



# Comparative Energy Analysis Report

Prepared for  
City of Pomona

Prepared by  
The Energy Coalition

On Behalf of  
The Southern California Regional Energy Network Public Agency Program

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3/25/2019

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## 1. Overview

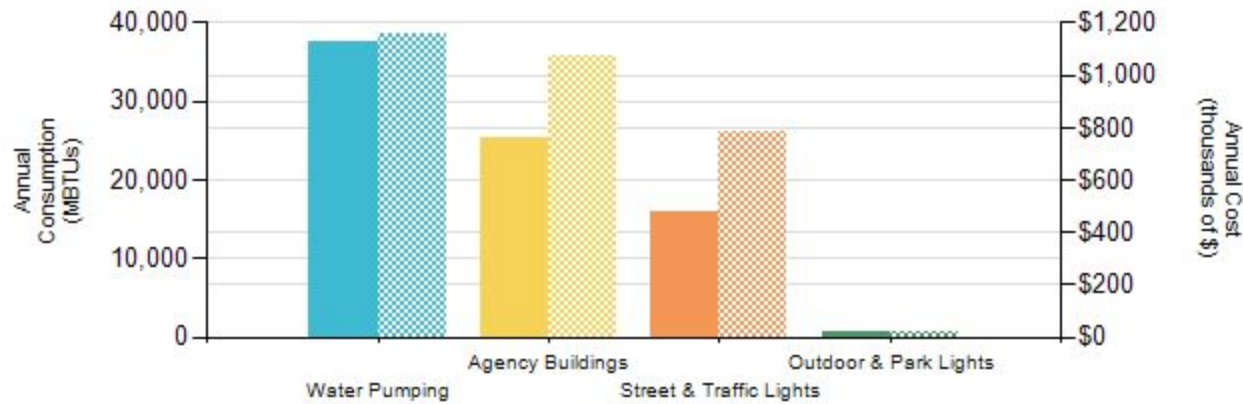
This report is intended to provide a framework for the City of Pomona, referred to as “Agency” herein, to identify inefficient facilities and infrastructure and prioritize further investigation and energy efficiency retrofit work. This analysis uses only total floor area and energy billing data provided by the Agency to analyze energy use across Agency assets, and to help identify opportunities for energy efficiency improvements. Many factors affect the energy use in different assets, including age, type of heating, ventilation, air conditioning (HVAC), and lighting equipment, facility occupancy and hours, plug loads, and climate. Once individual opportunities with the greatest potential for energy savings are identified, a more detailed screening of those facilities can be performed to identify the specific sources of the inefficiencies.

This report was created by The Energy Coalition on behalf of the Southern California Regional Network ([www.socalren.com](http://www.socalren.com)). Any questions about this report can be directed to your assigned Project Manager, Vanessa Lopez at [vlopez@energycoalition.org](mailto:vlopez@energycoalition.org).

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## 2. Total Energy Portfolio

Your Total Annual Energy Cost is **\$3,030,384**



Key: Solid color represents consumption, hashed color represents cost

Annual Energy Costs

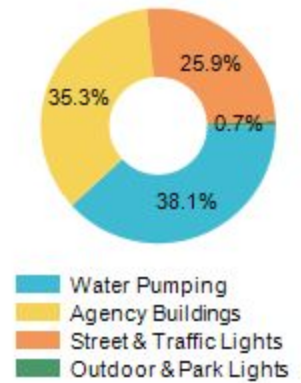


Table 1: Total Energy Portfolio (Annual)

