



A G E N D A
CITY OF CARSON
REGULAR MEETING OF THE ENVIRONMENTAL COMMISSION

701 East Carson Street, Carson, CA 90745
EXECUTIVE CONFERENCE ROOM, 2ND FLOOR

Wednesday, December 4, 2013

6:30 p.m.

1. CALL TO ORDER:

2. PLEDGE OF ALLEGIANCE:

3. ROLL CALL:

Environmental Commissioners:
Burr, Hellerud, Hopson, Jimenez, Love,
Mack, Muckey, Perry, Taylor

4. AGENDA POSTING CERTIFICATION:

In accordance with the Americans with Disabilities Act of 1990, if you require a disability related modification or accommodation to attend or participate in this meeting, including auxiliary aids or services, please call the City Clerk's office at 310-952-1720 at least 48 hours prior to the meeting. (Government Code Section 54954.2)

5. AGENDA APPROVAL:

6. ORAL COMMUNICATIONS:

For items **NOT** on the agenda.
Speakers are limited to three minutes.

7. MINUTES APPROVAL:

a. November 6, 2013

8. UNFINISHED BUSINESS

a. South Bay Cities Council of Governments Environmental Services Presentation

9. NEW BUSINESS

- a. Carson Revolving Energy Fund
- b. Carson Energy Action Plan

10. WRITTEN COMMUNICATIONS

a. HEAL Survey

11. ORAL COMMUNICATIONS

- a. Audience
- b. Commissioners
- c. Staff
 - i. Stipend Forms
 - ii. Next meeting January 6, 2014
 - iii. HOA Presentation Project
 - iv. Possible January West Basin Presentation
 - v. Logo Discussions

12. ADJOURNMENT

Upcoming Meetings: January 6, February 5, March 5, April 2, May 7

CITY OF CARSON

STAFF COMMUNICATION TO THE ENVIRONMENTAL COMMISSION

UNFINISHED BUSINESS

December 4, 2013

SUBJECT: South Bay Cities Council of Governments Environmental Services Center Presentation, Possible Carson Projects

REQUEST: Discuss ways the Commission would prefer to engage with the South Bay Cities Council of Governments Environmental Services Center.

I. Introduction

On November 6, 2013, Marilyn Lyon, the representative from the South Bay Cities Council of Governments Environmental Services Center (Center) presented the programs that the Center provides to all cities within the south bay. The Commission was interested in finding ways to promote these programs in Carson. Staff and Environmental Services Center staff have discussed a few ways to involve the Commission with the efforts of the Center directly dealing with Carson. Center staff will be available at the meeting to further discuss these issues.

II. Background/Analysis

The Commission can be more involved with the Center in the following ways:

1. Commissioners can become official volunteers if they so desire;
2. Commissioners can develop an energy and water efficiency education module for Carson which can be used as a model throughout the south bay;
3. The Commission expressed an interest in attending a community meeting such as an HOA meeting to present the programs offered by the Center. In addition, other community meetings could be arranged through churches or schools.

Recommendation

Discuss ways the Commission would prefer to engage with the South Bay Cities Council of Governments Environmental Services Center.

III. Exhibits

None

Prepared by:

Saied Naaseh, Associate Planner

CITY OF CARSON

**STAFF COMMUNICATION TO
THE ENVIRONMENTAL COMMISSION**

NEW BUSINESS

December 4, 2013

SUBJECT: Carson Energy Revolving Fund

**REQUEST: Recommend approval of the Carson Energy Revolving Fund to
the City Council**

I. Introduction

For the past few years, the City of Carson has been implementing energy conservation projects to reduce energy consumption and greenhouse gas emissions. Some recent projects include placing solar energy panels for the Congresswoman Juanita Millendar-McDonald Community Center and changing the light bulbs in the corporate yard. Substantial savings have been realized from these projects. These projects have reduced the burden on the City's General fund.

