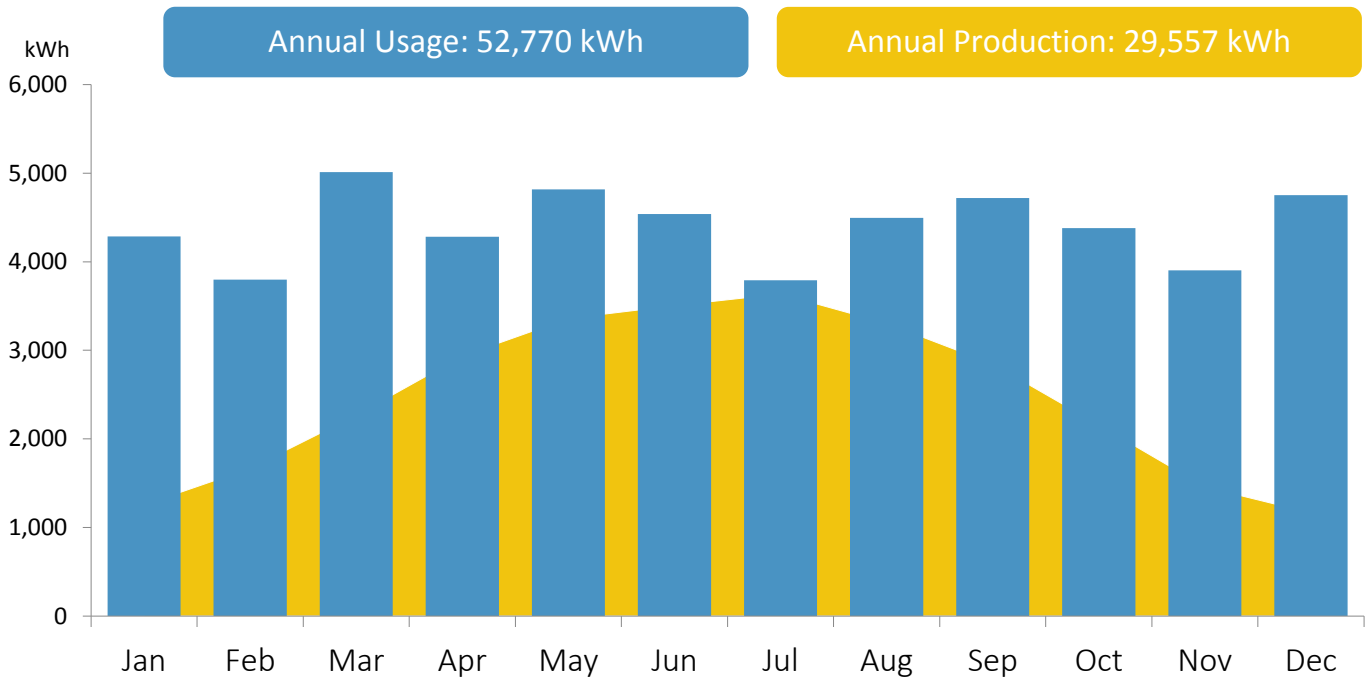
20 kW DC System Size

56 SunPower Solar Panels (360W DC)

3 SolarEdge Technologies Inverters



# System Production





# Financial Timeline

Year	Annual Bill No Solar	Annual Bill With Solar	Electric Bill Savings	Net Incentives	O&M	Cash Flow	Cumulative Cash Flow
0						(\$70,560)	(\$70,560)
1	\$12,331	\$3,526	\$8,805			\$8,805	(\$61,755)
2	\$12,824	\$3,689	\$9,136			\$9,136	(\$52,619)
3	\$13,337	\$3,859	\$9,478			\$9,478	(\$43,141)
4	\$13,871	\$4,037	\$9,834			\$9,834	(\$33,307)
5	\$14,425	\$4,223	\$10,202			\$10,202	(\$23,105)
6	\$15,002	\$4,418	\$10,585			\$10,585	(\$12,520)
7	\$15,603	\$4,621	\$10,982			\$10,982	(\$1,538)
8	\$16,227	\$4,833	\$11,394			\$11,394	\$9,855
9	\$16,876	\$5,055	\$11,821			\$11,821	\$21,676
10	\$17,551	\$5,287	\$12,264			\$12,264	\$33,940
11	\$18,253	\$5,529	\$12,724			\$12,724	\$46,664
12	\$18,983	\$5,782	\$13,201			\$13,201	\$59,866
13	\$19,742	\$6,046	\$13,696			\$13,696	\$73,562
14	\$20,532	\$6,322	\$14,210			\$14,210	\$87,772
15	\$21,353	\$6,610	\$14,743		(\$7,056)	\$7,687	\$95,459
16	\$22,207	\$6,912	\$15,296			\$15,296	\$110,754
17	\$23,096	\$7,226	\$15,869			\$15,869	\$126,624
18	\$24,019	\$7,555	\$16,464			\$16,464	\$143,088
19	\$24,980	\$7,899	\$17,082			\$17,082	\$160,170
20	\$25,979	\$8,257	\$17,722			\$17,722	\$177,892
21	\$27,019	\$8,632	\$18,387			\$18,387	\$196,279
22	\$28,099	\$9,023	\$19,076			\$19,076	\$215,355
23	\$29,223	\$9,432	\$19,792			\$19,792	\$235,147
24	\$30,392	\$9,858	\$20,534			\$20,534	\$255,681
25	\$31,608	\$10,304	\$21,304			\$21,304	\$276,985
<b>Total</b>	<b>\$513,534</b>	<b>\$158,933</b>	<b>\$354,601</b>		<b>(\$7,056)</b>	<b>\$276,985</b>	<b>\$276,985</b>

Net Incentives Includes:

O&M Includes:

Inverter Replacement



# Additional Information

Ted Arleo  
1201 Idylberry Rd  
San Rafael, CA 94903

Utility: PG&E  
Current Rate: A6 — Small General Time-of-Use Service (Meter Charge)

## System Detail

System Size: 20.16 kW DC

### Array 1:

24 SunPower SPR-X22-360-COM Solar Panels  
1 SolarEdge Technologies SE9K Inverter  
Facing Southwest at 10° Tilt

### Array 3:

8 SunPower SPR-X22-360-COM Solar Panels  
1 SolarEdge Technologies SE9K Inverter  
Facing Southeast at 10° Tilt

### Array 2:

24 SunPower SPR-X22-360-COM Solar Panels  
1 SolarEdge Technologies SE9K Inverter  
Facing Southeast at 26° Tilt

## System Cost

Gross System Price (\$3.50 per DC Watt) \$70,560

**Net System Cost \$70,560**

## Assumptions

Federal Income Tax Rate	0.0%
State Income Tax Rate	0.0%
Annual Electric Rate Inflation	4.0%
Sun Hours (Daily Average)	5.0
Annual Solar Panel Degradation	0.25%
Total System Efficiency *	81.76%
Annual System Maintenance (Year 1)	\$0
Inverter Replacement Cost (Year 15)	\$7,056
Analysis Period	25 Years

## Results (Projected)

Historical Annual Usage	52,770 kWh
Annual Solar Production	29,557 kWh
Old Monthly Bill Average	\$1,028
New Monthly Bill Average	\$294
Annual Utility Bill Offset	71%
25-Year Net Savings	\$347,545
IRR	15.2%

\* Losses by category: Dust / Soiling (5.5%), Wiring (3.0%), Solar Panel Mismatch (2.0%), System Availability (2.0%), Manufacturer Production Tolerance (-4.0%), Inverter (3.5%), PTC Rating Correction (5.1%), Shading (0.4%)