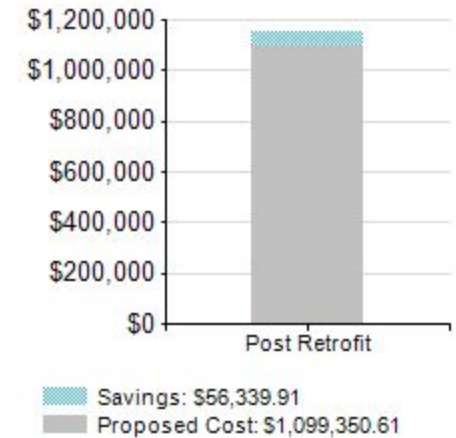
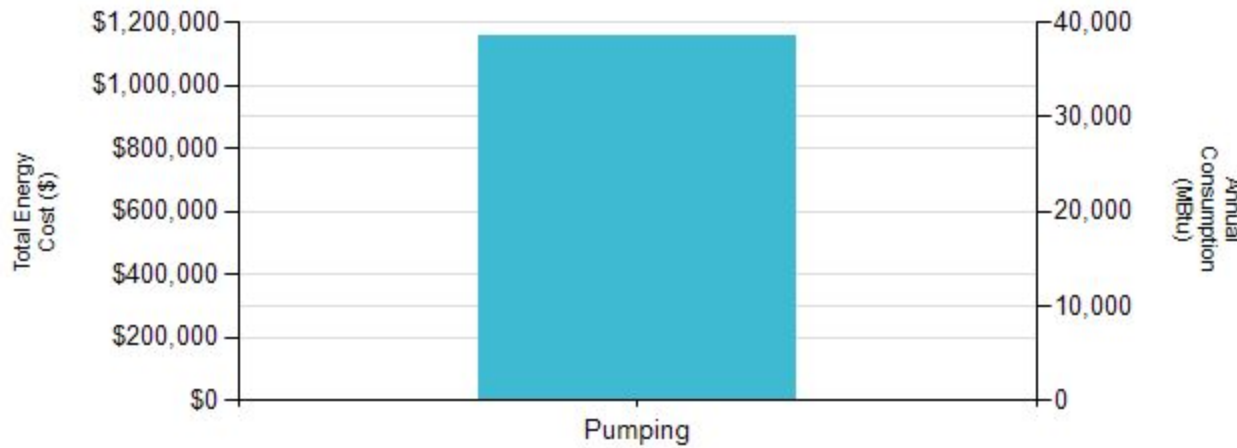
Agency Energy Use	Electric Consumption (kWh)	Electric Cost (\$)	Gas Consumption (therms)	Gas Cost (\$)	Total Energy Consumption (MBTUs)	Total Energy Cost (\$)	GHG Emissions (lbs CO2)
Water Pumping	10,996,635	\$1,155,691	0	\$0	37,498,524	\$1,155,691	5,685,260
Agency Buildings	5,939,540	\$1,025,060	50,073	\$45,050	25,261,157	\$1,070,110	3,070,742
Street & Traffic Lights	4,640,197	\$784,220	0	\$0	15,823,072	\$784,220	2,398,982
Outdoor & Park Lights	222,506	\$20,364	0	\$0	758,746	\$20,364	115,036



### 3. Water Pumping



Your Annual Energy Cost for Water Pumping is **\$1,155,691** and **38.1%** of the Total Cost.



Key: Displays the top 5 consuming pumping service accounts. Columns represent Cost, Area represents Consumption.

**Assumption** - 65% of all pumps need to be upgraded. Those pumps will reduce consumption by 7.5% kWh post retrofit.

**Calculation** - projected savings are 7.5% of 65% of the total PA consumption (for ALL pump accounts)

Table 2: Water Pumping (Annual)

