

# Comparative Energy Analysis Report



Prepared for  
**City of Brea**

Prepared by  
**The Energy Coalition**

On Behalf of  
**The Southern California Regional Energy Network Public Agency Programs**

Date  
**February 9th, 2021**

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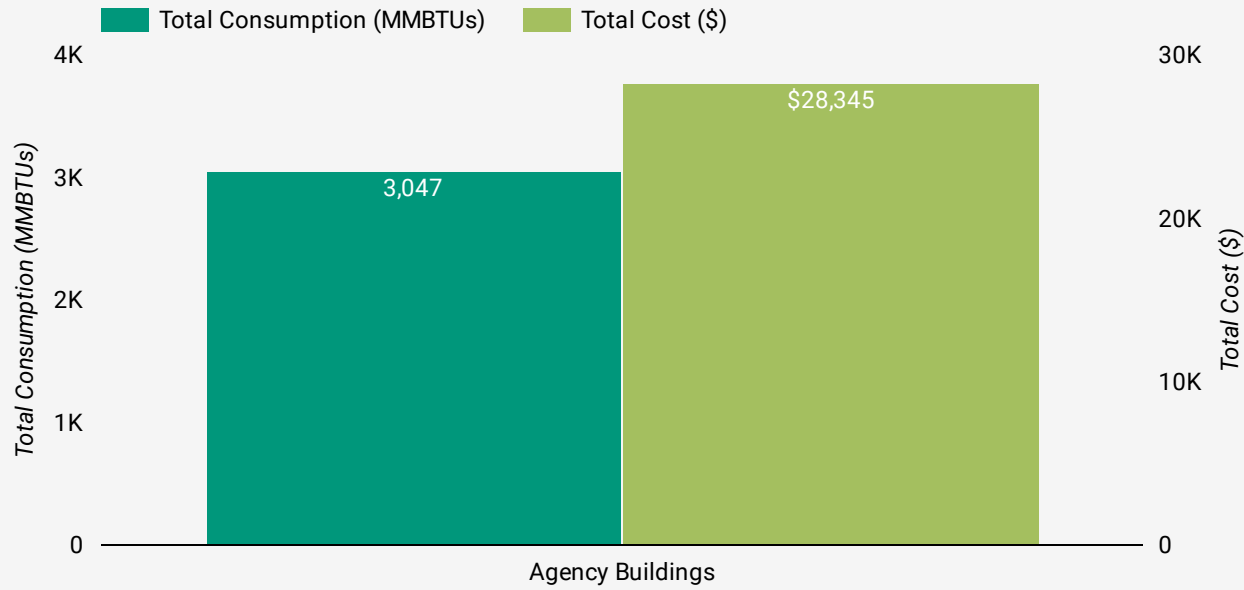
## Overview

This report summarizes energy consumption and energy cost by sector for the City of Brea, referred to as "Agency" herein. This analysis uses energy billing data and building characteristic data provided by the Utility and Agency to help identify opportunities for energy efficiency improvements across sectors. Once opportunities are identified, a more detailed screening of those facilities can be performed to further vet potential energy and cost-saving projects.

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

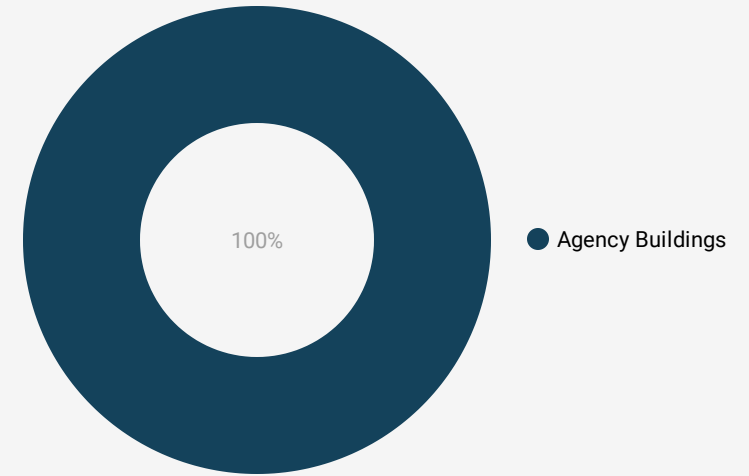
# Total Energy Portfolio (Annual)

