Reducing Utility Bills with Maximum Return on Investment

# Solar PV and Energy Efficiency Program Proposal

# City of Parlier, California

### **Residential Solar Systems and Energy Efficiency Retrofits**

### **Proposed PPA Agreement**

### Mark Simmons + Gavin Mora 3/25/2019

### **Proprietary & Confidential**

**Energy Experts LLC** 

A Colorado Limited Liability Company

www.energyexpertsco.com 303-476-3048

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### I. Overview and Letter of Intent

Energy Experts LLC ("EELLC") is pleased to present the City of Parlier (the "City") with the following proposed Program summary to finance and install energy efficiency and solar PV systems on participating homeowners' rooftops (collectively, the "Systems"), to be located on its homes in Parlier, California (the "Program").

The proposed structure is a 20-year power purchase agreement (optionally 25) ("PPA") at an effective rate below the current utility rate charged by Pacific Gas & Electric (PG&E) providing the homeowners the potential to recognize significant long-term savings and the City ongoing income.

The following highlights the proposed structure:

- Year 1 PPA Rate of \$.194/kWh; a 40% discount from estimated current utility avoided cost of \$.3233\*/kWh;
- Year 1 Energy Service Fee is included in the above, for energy efficiency hardware enabling the avoidance of average 30% per year of energy usage. The Energy Service Fee represents the same discount to the estimated utility avoided cost of energy.
- The PPA rate and Energy Service Fee may be separate, or combined, into one invoice per month, based on the solar production in kilowatt-hours (kWh). Live online monitoring of each system will allow monthly download of that month's production. The invoice will be sent from the City to each homeowner.
- PPA Rate escalates at 2.0% annually throughout the term of the PPA. EELLC will analyze the utility's rate schedule annually, and report the year's utility rate increase to the City, who will inform the homeowners.
- The offered PPA rate assumes that the Program will qualify for solar incentives from the federal and/or state governments and/or the utility, as well as any LED incentives such as utility rebates for each home participating in the Program. EELLC is responsible to ascertain each of these incentives. Investor will take all incentives.
- By generating a large amount of kWh of clean solar power annually, coupled with the reduction in energy usage via efficiency measures, the Program effectively reduces the City's carbon footprint by many metric tons of CO2 over the 20-year term of the PPA.
- The systems will be maintained by the investors, and parts replaced, via Special Purpose Entity, typically a Limited Liability Company (LLC), set up in the City's State by EELLC then purchased by one or more investors. At end of the 20 year PPA a fair market value will be determined for each home's system. The homeowner will have the right to buy it for that value or another amount, to be determined as an either/or decision in the PPA Agreement the City will sign with the LLC.

\* PG&E average residential rate calculated at \$0.2263 per kWh; varies with local taxes.

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Annually, savings to the participating homeowners from electricity generated and saved by the System over Programed utility rates is estimated to be 20%. The savings chart herein assumes local utility rates will increase an average of 3% per year. This is a generally conservative expectation based on government tracking, though rate increases are not specifically predictable. The City will bill and collect payments from homeowners, keep a portion currently estimated at 20%, and pay the investors each month at the rate to be finalized upon completion of the Signups Period.

The estimation is therefore a total reduction in electricity rates of 40%.

The minimum size of the Program is \$1,700,000, or approximately 100 homes.

The homeowners will be asked to sign up by the City, with documents originated by EELLC and approved by the City. The City will promote the Program to homeowners, with EELLC helping to market to Program. EELLC will develop a web page with secure functions, linking to the City's web site and using the City's logo, to facilitate signups. Signup documents will also be available at the City offices. The City is the responsible party and, to homeowners, this is the City's Program not EELLC's.

This Letter of Intent (LOI) is based upon calculations of current utility rates, average annual homeowner electricity usage, solar production and incentives. *This constitutes a conditionally binding contract* between the City and EELLC. EELLC has the unilateral right to cancel if the City does not sign up the minimum number of homes. The City has the unilateral right to cancel if the final electricity rates reduction is less than 35%. The City or EELLC can cancel without recourse if they fail to agree on final terms of the contract titled Power Purchase Agreement.

If the general terms and conditions set forth in this LOI are acceptable to the City, please sign below and return it to EELLC. Subsequently, EELLC will begin working with the City on marketing, commence full underwriting and credit review, due diligence and documentation, among other things. EELLC will then propose PPA to the City. Subject to the conditions contained herein, the City approves the general terms and conditions of this proposal.

For the City of		For Energy Experts LLC	
Signature:		Signature:	
Authorized Representative:		Authorized Representative:	
	(name)		(name)
	(title)		(title)

Thank you for giving EELLC the opportunity to bring environmental benefit and energy savings to your City. We look forward to working with you.