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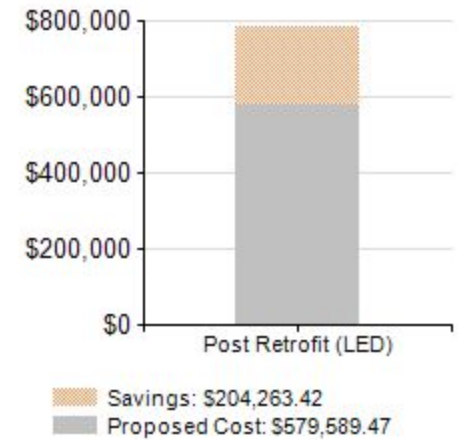
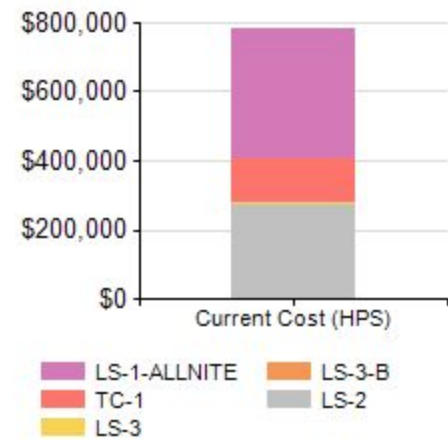
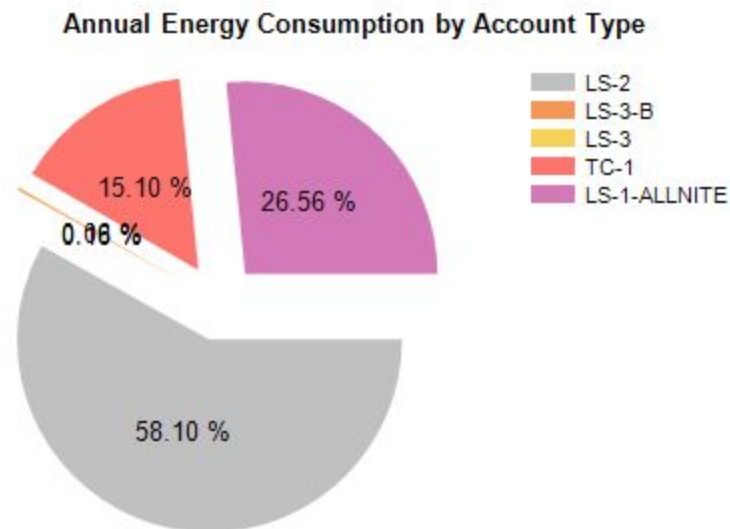
Site Name	Address	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
101 Main St.	101 Main St.	10,996,635	\$1,155,691	\$0.11

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## 4. Street & Traffic Lights



Your Annual Energy Cost for Street & Traffic Lights is \$784,220 and 25.9% of the Total Cost.



**Assumption** -agencies can save 50% on annual street & traffic light kWh consumption by converting HPS to LED.

**Calculation** – projected savings are 50% of the total kWh consumption of agency owned street and traffic lights (TC-1, LS-2, and LS-3). LS-1 street lights are not included in projected savings.

Table 3: Street & Traffic Lights (Annual)

Tariff	Tariff Description	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
LS-1-ALLNITE	Street Lights (SCE Owned)	1,231,994	\$375,326	0.30
LS-2	Street Lights (Agency Owned - unmetered)	2,694,915	\$276,914	0.10



