WESTSIDE Energy Partnership

Culver City

Energy Action Plan

October 2016

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Executive Summary

The City of Culver City (City) has created this Energy Action Plan (EAP) to recognize the important role energy efficiency plays in achieving the City's sustainability objectives, to acknowledge the success of past projects and programs, and to provide guidance for the future. Implementing projects that reduce municipal energy use will not only reduce costs, it will act as a catalyst for sustainability and help the City achieve its greenhouse gas emission (GHG) reduction targets. The EAP is a model for the community and influences others to adopt similar measures.

SECTION 1 – INTRODUCTION

The purpose of this EAP is to establish energy savings goals for the City's municipal operations as well as outline the steps necessary to achieve them. Reaching these goals will allow the City to reduce the fiscal and environmental impacts associated with its energy use, meet its GHG emission reduction targets, and serve as a model for the community.

1.1 History of Energy Planning in the City of Culver City

While this document is the City's first EAP, the City has been committed to energy efficiency for several years. In 2007, the City signed onto the U.S. Mayors Climate Protection Agreement, which outlined the goal of meeting or exceeding Kyoto Protocol targets to reduce global warming through energy efficiency. The City is currently in the process of implementing a Sustainable Business Certification Program and is preparing a Sustainable City Plan that includes creation of a GHG Inventory and resulting Climate Action Plan. The City participates in the Green Communities Challenge, Southern California Edison's (SCE) Energy Leader Partnership Program, The Westside Energy Partnership, and Energize the Westside programs, all of which emphasize improving energy efficiency.

The City has not only made commitments to increasing energy efficiency and reducing GHG emissions, but it has also taken concrete steps to achieve these objectives. Since 2012, the City has completed energy efficiency projects that have reduced its electricity use by a total of 1,541,140 kWh annually. Examples of recently completed projects include:

Completed Projects as of November 2016:

Name	Description	Energy Savings (kWh/year)	Completion
Braddock Pump Station	Upgrading 3 submersible pumps and variable speed drivers	150,000	2011
Cardiff Parking Structure	Upgrading and retrofitting lighting	Insert	???
Culver City Hall Parking Structure	Upgrading and retrofitting lighting	172,000	2012
Watseka Parking Structure	Upgrading and retrofitting lighting	138,000	2012
Culver City Plunge Pool VFD	Installing variable frequency device to help control the pool motor by varying frequency and voltage supplied	122,000	2014
Direct Install	SCE program providing no-cost energy efficient retrofits	451,000	2014
Senior Center	Combination of lighting and HVAC upgrades for the Senior community center and Energy Management System installation.	46,000	2015
Veterans Memorial	Combination of lighting and HVAC upgrades for the Veterans Memorial community center and Energy Management System installation.	27,000	2016
Police Station	Combination of lighting and HVAC upgrades and Energy Management System installation.	151,000	2016
Transportation Building	Combination lighting retrofit and HVAC upgrades and Energy Management System installation.	98,000	2016
City Hall	Combination of lighting and HVAC upgrades and Energy Management System installation.	205,000	2016

The City is also a leader in encouraging the use of renewable energy sources. The City has a long-held tradition of using compressed natural gas (CNG) technology to run its City vehicles. The City's fleet of 46 transit buses was ranked the second best green fleet in North America for 2008 and 2009 and it was the second mass transit fleet in California and the first within the South Coast Air Quality Management District (SCQMD) to operate 100% on CNG fuel.

Overall, the City's fleet of 650 vehicles and equipment also includes 41 CNG powered refuse collection trucks, heavy-duty public works trucks, parks vehicles and various passenger cars. There are aggressive plans to replace all diesel-fueled and other vehicles with CNG when available and the City is currently exploring use of Renewable

Natural Gas (RNG), which is methane obtained from biomass that has been upgraded to a quality similar to CNG.

In 2015, the City was recognized at GFX as an "Elite Fleet," an award presented to former No. 1 fleets that is awarded by Government Fleet magazine that continue to perform at a high level. Since the inception of this program, only four municipal fleets have been named an Elite fleet and it recognizes outstanding contributions and leadership, particularly in the advancement of accountability, efficiencies, and advanced technologies while maintaining high operational standards and consistent sustainability practices.

1.2 Other Agency Goals

In 2006, the California State Legislature adopted AB 32 (the California Global Warming Solutions Act of 2006), which charged the California Air Resources Board with developing regulations aimed at reducing the state's GHG emissions to 1990 levels by the year 2020.

SECTION 2 –ENERGY USE

2.1 Baseline Municipal Energy Use

SCE provides the City with their baseline energy usage for municipal facilities. The baseline energy use for the City's facilities for 2006 is 9,179,822 kWh.