## Annual Total Energy Consumption & Cost by Building Type

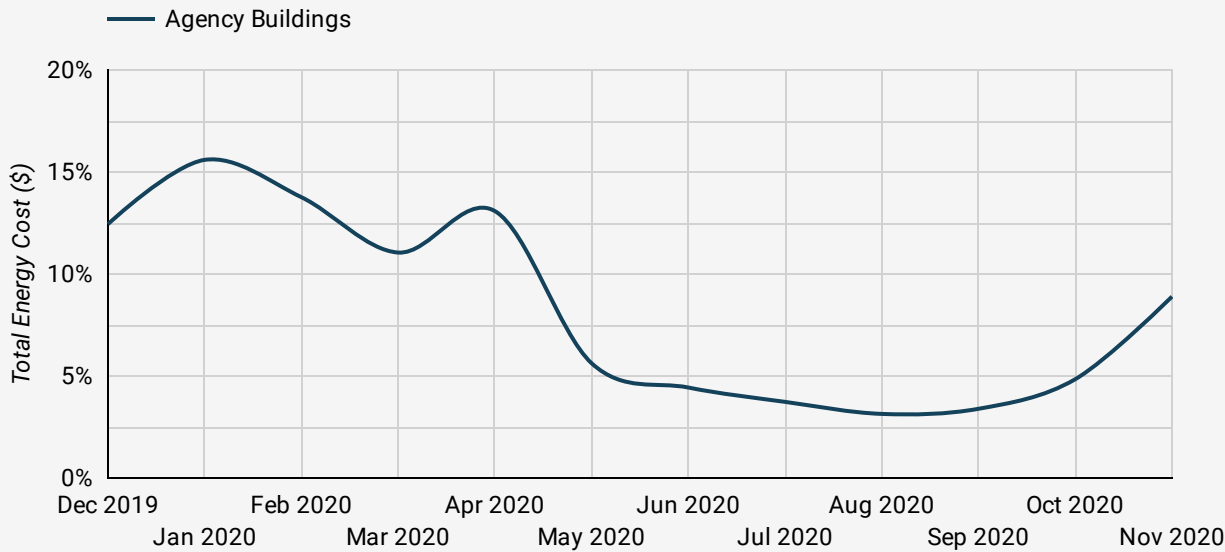


Total Energy Cost  
**\$28,346**

## % of Total Annual Energy Cost by Agency Energy Use



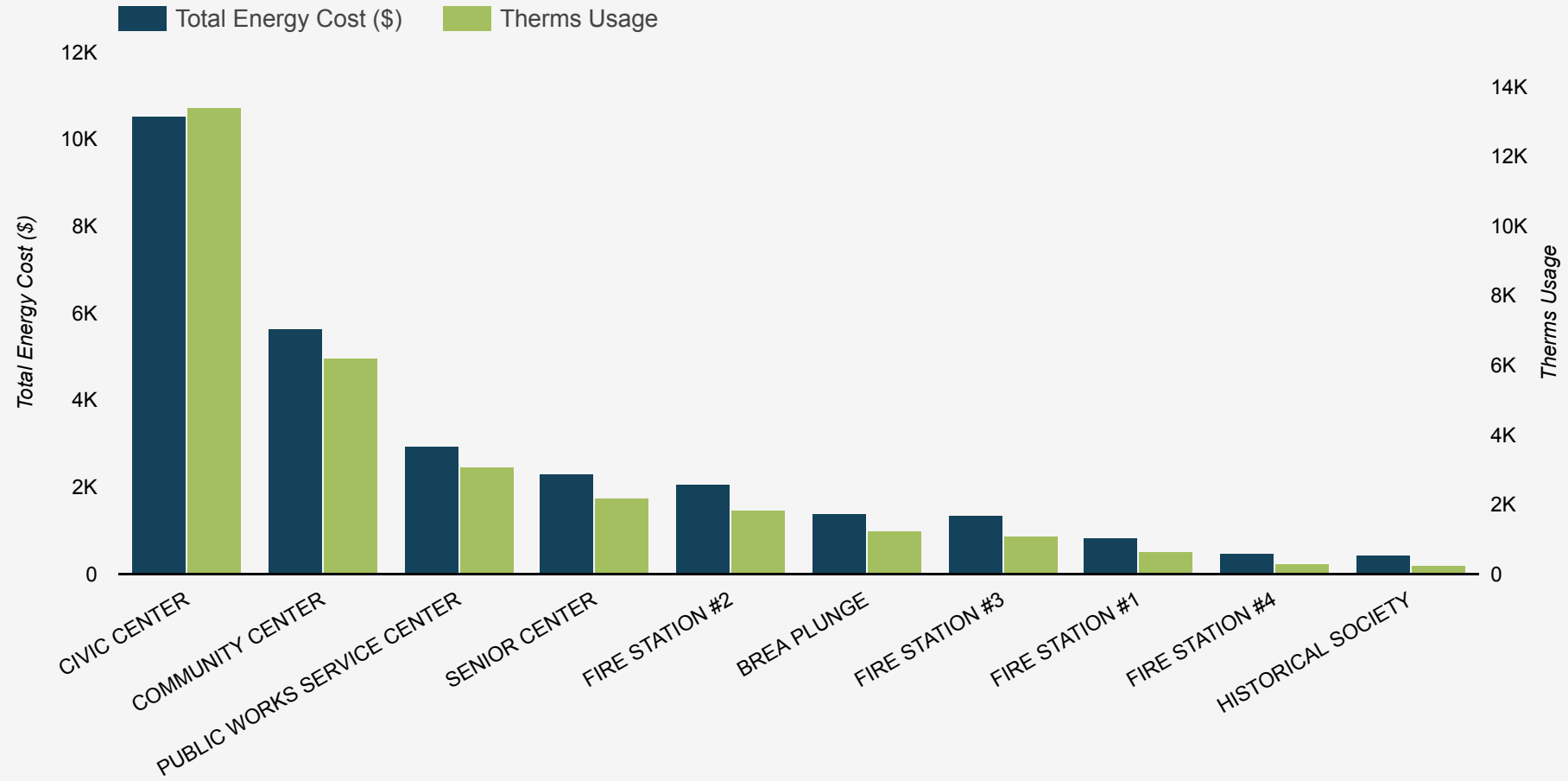
## Monthly Cost by Energy Use



Agency Energy Use	Gas Consumption (Therms) ▾	Gas Cost	Total Energy Consumption (MMBTU)	Total Energy Cost	GHG Emissions (lbs CO2)