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#### **II. Program Summary** (percentages and amounts are approximate)

### **PV Systems Specifications:**

Location Type Solar PV Capacity kW DC Production Ratio 1<sup>st</sup> Year Solar Generation Per 100 Homes Annual Degradation of solar cells/panels

#### **Energy Efficiency Systems Specifications:**

1<sup>st</sup> Year Energy Efficiency Savings kWh/yr

### **EPC & Financing Specifications:**

Engineering Firm Financing Estimated Production Start Date

#### **PPA Terms:**

Power Off-Taker, if Net Metered Term Financing Source First Year PPA Rate PPA Rate Annual Escalator

#### **Other Assumptions:**

Current Utility Provider Estimated Current Avoided Utility Cost Expected Annual Utility Rate Inflation Parlier, California Residential, Roof Mount <u>440</u> kW (total tbd) <u>1,590</u> kWh estimated average <u>704,000</u> kWh estimated total 0.5%

<u>300,000</u> (tbd w/signups, billing analysis, and modeling)

EELLC EPC partner EELLC and affiliates Q2/Q3 2019

PG&E 20 years (optional 25 years) EELLC and affiliates \$0.194/kWh + tax, if any 2%

PG&E \$0.1293/kWh 3%

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### III. Programed Savings, Per 100 Homes

	Solar	Utility Electricity			Capacity Total		Cost of PPA			Net		
	Production	Avoided cos	t	Energy	Avoided C	ost	Savings	Solar	PPA	Total	Annual	Cumulative
Year	kWh(1)	\$/kWh (2)		Savings (\$)	\$/kW (2	)	Benefit	PPA Rate	Payments	PPA Cost	Savings	Savings
1	704,000	\$ 0.323	3\$	227,603			\$ 227,603	\$ 0.1940	(\$136,576)	(\$136,576)	\$ 91,027	\$91,027
2	700,480	\$ 0.333	0\$	233,259	<b>*</b> \$	-	\$ 233,259	\$ 0.1979	(\$138,611)	(\$138,611)	\$ 94,648	\$185,675
3	696,978	\$ 0.343	0\$	239,056	\$	-	\$ 239,056	\$ 0.2018	(\$140,676)	(\$140,676)	\$ 98,379	\$284,055
4	693,493	\$ 0.353	3\$	244,996	\$		\$ 244,996	\$ 0.2059	(\$142,772)	(\$142,772)	\$ 102,224	\$386,278
5	690,025	\$ 0.363	9 \$	251,084	\$	-	\$ 251,084	\$ 0.2100	(\$144,900)	(\$144,900)	\$ 106,185	\$492,463
6	686,575	\$ 0.374	8 \$	257,324	\$	-	\$ 257,324	\$ 0.2142	(\$147,059)	(\$147,059)	\$ 110,265	\$602,728
7	683,142	\$ 0.386	0\$	263,718	\$	-	\$ 263,718	\$ 0.2185	(\$149,250)	(\$149,250)	\$ 114,468	\$717,197
8	679,727	\$ 0.397	6\$	270,272	\$	-	\$ 270,272	\$ 0.2228	(\$151,474)	(\$151,474)	\$ 118,798	\$835,995
9	676,328	\$ 0.409	5\$	276,988	\$	-	\$ 276,988	\$ 0.2273	(\$153,731)	(\$153,731)	\$ 123,257	\$959,252
10	672,946	\$ 0.421	8 \$	283,871	\$	-	\$ 283,871	\$ 0.2318	(\$156,021)	(\$156,021)	\$ 127,850	\$1,087,102
11	669,582	\$ 0.434	5\$	290,925	\$	-	\$ 290,925	\$ 0.2365	(\$158,346)	(\$158,346)	\$ 132,579	\$1,219,681
12	666,234	\$ 0.447	5\$	298,155	\$	-	\$ 298,155	\$ 0.2412	(\$160,705)	(\$160,705)	\$ 137,449	\$1,357,131
13	662,902	\$ 0.460	9 \$	305,564	\$	-	\$ 305,564	\$ 0.2460	(\$163,100)	(\$163,100)	\$ 142,464	\$1,499,595
14	659,588	\$ 0.474	8 \$	313,157	\$	-	\$ 313,157	\$ 0.2510	(\$165,530)	(\$165,530)	\$ 147,627	\$1,647,222
15	656,290	\$ 0.489	0\$	320,939	\$	-	\$ 320,939	\$ 0.2560	(\$167,996)	(\$167,996)	\$ 152,943	\$1,800,164
16	653,009	\$ 0.503	7 \$	328,914	\$	-	\$ 328,914	\$ 0.2611	(\$170,500)	(\$170,500)	\$ 158,415	\$1,958,579
17	649,744	\$ 0.518	8 \$	337,088	\$	-	\$ 337,088	\$ 0.2663	(\$173,040)	(\$173,040)	\$ 164,048	\$2,122,627
18	646,495	\$ 0.534	4 \$	345,465	\$	-	\$ 345,465	\$ 0.2716	(\$175,618)	(\$175,618)	\$ 169,846	\$2,292,474
19	643,262	\$ 0.550	4 \$	354,049	\$	-	\$ 354,049	\$ 0.2771	(\$178,235)	(\$178,235)	\$ 175,814	\$2,468,288
20	640,046	\$ 0.566	9 \$	362,848	\$	-	\$ 362,848	\$ 0.2826	(\$180,891)	(\$180,891)	\$ 181,957	\$2,650,245
Total	13,430,844						\$ 5,805,275			(\$3,155,030)	\$ 2,650,245	

#### PPA Economics, PG&E California Model

(1) Production assumes an annual Systems degradation of 0.5%

(2) Assumed annual increase of 3.0%

**Useful Life of Systems / Ownership Transfer:** According to the National Renewable Energy Laboratory, Solar PV systems have a useful life of 50+ years. Within ninety (90) days after the end of the PPA Term, or its assign shall transfer all of its right, title and interest in and to the Systems to the Homeowner for a fair-market-value purchase price. Alternatively, EELLC will remove and recycle the system, or EELLC and the City may negotiate up to two five-year extensions of the PPA.