II. Background/Analysis

The Revolving Energy Fund (Fund) is a tool that can be used to channel all savings and incentives from the Southern California Edison's (SCE) Energy Leader Partnership (ELP) to ensure that all these funds can be used for future energy retrofits. The following provides a summary of the components of the program:

- Any available funds as authorized by the City Council will be used as seed money for the Fund;
- Fund grows overtime through utility incentives and savings:
 - The incentives are based on the kWh saved and the City's ELP level; and
 - The savings are based on kWh saved multiplied by the utility rate at any given time;
- Funds can only be used for energy retrofit projects or new energy projects with preference given to retrofit projects;
- The savings and rebate from projects are returned to the Fund for 10 years;
- List of projects are approved by City Council; and
- Priority will be given to projects with the lowest payback period. All projects must have at least a 10 year payback period to qualify for the program.

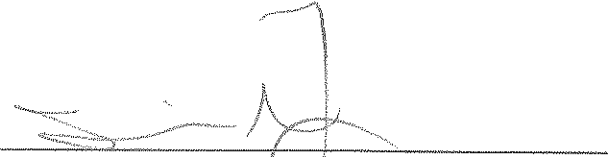
Recommendation

Recommend adoption of the Carson Energy Revolving Fund to the City Council.

III. Exhibits

1. Carson Energy Revolving Fund

Prepared by: _____



Saied Naaseh, Associate Planner

Carson Revolving Energy Fund

Quick-Start Reference Guide

The purpose of the Fund is to help the City make energy efficiency and renewable energy improvements to the City facilities. Even though such improvements save money and make good sense financially, the upfront cost can be an obstacle. The Fund was developed to help pay for projects when other sources of funding are limited or are not available. The Carson Revolving Energy Fund (Fund) can pay for up to 100% of the project cost.

The City's Administrative Services Department administers the Fund with oversight from the Energy Efficiency Committee (Committee) that includes representatives from the City Manager's Office, Community Development, Public Works, Administrative Services, and Community Services Departments. New funding for the Fund comes from utility rebates, utility savings, and similar incentives the City receives. The Fund "revolves" in the sense that the savings and incentives from one project are used to fund another and another. In this way, a relatively small seed can sprout into bigger budget savings for the City.

Only projects included in the Energy Action Plan (EAP), as approved by the City Council, are prioritized for funding based on their rate of return. Projects could include anything from a simple lighting study to a thorough building energy audit as well as any project that saves energy and/or reduces greenhouse gas (GHG) emissions.

Fund Administrator: Administrative Services Department
TBD
(310) 952-1700

Carson Revolving Energy Fund

Policy and Procedures Guide

1. Executive Summary

The City of Carson, through the South Bay Cities Council of Governments, is in the process of preparing a Climate Action Plan (CAP) which will set GHG emissions reduction targets for the City. This target will at least be set at the minimum of 15% reduction compared to 2005 levels as recommended by AB32. However, the City's Environmental Commission has proposed adopting a more aggressive reduction target of 25%; however, the City Council has not adopted this target. Without the benefit of an adopted CAP, the City would like to take a proactive role in reducing energy consumption and GHG emissions in municipal facilities.

Like most municipalities, energy infrastructure improvements have traditionally been identified and implemented as part of other capital projects or embedded in the Capital Improvement Plan (CIP). This piecemeal approach does not support implementation of an ongoing energy efficiency program that identifies cost-effective projects, financial incentives, funding opportunities, tracking completed projects' energy savings, and incentivizes City staff to reduce energy consumption. The Fund addresses these shortcomings by providing an organized program for investing in energy-saving, cost-effective improvements to buildings, facilities, street lighting, utility systems, HVAC systems, renewable energy systems, energy audits and measurement of savings.

2. Purpose of Revolving Fund

The Fund is intended to pay for energy efficiency (primarily) and renewable energy (secondarily) improvements to City facilities. The primary goals are to:

- a) Help the City reduce costs through energy savings;
- b) Help the City meet its energy and greenhouse gas emission reduction goals;
- c) Provide leadership that can be followed by other local governments, the private sector, and the broader community of Carson;
- d) Provide the public with safer and more comfortable public facilities; and
- e) Channel all utility savings from projects, all rebates, and incentives to the Fund.

The Fund will be self-sustaining after the initial investment of seed capital and will provide the City with an attractive return on that investment.