Agency Buildings	30.4K	28.3K	3K	\$28.35K	361.9K <div style="width: 100%; height: 10px; background-color: #8bc34a;"></div>
<b>Grand total</b>	<b>30.4K</b>	<b>28.3K</b>	<b>3K</b>	<b>\$28.35K</b>	<b>361.9K</b>



## Total Annual Natural Gas Cost and Consumption by Site



Total Annual Energy Cost for Buildings

**\$28,346**

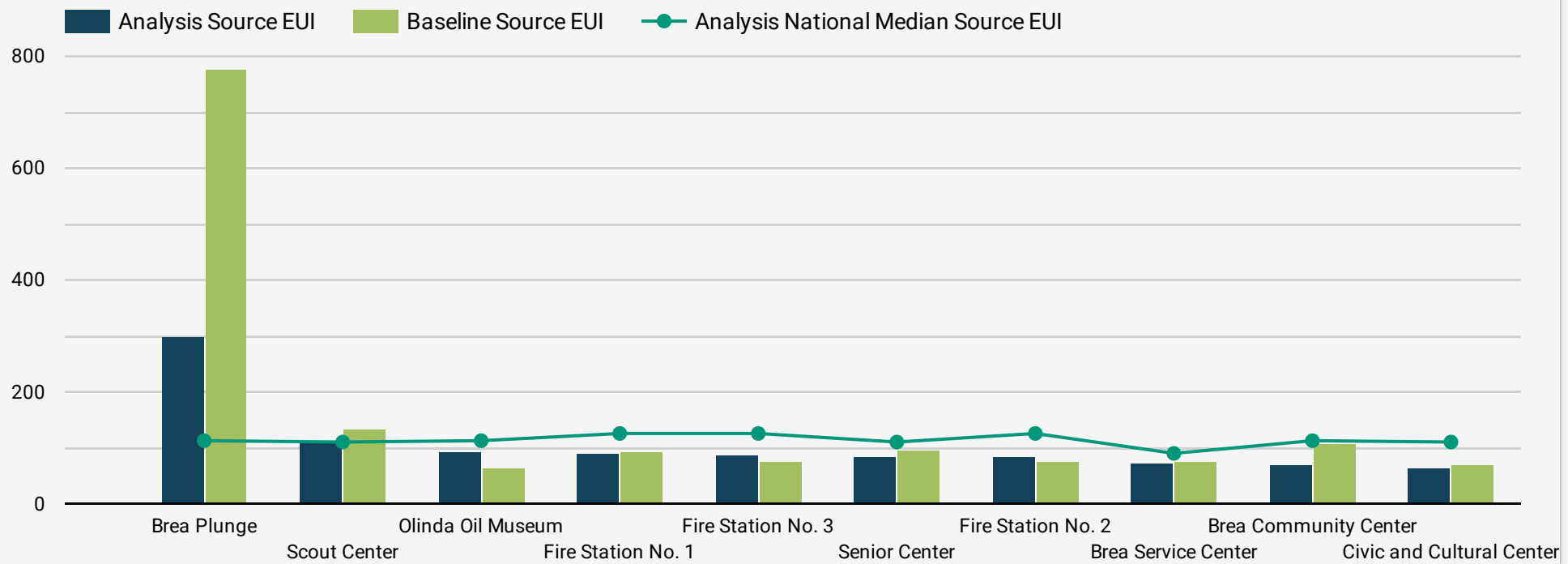
# Agency Buildings (Cont'd)