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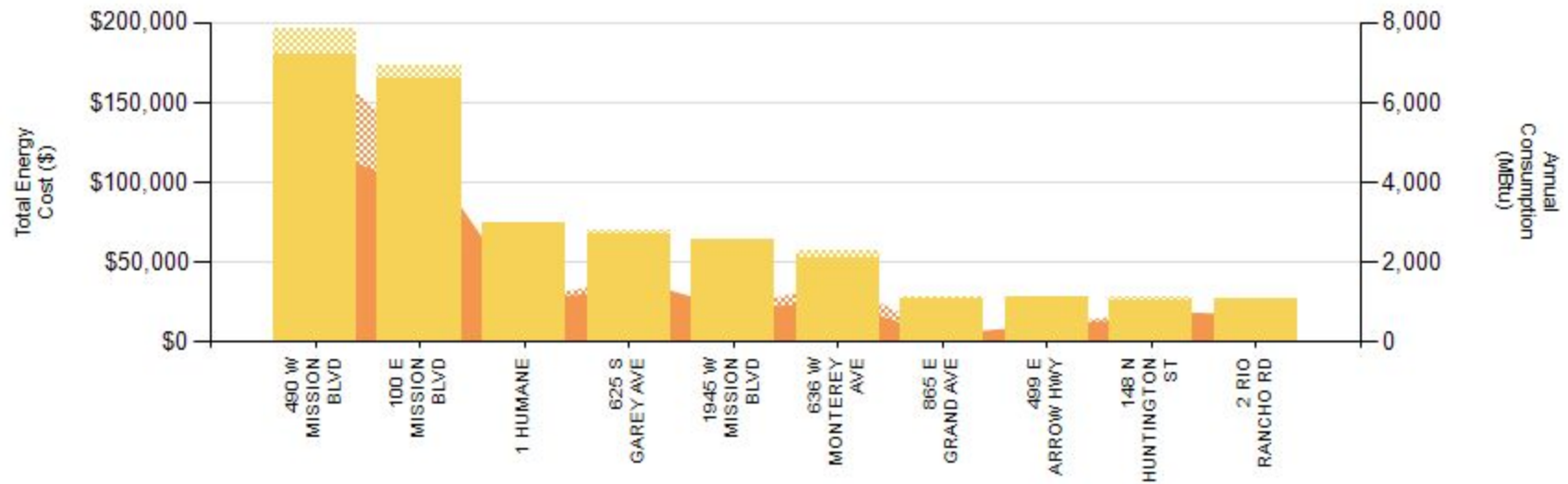
TC-1	Traffic Signal Lights (Agency Owned)	700,539	\$130,333	0.19
LS-3-B	Street Lights (Agency Owned - metered)	8,117	\$921	0.11
LS-3	Street Lights (Agency Owned - metered)	2,657	\$359	0.14

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## 5. Building Summary



Your Annual Energy Cost for Buildings is **\$1,070,110** and **35.3%** of the Total Cost.



Key: Displays the top 10 consuming Buildings. Columns represent Cost, Area represents Consumption. Electricity is the solid shade, Natural Gas is the hashed shade.

Table 4: Building Summary (Annual)

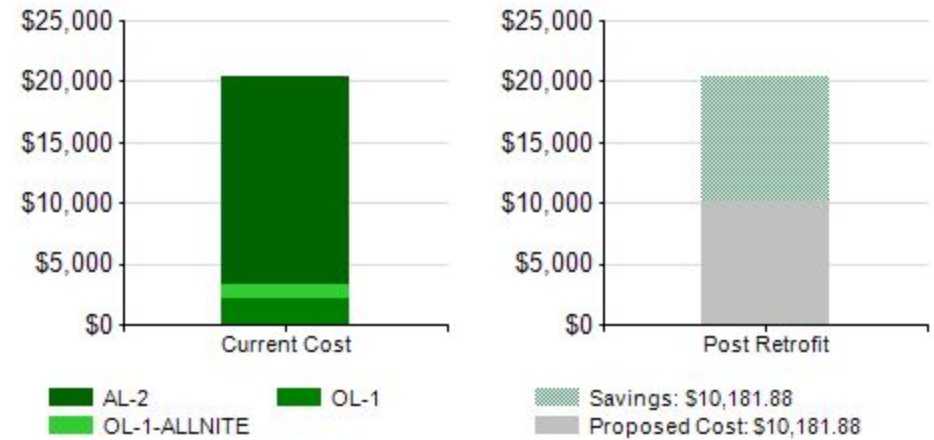
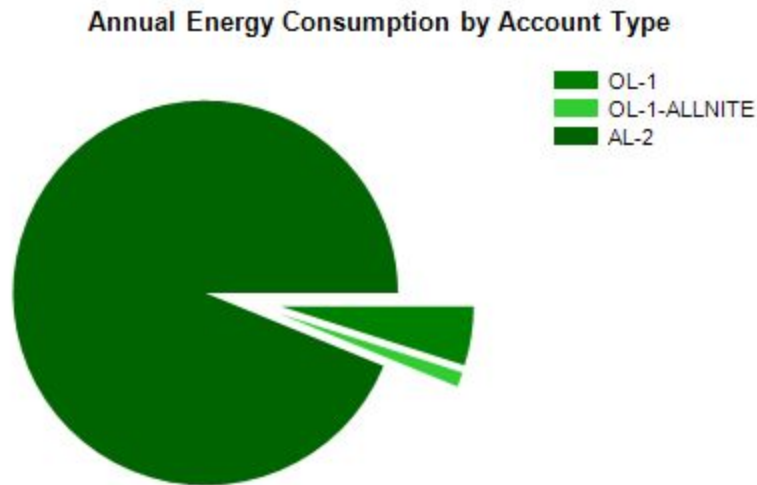
Site Name	Address	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)	Gas Consumption (therms)	Gas Cost (\$)	Gas Rate (\$/therm)
POMONA POLICE DEPARTMENT	490 W MISSION BLVD	1,446,854	\$179,555	\$0.12	21,819	\$16,672	\$0.76
100 E MISSION BLVD	100 E MISSION BLVD	1,103,408	\$164,297	\$0.15	10,901	\$8,952	\$0.82
1 HUMANE	1 HUMANE	304,972	\$75,054	\$0.25	0	\$0	N/A

