



# Comparative Energy Analysis Report

Prepared for  
Eastern Municipal Water District

Prepared by  
The Energy Coalition

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

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## 1. Overview

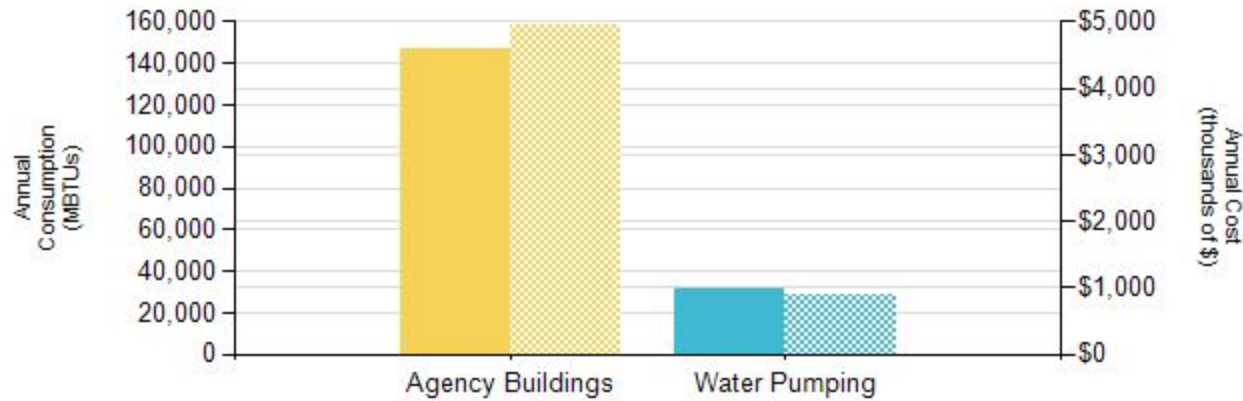
This report is intended to provide a framework for the Eastern Municipal Water District, referred to as “Agency” herein, to identify inefficient facilities and infrastructure and prioritize further investigation and energy efficiency retrofit work. This analysis uses only total floor area and energy 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, Julie Castro, at [jcastro@energycoalition.org](mailto:jcastro@energycoalition.org).

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## 2. Total Energy Portfolio

Your Total Annual Energy Cost is **\$5,768,382**



Key: Solid color represents consumption, hashed color represents cost

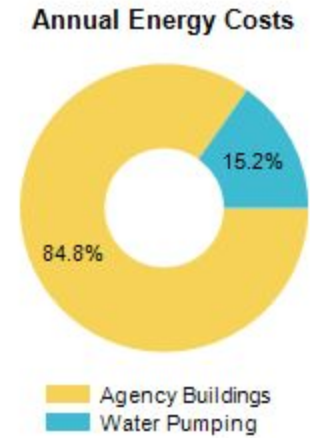


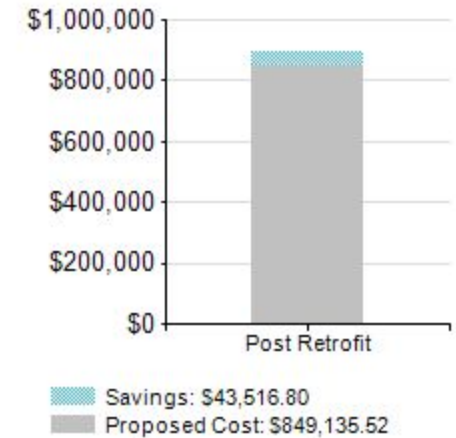
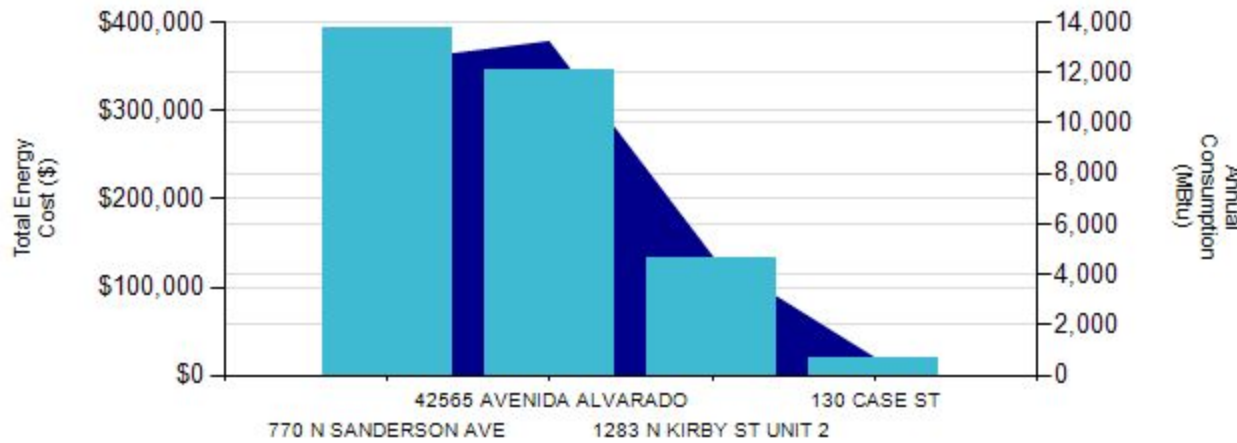
Table 1: Total Energy Portfolio (Annual)