2.2 Street Lighting

The City continuously looks for opportunities to reduce its energy use. For example, in 2012, the City replaced 625 light fixtures on arterial streets with energy efficient induction lights. There are approximately 3,600 total streetlights in the City. A current project now underway will retrofit a total of 1,491 additional streetlights in the City with new energy efficient light fixtures that will be completed by the end of 2016.

2.3 Highest Facility Users

Of the City's top ten highest energy using facilities, the three highest are: City Hall, Transportation, and the Veterans Memorial Complex. Accordingly, the City plans to continue to focus on these facilities, especially City Hall where multiple projects have been completed already.

Highest Annual Electricity Use			
Facility Name	Address	Annual Usage (kWh)	Annual SCE Cost ($)
City Hall	9770 Culver Blvd	1,672,736	$260,196.40
Transportation	4343 Duquesne Ave	1,535,348	$246,915.77
Veterans Memorial Park	4117 Overland Ave	1,156,092	$168,074.00
Police Station	4040 Duquesne Ave	1,101,983	$136,795.23
Ince Parking	9099 Washington Blvd	511,673	$118,341.55
Senior Center	4095 Overland Ave	382,755	$70,273.81
Public Services Building /Maintenance Yard	9505 Jefferson Blvd	289,327	$65,224.58
Fire Station	9600 Culver Blvd	234,978	$45,223.57
Culver City Park	9690 Jefferson Blvd	229,579	$40,730.00
Cardiff Parking	3846 Cardiff Ave	186,039	$34,741.56

2.3 Current Energy Programs

The City is enrolled in The Westside Energy Partnership and The Energy Network to help identify energy efficiency opportunities in City facilities, track projects, discover funding options, and maximize the City's incentives and rebates received from SCE and the Southern California Gas Company (SCG). The Westside Energy Partnership (Partnership) currently includes both utilities, the City, and The Energy Coalition as their facilitating partner however, other Westside cities are currently considering joining the Partnership. The Partnership's mission is to build positive relationships among neighboring cities, energy consumers, and their utility providers, and to inform communities about sustainable and energy efficient practices.

The City participates in SCE's Demand Response program at City Hall and is currently evaluating inclusion of additional facilities in the program. Installation of the City's new Energy Management System that uses the City's network to communicate with five

different facilities includes programming to automatically respond to SCE's Demand Response events. The City also uses a variety of technologies that reduce energy use such as motion detectors on HVAC and lighting systems, programming its Energy Management Systems to minimize the use of electricity, automatically shutting off computers and lights at night and when they are not in use for extended periods. The City educates its staff and the community about energy efficiency and alternative sources of energy in conjunction with the Partnership.

The City has several additional programs that encourage energy efficiency in the community. On November 27, 2006 the City Council established a City Council Sustainability Subcommittee and in 2008, the City passed a first of its kind mandatory solar photovoltaic panel installation requirement for commercial and multi-family construction projects. In 2009, the City approved a mandatory Green Building Ordinance that includes a list of prescriptive requirements for smaller projects and Leadership in Energy and Environmental Design (LEED) certified requirements for larger projects.

In 2015, the City participated in the Home Upgrade rebate program implemented by The Energy Network, which allowed homeowners to bundle several energy efficiency improvements to maximize their savings and rebates.

The City has enrolled in the California Climate Registry, receiving its Cool Planet Award in 2016 and enrolled in the Beacon Award Recognition Program, receiving its Gold Level Beacon Spotlight Award in 2016 for reducing energy use by 17%. Both programs track the City's progress towards reducing their GHG emissions, which allows participants to be recognized for the measures they take, both voluntary and regulatory.

SECTION 3 – TARGET REDUCTION GOALS

The City's energy efficiency goals will help the City meet the targets identified in the U.S. Mayors Climate Protection Agreement and AB 32. The specific goals that the City has identified are to reduce the City's municipal energy use by:

- 5% (when compared to a 2006 baseline) by 2012 - Met
- 10% by 2013 - Met
- 20% by 2017 – Now underway.

According to SCE, the City's 2006 municipal electricity baseline is 9,179,822 kWh. A 5% reduction is 458,991 kWh, a 10% reduction is 917,982 kWh, and a 20% reduction is 1,835,964 kWh.

SECTION 4 –NEXT STEPS

The City's Public Works Department (PW) is responsible for implementing this EAP.

