

## Community Focus Statement G: Strive to make Lucerne Valley energy self-sustainable.

**Action Statement G.2: Coordinate with the County Service Area 29 to convert the community's street lights to low color temperature LED street lighting.**

G.2

**Benchmark:** If feasible, street lighting has been converted to LED bulbs.

**Champion:** Volunteer group or person or can be identified by the community

**Estimated Cost:** Contingent upon level of improvements



Example of a solar powered street luminaire. Photo source: [PURE](#)

County Service Area 29 has street light powers. Lighting is important because it increases safety in areas used by pedestrians, bicyclists, and motorists. It also aids in geographic orientation, as people can use well-lit spaces as landmarks for their reference. However, it can be difficult to achieve a balance between providing adequate lighting and avoiding potential light pollution.

In many situations, particularly when there is a security concern, there is a tendency to over-illuminate parks, plazas, streets, or other public spaces. But in fact, too much lighting can be just as bad as too little lighting, especially in a setting such as Lucerne Valley. The key to developing a good plan is to relate lighting to the evening functions of a particular space, because in the larger view, street lighting is more than

just a technical requirement, a security need, or a design element. It can be thought of and used in terms of how the type, placement, and wattage affect how a street is perceived and used.

Although its primary purpose is nighttime visibility for security and safety, successful street lighting takes into account the human users of the street or other exterior spaces in order to improve the experience of these places. For instance, one way to emphasize pedestrians and bicyclists over automobile traffic is to replace standard overhead streetlights with smaller-scale, more frequently spaced fixtures geared toward all users, and not just vehicles. Additional lighting in Lucerne Valley would increase the public health, safety, and welfare of the community. Well-lit spaces would allow community members to be involved in physical activity for longer periods of time, not only during the day. Additionally, well-lit spaces provide a greater sense of security for community members.

In recent years, light-emitting diode (LED) lighting has gained traction among cities across the nation. Different sources indicate that cities that switch to LED streetlights can achieve operational savings of up to 40 percent. The City of Los Angeles has seen its electricity bill reduced by over 40 percent by replacing streetlights with LEDs. The City of Boston saves \$2.8 million a year with its upgraded lighting, and the project paid for itself in a year and a half.

While lighting costs vary, the table below lists potential options and possible typical costs per item or measure to be considered in the future. In order to best address future lighting needs, a feasibility study should be completed to evaluate the overall planning, design, and implementation of future lighting sources in Lucerne Valley. Operation and maintenance costs would need to be absorbed by the community.

**Lighting and Estimated Typical Costs**

Potential Improvement	Cost (typical per measure or item)
Lighting Study	\$10,000
Wired Streetlight	\$6,000–\$7,000 per light
Solar Streetlight	\$5,000–\$6,000 per light
Low-Level Path Light	\$1,000–\$3,000 per light

Action	Action Leader	Timeline	Resources
1. Establish a Lighting Committee	Champion	As needed	LEOTEK – A municipal guide for converting to LED street lighting
2. Meeting to discuss if LED or another type of street lighting makes sense for community.	Committee, Special Districts Department (Street Lights Division)	As needed	<a href="http://www.leotek.com/education/documents/Leotek.LED.Streetlight.Guide.V7-101613.pdf">http://www.leotek.com/education/documents/Leotek.LED.Streetlight.Guide.V7-101613.pdf</a>
3. Define the project scope.	Committee, Special Districts Department	Months 1 – 3	Municipal Solid State Street Lighting Consortium – A place for cities to network with other communities who have installed/upgraded to LED street lighting
4. Determine funding source (i.e., self-funding, federal government, state programs, utility programs, Energy Saving Contractors (ESCO), others).	Committee	Months 3 - 6	<a href="http://www1.eere.energy.gov/buildings/ssl/consortium.html">http://www1.eere.energy.gov/buildings/ssl/consortium.html</a>
5. Complete a financial analysis, considering initial costs, annual savings, and simple payback.	Committee, with support from Special Districts Department	Months 6 – 12	Project Urban Renewable Energy <a href="http://purecities.org/turn-the-lights-on-smart-cities-and-led-street-lighting/">http://purecities.org/turn-the-lights-on-smart-cities-and-led-street-lighting/</a>
6. Determine who will purchase the streetlights and improvements.	Special Districts Department	Months 6 – 12	Funding sources: 2009 American Recovery and Reinvestment Act (ARRA) <a href="https://www.washington.edu/research/gca/recovery/">https://www.washington.edu/research/gca/recovery/</a>
7. Narrow down the selection of light fixtures.	Special Districts Department	Months 12 – 16	
8. Invite manufacturers to present their products for testing and evaluation.	Special Districts Department	Months 14 - 16	Pacific Gas and Electric LED street lighting replacement/conversion program <a href="https://www.pge.com/en_US/business/save-energy-money/business-solutions-and-rebates/lighting/led-street-lighting/led-streetlight-replacement-program.page?">https://www.pge.com/en_US/business/save-energy-money/business-solutions-and-rebates/lighting/led-street-lighting/led-streetlight-replacement-program.page?</a>
9. Test preferred luminaires on residential and commercial streets.	Special Districts Department	Months 16 - 18	
10. Issue and award bid	Special Districts Department	Months 18 - 20	
11. Implement the project.	Special Districts Department	Months 24	Large Energy Saving Contractors (ESCO) <a href="http://ecoact.org/our-work/programs/?qclid=CPuPp4Xz-88CFcJkhgodtSQEpw">http://ecoact.org/our-work/programs/?qclid=CPuPp4Xz-88CFcJkhgodtSQEpw</a>
12. Institute a long-term maintenance program.	Special Districts Department	On-going	