POMONA PUBLIC LIBRARY	625 S GAREY AVE	377,999	\$67,284	\$0.18	2,909	\$2,789	\$0.96
VETERANS PARK	1945 W MISSION BLVD	239,051	\$63,779	\$0.27	0	\$0	N/A
POMONA CITY SANITATION	636 W MONTEREY AVE	293,363	\$52,435	\$0.18	5,007	\$4,824	\$0.96
WASHINGTON PARK	865 E GRAND AVE	31,794	\$27,717	\$0.87	692	\$1,044	\$1.51
PALOMARES PARK COMMUNITY CENTER	499 E ARROW HWY	122,820	\$28,421	\$0.23	0	\$0	N/A
148 N HUNTINGTON ST	148 N HUNTINGTON ST	169,221	\$26,263	\$0.16	1,695	\$1,586	\$0.94
2 RIO RANCHO RD	2 RIO RANCHO RD	199,679	\$26,557	\$0.13	0	\$0	N/A

## 6. Outdoor & Park Lights



Your Annual Energy Cost for Outdoor & Park Lights is **\$20,364** and **0.7%** of the Total Cost.



**Assumption** -agencies can save 50% on annual outdoor & park light kWh consumption by converting HPS to LED.

**Calculation** – projected savings are 50% of the total kWh consumption of outdoor & park lights.

Table 5: Outdoor & Park Lights (Annual)

Name	Address	Tariff	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
Area Lighting	101 Main St.	AL-2	208,731	\$17,022	\$0.08
Area Lighting	101 Main St.	OL-1	11,027	\$2,182	\$0.20



Area Lighting	101 Main St.	OL-1-ALLNITE	2,748	\$1,160	\$0.42
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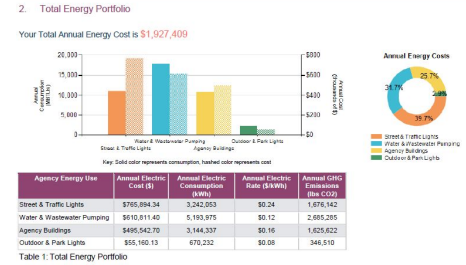
## Appendix A - Methodology