Building Summary						
	Site Name	Address	Disadvantaged Community	Gas Consumption (therms)	Gas Cost (\$)	Gas Rate (\$/therm)
1.	CIVIC CENTER	1 CIVIC CENTER CIR BREA	no	13.4K	\$10.54K	\$0.78
2.	COMMUNITY CENTER	695 MADISON AVE BREA	no	6.2K	\$5.64K	\$0.91
3.	PUBLIC WORKS SERVICE CENTER	545 N BERRY ST BREA	no	3.1K	\$2.93K	\$0.95
4.	SENIOR CENTER	500 SIEVERS AVE BREA	no	2.2K	\$2.31K	\$1.06
5.	FIRE STATION #2	200 N BREA BLVD BREA	no	1.8K	\$2.07K	\$1.13
6.	BREA PLUNGE	440 S WALNUT AVE BREA	no	1.2K	\$1.38K	\$1.13
7.	FIRE STATION #3	2600 E SANTA FE RD BREA	no	1.1K	\$1.34K	\$1.22
8.	FIRE STATION #1	555 N BERRY ST BREA	no	628	\$839.43	\$1.34
9.	FIRE STATION #4	198 OLINDA PL BREA	no	279	\$473.41	\$1.7
10.	HISTORICAL SOCIETY	475 S BREA BLVD BREA	no	253	\$452.11	\$1.79
11.	PIONEER HALL	304 W ELM ST BREA	no	182	\$372.7	\$2.05

Annual Energy Consumption Comparison						
	Site Name	Address	Gas Consumption (therms)	% Δ	MMBTU ▾	% Δ
1.	CIVIC CENTER	1 CIVIC CENTER CIR BREA	13.4K	-13.2% ↓	1.3K	-13.2% ↓
2.	COMMUNITY CENTER	695 MADISON AVE BREA	6.2K	-10.8% ↓	620.3	-10.8% ↓
3.	PUBLIC WORKS SERVICE CENTER	545 N BERRY ST BREA	3.1K	-25.2% ↓	308	-25.2% ↓
4.	SENIOR CENTER	500 SIEVERS AVE BREA	2.2K	-17.6% ↓	218.6	-17.6% ↓
5.	FIRE STATION #2	200 N BREA BLVD BREA	1.8K	11.3% ↑	182.9	11.3% ↑
6.	BREA PLUNGE	440 S WALNUT AVE BREA	1.2K	-83.1% ↓	122.2	-83.1% ↓
7.	FIRE STATION #3	2600 E SANTA FE RD BREA	1.1K	-8.9% ↓	109.9	-8.9% ↓
8.	FIRE STATION #1	555 N BERRY ST BREA	628	9.8% ↑	62.8	9.8% ↑
9.	FIRE STATION #4	198 OLINDA PL BREA	279	88.5% ↑	27.9	88.5% ↑
10.	HISTORICAL SOCIETY	475 S BREA BLVD BREA	253	65.4% ↑	25.3	65.4% ↑
11.	PIONEER HALL	304 W ELM ST BREA	182	-13.7% ↓	18.2	-13.7% ↓



