

# City of Calistoga

## Staff Report

11

**TO:** Honorable Mayor and City Council  
**FROM:** Dylan Feik, City Manager  
**DATE:** September 6, 2016  
**SUBJECT:** LED Streetlight Upgrade Program

---

---

APPROVAL FOR FORWARDING:



---

Dylan Feik, City Manager

---

---

- 1  
2 **ISSUE:** Consideration Authorizing the City Manager to Partner with Pacific Gas & Electric  
3 Company (PG&E) for an LED Streetlight Upgrade Program.  
4  
5 **RECOMMENDATION:** Consider the LED Streetlight Program and provide staff direction  
6 on participation in the LED Streetlight Upgrade Program.  
7  
8 **BACKGROUND:** Pacific Gas & Electric Company (PG&E) is replacing 160,000 high-  
9 pressure-sodium-vapor (HPSV) bulbs with efficient, long-lasting light-emitting diode  
10 (LED) fixtures in collaboration with cities and counties across their service territory.  
11  
12 LED fixtures use less energy than HPSV bulbs. PG&E plans to save more than 50 million  
13 kWh per year with the LED Streetlight Upgrade Program. Replacing HPSV bulbs with  
14 LED fixtures of the same wattage will help reduce monthly energy costs, uses less  
15 energy per light, reduces overall greenhouse gas emissions and helps cities reach their  
16 long-term energy goals. LED light also provides more natural-looking, evenly distributed  
17 light which can help both drivers and pedestrians.  
18  
19 LED technology maintains most of its light output up to four times longer than HPSV  
20 bulbs. Since PG&E is replacing streetlights at the same time, the new LED lights should  
21 last up to 20 years without replacement.  
22

23 There may be disadvantages to LED lighting such as: LEDs are more expensive to  
24 purchase; LEDs can shift color due to age and temperature, and; personal preference of  
25 citizens may prefer “yellow light” of HPSV bulbs to the “blue light” of LEDs.

26  
27  
28 PG&E will be using light fixtures that are manufactured by CREE. These fixtures are  
29 designed to achieve substantial energy savings and reduce greenhouse gas emissions  
30 (GHG). They provide 4,000 Kelvin light bulb temperature which is identical to the LED  
31 streetlights installed by CalTRANS at the intersection of Lincoln and Washington Streets.

32  
33 In the City of Calistoga, PG&E owns 226 streetlight fixtures. Based on the table below,  
34 PG&E estimates that by converting PG&E-owned streetlights only, the City will achieve  
35 74,668 kWh savings annually.

36

LS1 Existing HPS Sizes	LED Equivalent Wattage	Per Fixture Annual Savings	Quantity of each fixture type	Annual kWh reduction by fixture type	Annual \$ savings by fixture type
70 watt HPS	29 watt	\$3.23	197	46334.4	\$637.22
100 watt HPS	34 watt	\$22.65	3	1076.4	\$67.96
150 watt HPS	56 watt	\$42.45	3	1454.4	\$127.36
200 watt HPS	73 watt	\$70.36	6	3974.4	\$422.14
400 watt HPS	139 watt	\$168.02	17	21828	\$2,856.38
<b>TOTAL</b>			<b>226</b>	<b>74,668</b>	<b>\$7,509.82</b>

37  
38 The City owns 29 streetlights. PG&E has offered to include City-owned streetlights as  
39 part of this project. The vintage streetlights downtown will not be included in this project.  
40 The cost to perform the work is approx. \$10,000 and could be paid directly by the City, or  
41 could be paid for by PG&E and savings captured by the reduced energy bills could be  
42 repaid to PG&E.

43  
44 PG&E staff will perform the work. Each streetlight fixture will require approx. 10 minutes  
45 and could be completed in about a week.

46  
47 The City would be required to do tree trimming upon necessity.

48  
49 **DISCUSSION:** In order to opt-in to this program, the City of Calistoga would need to  
50 confirm participation by mid-September. The City’s project would be scheduled for the  
51 end of September. All streetlights, PG&E-owned and City-owned, will be converted to  
52 LED at the same time. Throughout the duration of the project, the City may elect to  
53 change the streetlight wattage or make other adjustments as necessary.

54  
55 If the City agrees to the upgrade program, PG&E will send informational letters to  
56 residents who live near fixtures scheduled for upgrade. Upon completion, postcards are

57 sent to residents indicating the work has been completed. Residents are also given  
58 PG&E contact information for any questions or concerns.

59  
60 According to PG&E phone surveys following recently completed projects, 78% of  
61 residents prefer the new LED streetlights, 10% prefer the old HPSV streetlights, and 12%  
62 have no preference.

63  
64 This project would achieve multiple objectives as outlined in the City Council Goals,  
65 Objectives and Priority Projects for Fiscal Year 2016-17, such as:

- 66 • Goal 1, Objective 4 – Provide optimal City services in a sustainable manner
- 67 • Goal 3, Objective 6 – Improve the safety and functioning of the City’s primary  
68 intersections and the lighting of city streets and intersections, in accordance with  
69 the City’s Dark Sky policy
- 70 • Goal 4, Priority Project 1 – Implement the GHG Emissions Reductions Measures  
71 included in the Climate Action Plan (Energy Efficiency & Renewable Energy Goal  
72 EE4 A)

73  
74 PG&E does not require Council Resolution to participate in this program, rather a signed  
75 agreement from a city official such as the city manager. Staff is requesting Council  
76 direction at this time.

77  
78 **FISCAL IMPACT:** Through the LED Streetlight Upgrade Program, Calistoga is expected  
79 to save about 74,668kwh and \$7,509 annually. There is no installation charge for PG&E-  
80 owned streetlight upgrades. Retrofitting City-owned streetlights (excluding the vintage  
81 streetlights downtown) is estimated to cost \$10,000. Once the upgrade project is  
82 complete, all City-owned streetlights will be maintained by the City (PG&E will change the  
83 11 LS2-C (PG&E maintained) retrofitted lights to LS2-A (City maintained) lights).

84  
85 After the LED streetlights are installed, the City may request changes to the fixtures  
86 which will cost \$200 per fixture while PG&E is still working in the area. Any changes  
87 made after the initial time frame would incur additional costs. The most common change  
88 is adding shields to redirect light.

89  
90 **ATTACHMENTS:**

- 91 1. PG&E Presentation to City Staff 081916
- 92 2. PG&E Program Overview
- 93 3. City-Owned Streetlights Including Vintage
- 94 4. PG&E Map of Streetlights
- 95 5. PG&E Sample Letter to Resident
- 96 6. PG&E Letter AMA
- 97 7.