### 1. Data Sources

- Building information, energy usage and cost data used in this analysis were derived from utility consumption billing data provided by agency staff.
- Utility consumption billing data used in this analysis were derived from SCG gas tariffs and SCE electric tariffs
- For more information about the utility tariffs included in this analysis refer to:
  - SCG Gas Tariffs: [For more information about Southern California Gas tariffs;](https://www.socalgas.com/regulatory/tariffs/tariffs-rates.shtml)  
<https://www.socalgas.com/regulatory/tariffs/tariffs-rates.shtml>
  - SCE Electric Tariff: [For more information about Southern California Edison tariffs;](https://www.sce.com/wps/portal/home/regulatory/tariff-books/rates-pricing-choices)  
<https://www.sce.com/wps/portal/home/regulatory/tariff-books/rates-pricing-choices>
- All electricity and gas results were based on usage during period January 1, 2017 – December 31, 2017.
- In some cases, multiple meters were associated with a single facility or asset type. For such facilities, to generate estimates of facility-wide energy use and energy intensity, energy usage and cost values were aggregated by summing energy usage and cost values for each day in the analysis period.
- GHG emissions data used in this analysis were calculated using the conversion: 517 lb CO<sub>2</sub>/MWh + 11.91 lbs CO<sub>2</sub>/therm [1,2].

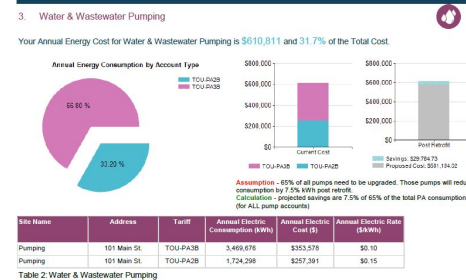
### 2. Total Energy Portfolio

- Total Energy Portfolio data represents an analysis of each agency facility type annual energy costs, annual energy consumption (kWh), GHG Emissions and total annual energy costs for agency facility types based on MBtus.
- The following agency assets are included in the Total Energy Portfolio:
  - Water Pumping
  - Street & Traffic Lights
  - Buildings
  - Outdoor & Parks Lights



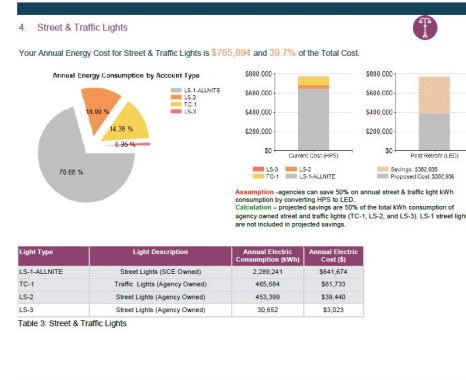
### 3. Water Pumping

- Water pumping data represents an analysis of the top five highest energy consuming water and wastewater pumping SCE service accounts annual energy costs, annual energy consumption (kWh), GHG Emissions, and total annual energy costs based on MBtus.
- Water pump conversion data used in this analysis is derived on the assumption that 65% of all existing pumps need to be upgraded. Of the 65% of pumps requiring upgrades, it is assumed that the pumps will save 7.5% of their annual kWh consumption [3].



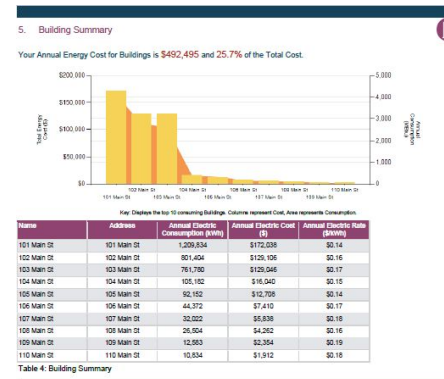
## 4. Street & Traffic Lights

- Street & traffic light data represents an analysis of annual energy costs, annual energy consumption (kWh), GHG Emissions per SCE street & traffic light tariff type.
- Annual cost savings reflects only agency owned street lights in the analysis; assumed cost savings conversion is based on converting HPS to LED agency owned traffic and street lights [3].
- On average, agencies can save 50% on annual kWh consumption by converting HPS to LED, which also results in cost savings [3].