**Top 10 Source EUI Properties**



**Portfolio Average Source EUI**

Change in Average Source EUI

**-38**

Analysis Source EUI

**79**

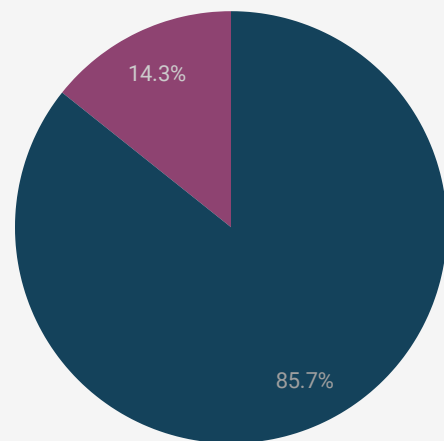
Baseline Average Source EUI

**118**

Properties Included:

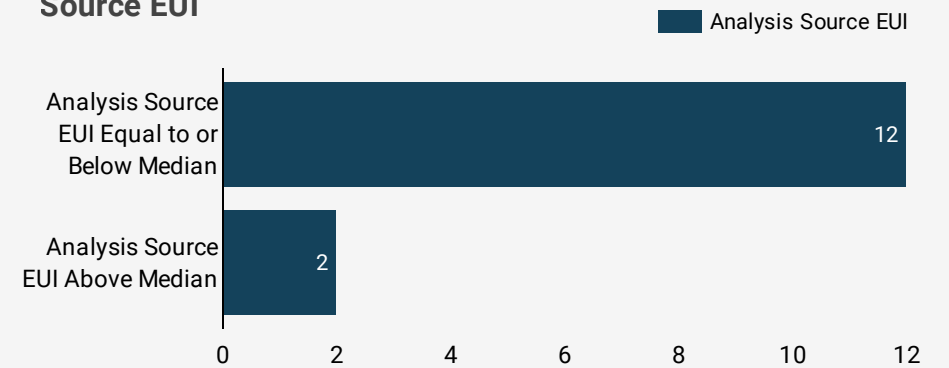
**14**

**Share of Properties Above/Below National Median Source EUI**



- Analysis Source EUI Equal to or Below Median
- Analysis Source EUI Above Median

**Number of Properties Above/Below National Median Source EUI**



\* Please note that data in this section comes directly from Energy Star Portfolio Manager and may therefore vary from data reflected elsewhere in the report.

## Data Sources

- Building information, energy usage and cost data used in this analysis were derived from: ENERGY STAR Portfolio Manager®, and utility consumption billing data provided by agency staff.
- Utility consumption billing data used in this analysis were derived from SCG gas tariffs.
- For more information about the utility tariffs included in this analysis refer to:  
SCG Gas Tariffs : <https://www.socalgas.com/regulatory/tariffs/tariffs-rates.shtml>
- Analysis period for electricity and gas results were based on usage during period December 1, 2019 - November 30, 2020.
- 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<sup>[1,2]</sup>.

## 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 MMBTUs.
- The following agency assets are included in the Total Energy Portfolio:  
Buildings

## Agency Buildings

- Building summary data includes the following metrics for the top ten highest energy-consuming agency buildings (total annual energy costs): annual energy costs and annual energy consumption (therms).
- Annual comparison data includes the following metrics for the agency buildings with the greatest change (absolute value) in annual energy consumption (MMBTU) from baseline period to analysis period: annual energy costs, annual energy consumption (kWh and therms).
- Baseline period for gas results were based on usage during December 2018 - November 2019.
- Analysis period for gas results were based on usage during December 2019 - November 2020.

## Energy Star Portfolio Manager® - Energy Use Intensity

- Data is derived from Energy Star Portfolio Manager®
- Data includes kBtu/ft<sup>2</sup> for the top 10 highest Source Energy Use Intensity (EUI) facilities for the analysis year
- Source EUI refers to the total amount of fuel required to operate the property divided by the property square footage, including energy losses that take place during generation, transmission, and distribution.
- Baseline period for source EUI results were based on usage during August 2018 - September 2019.
- Analysis period for source EUI results were based on usage during August 2019 - September 2020.

## End Notes

[1] Corporate Responsibility Report. (2015). In Southern California Edison. Retrieved from [https://www.sce.com/wps/wcm/connect/c0fceef5-e04a-4287-8301-8e66e3e5fbac/2014\\_Corporate+Responsibility+Report\\_FINAL+single-page.pdf?MOD=AJPERES&ContentCache=NONE](https://www.sce.com/wps/wcm/connect/c0fceef5-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.