3. Administrator

The Administrative Services Department will serve as the Administrator of the Fund, responsible for reviewing, processing, and administering the Fund. Outstanding funds will be monitored and payments tracked.

4. Energy Efficiency Committee

The Committee will be composed of representatives from the City Manager's Office, Community Development, Public Works, Administrative Services, and Community Services Departments. The Committee will meet as often as it deems necessary to review the operations of the Fund, status of current projects, addition of new projects, provide technical

direction to the Administrator, and address other matters that the Committee deems appropriate.

5. Eligible Projects

All project financed through the Fund must be included on the adopted Energy Action Plan project list approved by the City Council.

A. Eligible measures that can be funded include:

- 1) Mechanical systems and controls, such as HVAC systems and their components.
- 2) Plumbing systems and controls, such as hot water systems and their components.
- 3) Electrical systems and controls, such as lighting systems and their components.
- 4) Building envelope systems, such as doors, windows, and skylights.
- 5) Energy management and control systems.
- 6) Renewable energy systems such as wind, solar, geothermal, and biomass.
- 7) Design and planning of the energy efficiency project.
- 8) Labor necessary for the construction or installation of the energy efficiency project.
- 9) Warranties.
- 10) Energy audits that can identify viable energy efficiency projects.
- 11) Sub-meters and installation costs necessary to accurately track a project's energy savings.
- 12) Commissioning, inspections or certifications necessary as part of implementing the energy efficiency project.
- 13) Training of operations and maintenance staff to provide the knowledge necessary to maintain persistent energy savings once the project is installed.
- 14) The costs of a construction or renovation project that are directly related to or required by energy efficiency or renewable energy improvements. For instance, if structural roof improvements are needed to support the added weight of a solar system, the roof improvements can be an eligible measure. Note that the roof improvements themselves would not generate a payback; if the roof improvements were too expensive, the project would not meet the Fund's 10-year payback requirement.
- 15) For new construction, the Fund may cover the incremental cost of upgrading beyond the minimum energy requirements of the Municipal Building Code.
- 16) Other improvements that result in proven and predictable energy savings, as approved by the Committee.

B. Costs that are generally not eligible for funding include:

- 1) The costs of a construction or renovation project that are NOT directly related to or required by energy efficiency or renewable energy improvements.
- 2) Costs incurred for the acquisition of additional financing for the project.

- 3) No funding may exceed the final cost incurred by the project.

C. Project requirements include:

- 1) **Payback Period.** The estimated simple payback period must be 10 years or less, based on the project cost paid for by the Fund. Individual measures may have a payback longer than 10 years as long as the payback for the entire project is 10 years or less.

In order to avoid unnecessary complication, utility cost escalation and general inflation will not be included when estimating the simple payback period. Projects will be prioritized in part by their estimated payback period, with shorter paybacks preferred over longer paybacks.

- 2) **Rebates and Other Incentives.** Rebates, grants, carbon credits, and other incentives are treated as contributions to help grow the Fund and not as repayment. The incentives will not be factored into the payback period. An exception may be appropriate if, for example, the project is not financially viable without the incentive or if the project would not otherwise meet the 10-year minimum payback.
- 3) **Partial Funding.** The Fund will normally pay for the full upfront cost of the project. However, the City may choose to pay some of the project costs from other sources. This may be appropriate if the City already has partial funding for the project, or if the payback to the Fund based on having the Fund pay for the full cost of the project, exceeds the 10-year requirement.

6. Requirements for Reporting

Each department responsible for a facility or equipment financed by the Fund (Responsible Department) is required to file progress reports:

- 1) **Progress Reports by Responsible Department to Administrator.** The Responsible Department will notify the Administrator as soon as the project has been completed. If the project takes more than 90 days to complete after the Notice to Proceed has been issued by the Fund, the Responsible Department will provide a brief Progress Report every 90 days. The Report will include a short summary of the progress toward completing the project, an updated estimate of the project completion date, and any notable problems or changes in the project since approval, such as construction delays or cost overruns. If a Responsible Department fails to submit this Progress Report as required, or if the project stalls, the Committee may at its discretion freeze or rescind the remainder of the funding.
- 2) **Annual Project Report by Responsible Department to Administrator.** After funds have been completely disbursed, the Responsible Department will provide to the Administrator annual reports using the Annual Project Report Form in the Appendix. The report will be due on January 15 of each year until the Fund has been repaid in full. The purpose of the annual reports is to learn from the Department's experience with various measures and technologies, and to inform City Council and the City Manager's Office of the Fund's performance. The annual report will include the following:
 - A short qualitative description of the performance of the measures included in the energy efficiency project
 - A summary of any notable problems that have occurred with the project

- A brief description of any notable changes to the facility or to its operations that would cause a noticeable change in its energy consumption
- 3) **Annual Fund Report by Administrator to City Council.** Administrator will compile the annual reports from all the funded projects and deliver a summary report on the Fund's performance for review by the Committee and delivery to City Council. The report will be due on March 1 of each year, and shall present the information shown in the Annual Fund Report form in the Appendix.
 - 4) **Ongoing Utility Bill Data.** Administrator will be responsible for entering the ongoing utility bill data into U.S. EPA's Portfolio Manager tool, available at no cost, in order to quantify the project's energy savings.
 - 5) **Annual Project Utility Bill Savings Report.** The Administrator will be responsible to calculate annual utility savings for each project. These savings shall be deposited into the Fund. The savings are calculated by the kWh savings per year multiplied by the average utility rate for the preceding months for the previous year. The savings, rebates, and incentives shall be deposited into the Fund for a 10 year period following the time the savings initiated following the completion of the project. The Administrator shall compile the savings, rebates, and incentives into a report for review by the Committee and delivery to the City Council. The report will be due on March 1 of each year.

7. Funding Terms

A. Funding Amount:

The amount that can be funded is \$5,000 minimum and \$250,000 maximum, subject to the following considerations.

The Fund is just one of many options available for funding projects. In fact, if other funding is available from other sources, the City's preference is to reserve the Fund for projects that would otherwise not move forward.

Large projects in particular are best funded with third-party financing, for two reasons. First, it will take time for the Fund to grow large enough to pay for a big project. Second, the project scoring criteria gives preference to projects that can be funded sooner rather than later, resulting in further delay as smaller projects take priority. Large projects open the door to a number of third-party financing options, including capital leases, utility on-bill financing, commercial PACE programs, federal and state loan programs and grants, and performance contractors. Financing for large projects can typically be structured so that the energy savings equal or exceed the finance payments, so there really is no reason to delay these projects.

Whatever the project size, Committee can help with identifying all the options.

B. Cost Sharing:

No cost sharing is required. The Fund can be used for up to 100% of the total project cost.

C. Payment Schedule:

The Administrator shall deposit the savings from utilities, incentives, and rebates into the Fund on a quarterly basis.

D. Progress Payments During Construction:

The Fund will provide progress payments if required by the agreement with the contractor. The Administrator will not authorize construction to begin until there is enough money in the Fund and/or other sources to pay for the full cost of the project.

8. Project Selection

The Committee may either use Project Scorecard to recommend adding projects to the project list or use it to prioritize projects already on the list, refer to attachment.

9. Capitalization

A. Rebates and Other Incentives:

Energy efficiency incentives received by the City will be used to capitalize the Fund. This includes incentives received for projects that are not paid for by the Fund.

B. Project Energy Savings:

The Administrator will be responsible to calculate annual utility savings for each project. These savings shall be deposited into the Fund. The savings are calculated by the kWh savings per year multiplied by the average utility rate for the preceding months for the previous year. The savings, rebates, and incentives shall be deposited into the Fund for a 10 year period following the time the savings initiated following the completion of the project.

10. Promotion

Committee will work with Responsible Departments to help identify viable projects, provide technical assistance and financing advice, and prepare project funding requests.

11. Accounting

An account will be established for the Fund. That account will accept revenue in the form of rebates paid by utilities for City energy efficiency projects, as well as energy cost savings realized by energy efficiency projects. The account will also enable expenditures in the form of payments to contractors and consultants for approved projects. Projected annual savings will be transferred to the energy efficiency fund at the beginning of each fiscal year. For the first partial year after the project is completed, a transfer to the Fund will be made reflecting the estimated energy cost savings for that partial year.