4.1 Municipal Facility Energy Efficiency Projects

The City has already reduced its electricity use by approximately 1,541,140 kWh/year as noted in Section 1.1 of this EAP. In late 2016, the City will have completed several more projects listed below to reach its goal of 20% savings by 2017. These projects include:

Name	Description	Approx. Energy Savings (kWh/year)	Expected Completion
Ince Parking Structure	Upgrading and retrofitting lighting	164,273	2017
Culver City Streetlights	Replacing street lighting within the City	904,000	2016
Phase 2 Streetlights	Replacing street lighting within the City	14,000	2016
Total Pipeline		**1,512,000**	

4.2 Funding of Projects

Through the City's participation in the Partnership, they have enrolled in the SCE's Energy Leader Partnership program. The Partnership allows the City to work with SCE and The Energy Coalition to apply for all available incentives and rebates to complete energy efficiency projects. The City is currently at a level of "Gold" status and as the City achieves additional municipal energy savings, it will earn enhanced incentives by completing future projects and eventually achieving Platinum status in 2017. These rebates and incentives encourage the City to complete its energy efficiency projects.

As outlined in the list above, the City anticipates funding current energy efficiency projects from a variety of sources including SCE's On-Bill Financing program (a no interest loan paid off with the energy savings a project generates), grants, the City's

Sewer Enterprise Fund, Gasoline tax revenues and the City's General Fund. With assistance from the Partnership, the City will evaluate opportunities and identify funding sources to complete future energy efficiency projects.

4.3 Policies & Programs

The City has a number of policies that will assist it in reducing its municipal energy use. The City signed onto the U.S. Mayors Climate Protection Agreement, the Green Communities Challenge. The Partnership has helped to set and achieve the City's energy efficiency and GHG emission reduction targets. The City has implemented regulations such as the Solar and Green Building Ordinances that result in energy savings and clean energy production in new developments.

4.4 Tracking

PW will measure reductions in energy use through a close collaboration with SCE and SCG. Quarterly, the Partnership provides the City energy savings updates from SCE that outline their anticipated energy use reduction when compared to the 2006 baseline and calculates savings realized from the City's energy efficiency projects. Annually, PW receives energy use data by facility and service account from SCE and SCG. By comparing that data over time, PW is able to track the energy savings realized through implementation of this EAP. The annual report provides guidance by identifying where energy savings are lagging and where more efforts should be targeted. The City will explore use of software programs such as its new Energy Management System software and the Environmental Protection Agency's Energy Star Portfolio Manager to further assist with tracking and benchmarking the City's ongoing energy use.

4.5 Implementation of SCE's Energy Leader Partnership Model

This EAP will be considered fully "implemented" when Platinum Level criteria of SCE's Energy Leader Model is archived. To achieve Platinum level, the City will pursue the following actions:

1. Complete additional municipal energy efficiency projects counting towards its 20% reduction goal.
2. Identify a dedicated source of funding to complete future energy efficiency projects.
3. Integrate energy efficiency measures into other relevant policy and regulatory documents, as necessary.

Currently, the City has completed 1,154,000 kWh of energy efficiency projects and identified 1,705,000 kWh in additional projects now in the pipeline that will achieve its 20% reduction in energy use as summarized below:

% Reduction Goal	kWh Goal	**Status: Baseline:** 9,179,822 kWh **Completed:** 1,154,140 kWh **Pipeline:** 1,704,666 kWh
5%	458,991	Met 5% goal
10%	917,982	Met 10% goal
20%	1,835,964	294,824 kWh still needed; (the projects now in the pipeline are adequate to meet the 20% reduction objective.)

The City has met the 5% and 10% energy savings targets and will complete additional projects that exceed the 20% target in conjunction with The Energy Coalition by 2017.

The identification of additional energy efficiency projects and associated funding will be accomplished by working with SCE and SCG to perform additional energy audits of the City's facilities, street lighting, parks, and sewage pumping facilities. Maintenance schedules will also be evaluated to identify energy efficient procurement and installation opportunities for when existing equipment requires replacement or upgrading.

These combined strategies will be evaluated and tracked to exceed the City's 20% reduction target in the future. The EAP will be updated, as necessary, to reflect the City's progress towards meeting its objectives and to reflect the addition of new energy efficiency projects as they materialize.

SECTION 5 – CONCLUSIONS

This EAP identifies goals to achieve targeted energy savings and the actions necessary to achieve them. While the City has a history of understanding the importance of energy efficiency, this is the City's first EAP. By presenting the energy savings goals and outlining the steps necessary to achieve them, this EAP helps the City move forward and track its successes to become more energy efficient over time. Implementation of this EAP will reduce City energy costs, improve the environment, contribute towards reaching the City's GHG emission reduction targets, and serve as a model for the community to emulate.