## 5. Building Summary

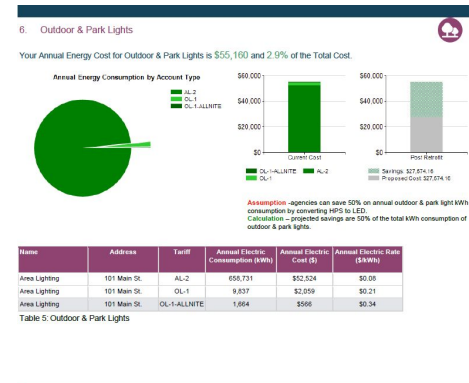
- Building summary data represents an analysis of the top ten highest energy consuming agency buildings annual energy costs, annual energy consumption (kWh), GHG Emissions, and total annual energy costs based on MBtus.





## 6. Outdoor & Park Lights

- Outdoor & park lights data represents an analysis of annual energy costs, annual energy consumption (kWh), GHG Emissions, and total annual energy costs based on MBtus per SCE outdoor and park lighting tariff type



Certain service accounts could not be matched to consumption data and were excluded:

Address	Service Account	Gas/Electric
2383 Chanslor St	485169006, 506169035	Gas
1 1 <sup>st</sup> Garey St	741259	Electric
1 Fairplex	1389193	Electric
1 Grand Hamilton SW	1389277	Electric
1000 W Lexington Ave	1289222	Electric
249 Gibbs St	1389235	Electric
260 ¼ East End Ave	31701560	Electric
2650 Pomona Blvd	876004	Electric
4 El Vecino Pl	526095	Electric
48 Rising Hill Rd	2526201	Electric
495 Arrow Hwy	1389364	Electric
Country Rd Towne SE	1389435	Electric
Fremont/Hwy 71 Ped	1389278	Electric

Certain service accounts did not have enough data in the baseline year and were excluded:

Address	Service Account	Gas/Electric
101 ½ Harrison Ave	45855625	Electric
102 ½ Freda St	45858634	Electric
1028 N San Antonio Ave	43419560	Electric
11 Phillips Ranch Rd	1389499	Electric
1100 Fairplex Dr	1389352	Electric
1300 W Phillips Blvd	46623882	Electric
1569 N Park Ave	1389352, 1389432	Electric
1730 E 1 <sup>st</sup> St	25280828	Electric
199 W Arrow Hwy	1389441	Electric
2005 W Holt Ave	1389483	Electric
2383 Chanslor St	26180499, 27222194	Electric
565 N Mountain View Ave	36891400	Electric
252 E 4 <sup>th</sup> St	43680809	Electric
295 Humane Way	43583293	Electric

## Endnotes

[1] Corporate Responsibility Report. (2015). In Southern California Edison. Retrieved from [https://www.sce.com/wps/wcm/connect/c0fcee5-e04a-4287-8301-8e66e3e5fbac/2014\\_Corporate+Responsibility+Report\\_FINAL+single-page.pdf?MOD=AJPERES&ContentCache=NONE](https://www.sce.com/wps/wcm/connect/c0fcee5-e04a-4287-8301-8e66e3e5fbac/2014_Corporate+Responsibility+Report_FINAL+single-page.pdf?MOD=AJPERES&ContentCache=NONE)

[2] Adams, L.S., Nicols, M.D., Goldstene, J. N. (2008). Climate Change Scoping Plan. In California Air Resources Board. Retrieved from [https://www.arb.ca.gov/cc/scopingplan/document/appendices\\_volume2.pdf](https://www.arb.ca.gov/cc/scopingplan/document/appendices_volume2.pdf)

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[3] Based on SoCalREN previous project estimates.

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