Agency Energy Use	Electric Consumption (kWh)	Electric Cost (\$)	Total Energy Consumption (MBTUs)	Total Energy Cost (\$)	GHG Emissions (lbs CO2)
Agency Buildings	41,794,390	\$4,877,725	146,509,277	\$4,877,724	22,212,697
Water Pumping	9,060,988	\$890,658	30,982,854	\$890,658	4,697,400

### 3. Water Pumping



Your Annual Energy Cost for Water Pumping is **\$890,658** and **15.2%** 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)

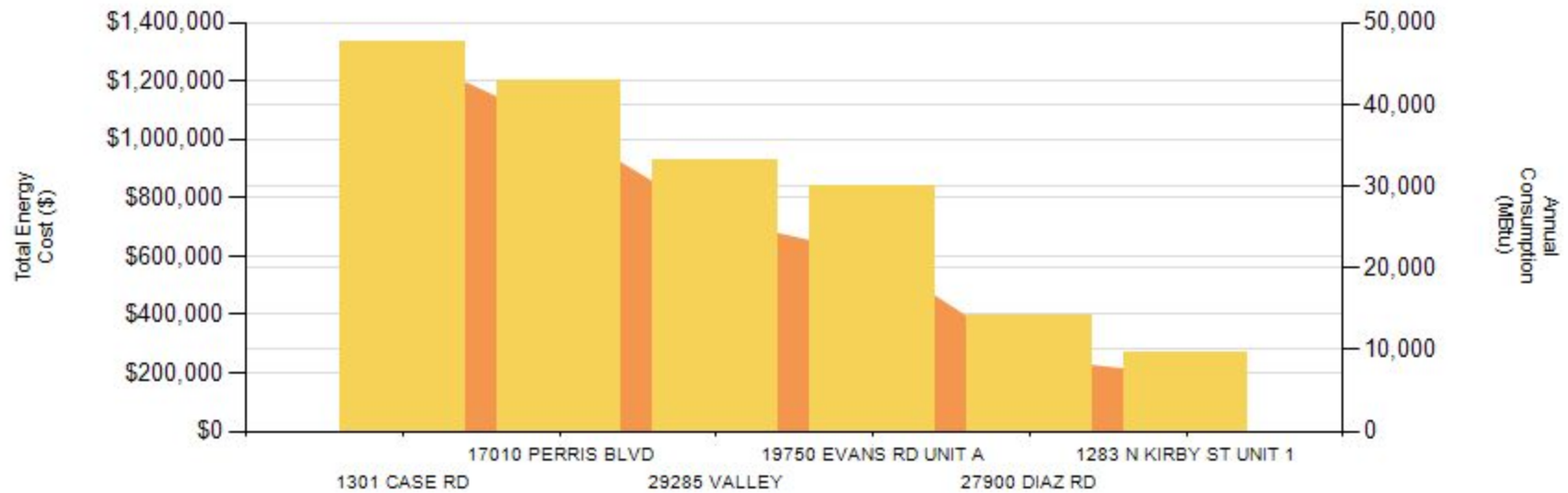
Table 2: Water Pumping (Annual)

Site Name	Address	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
San Jacinto Valley Regional Water Reclamation Facility	770 N Sanderson Ave	3,627,423	\$392,803	\$0.11
Temecula Valley Regional Water Reclamation Facility	42565 Avenida Alvarado	3,864,943	\$345,480	\$0.09
Hemet Filtration	1283 N Kirby St Unit 2	1,368,247	\$133,610	\$0.10
Perris Valley Regional Water Reclamation Facility	130 Case St	200,375	\$18,765	\$0.09

## 4. Building Summary



Your Annual Energy Cost for Buildings is **\$4,877,724** and **84.8%** of the Total Cost.



Key: Displays the top 10 consuming Buildings. Columns represent Cost, Area represents Consumption.

Table 4: Building Summary (Annual)

Site Name	Address	Electric Consumption (kWh)	Electric Cost (\$)	Electric Rate (\$/kWh)
Moreno Valley Regional Water Reclamation Facility	1301 Case Rd	12,450,440	\$1,248,241	\$0.10
17010 Perris Blvd	17010 Perris Blvd	10,897,824	\$1,199,409	\$0.11

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Sun City Regional Water Reclamation Facility	29285 Valley	7,579,556	\$931,065	\$0.12
Eastern Municipal Water District	19750 Evans Rd Unit A	6,302,248	\$835,556	\$0.13
Rancho California Water District	27900 Diaz Rd	2,600,425	\$392,690	\$0.15
Hemet Filtration	1283 N Kirby St Unit 1	1,963,897	\$270,763	\$0.14

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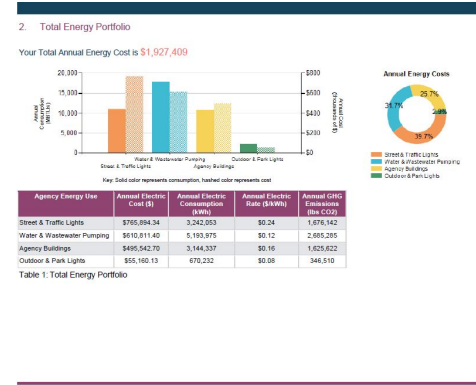
## Appendix A - Methodology

### 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 SCE electric tariffs.
- For more information about the utility tariffs included in this analysis refer to:
  - 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 results were based on usage during period January 1, 2013 – December 31, 2013.
- 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].
- One service account did not have energy usage data for the range of the analysis period and were excluded: 1301 Case Rd, Perris, CA – Service Account #4541457

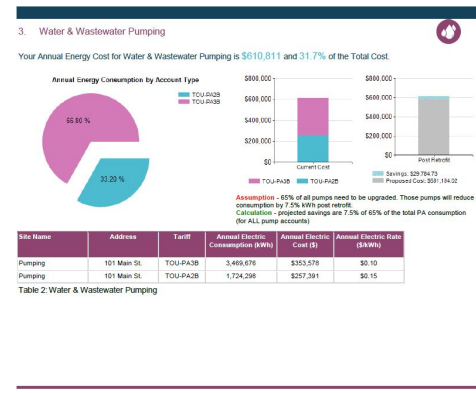
### 2. Total Energy Portfolio

- 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].

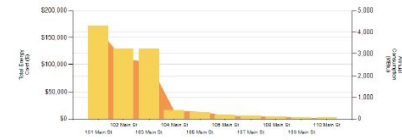


## 4. Building Summary

- 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.

### 5. Building Summary

Your Annual Energy Cost for Buildings is \$492,495 and 25.7% of the Total Cost.



Key: Choose the top 10 consuming Buildings. Columns represent Cost, Area represents Consumption.

Name	Address	Annual Energy Consumption (kWh)	Annual Electric Cost (\$)	Annual Electric Rate (\$/kWh)
101 Main St	101 Main St	1,209,834	\$172,038	\$0.14
102 Main St	102 Main St	801,404	\$126,106	\$0.16
103 Main St	103 Main St	781,780	\$126,046	\$0.17
104 Main St	104 Main St	105,182	\$16,040	\$0.15
105 Main St	105 Main St	92,152	\$12,708	\$0.14
106 Main St	106 Main St	44,372	\$7,410	\$0.17
107 Main St	107 Main St	32,022	\$6,838	\$0.16
108 Main St	108 Main St	24,804	\$4,262	\$0.16
109 Main St	109 Main St	12,963	\$2,354	\$0.19
110 Main St	110 Main St	10,834	\$1,912	\$0.18

Table 4: Building Summary

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## 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)

[3] Based on SoCalREN previous project estimates.

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