12. Track and Monitor Funding

The Administrator will be responsible for monitoring the performance of the projects by: reviewing Progress Reports submitted by Responsible Departments during project installation; entering utility bill data into EPA's no-cost Portfolio Manager tool on an ongoing basis after the project is completed; reviewing Responsible Department Annual Reports, and measuring the actual energy savings. The Administrator will summarize the performance of the projects and the Fund in an Annual Report to City Council.

Appendix C: Project Scorecard

To be filled out by the Fund Administrator. Is the request complete? Are all measures eligible?

Project Name:		
Scoring Questions	Points Earned	Points Possible
1. How soon can the project begin generating energy savings? How soon will there be sufficient money in the Fund to pay for the project? How quickly can the project be bid and constructed? a. Within 60 days..... 20 points b. Within 120 days..... 15 points c. Within 180 days..... 10 points d. More than 180 days..... 0 points		20
2. What is the estimated payback period? a. Within 2 years..... 20 points b. Within 4 years..... 15 points c. Within 6 years..... 10 points d. Within 10 years..... 0 points		20
3. How much of any incentives will be used to grow the fund? a. More than 60% of project cost..... 20 points b. More than 30% of project cost..... 15 points c. More than 5% of project cost..... 10 points d. 5% or less of project cost..... 0 points		20
4. How deep are the energy savings relative to other projects? a. Significantly bigger..... 10 points b. Roughly comparable..... 5 points c. Significantly smaller..... 0 points		10
5. How easily and accurately can savings be monitored? a. Very easily and accurately..... 5 points b. Somewhat easily and accurately... 3 points c. Not very easily and accurately..... 0 points		5
6. How visible is the project to City employees and the public? a. Very visible..... 5 points b. Somewhat visible..... 3 points c. Not very visible..... 0 points		5
7. Are there other pros or cons? Need to spread projects amongst all departments? Other? a. Significant pros on balance..... 20 points b. No significant pros or cons..... 10 points c. Significant cons on balance..... 0 points		20
TOTAL		100
Signature of Administrator _____	Printed Name _____	Date _____

CITY OF CARSON

STAFF COMMUNICATION TO THE ENVIRONMENTAL COMMISSION

NEW BUSINESS

December 4, 2013

SUBJECT: Carson Energy Action Plan

REQUEST: Recommend approval of the Carson Energy Action Plan to the City Council

I. Introduction

On November 6, 2013, staff provided a draft copy of the Energy Action Plan (EAP) to the Commission. Also on November 6, 2013, the City Council's agenda included an item to adopt the EAP. However, the City Council did not consider the EAP on that date and continued it to the December 3, 2013 meeting. This provides a chance for the Environmental Commission to take a formal action of the EAP.

II. Background/Analysis

The City has been participating on the Southern California Edison's (SCE) Energy Leader Partnership (ELP). This partnership has the following benefits:

- Reduces electricity use and bills for municipal facilities;
- Reduces greenhouse gas emissions;
- Provides technical assistance; and
- Provides additional tiered incentives for reducing electricity consumption:
 - Valued Partner: \$0.03/kWh
 - Valued Silver Level: \$0.06/kWh
 - Valued Gold Level: \$0.09/kWh
 - Valued Platinum Level: \$0.12/kWh

The City is currently at silver level. In order to upgrade to the gold level, the City needs to accomplish the following:

- Achieve additional reductions in electricity usage in municipal facilities through energy efficiency projects;
- Hold one community outreach event; and
- Adopt an EAP.

The City has completed or is in the process of completing additional projects to achieve the required electricity usage reductions. The requirement for a community outreach event will be met by holding the City Council hearing. The adoption of the EAP is the only other requirement for the City to elevate to the Gold Level.

Recommendation

Recommend adoption of the Carson Energy Action Plan to the City Council.

III. Exhibits

1. Draft City Council Report, December 3, 2013
2. Energy Action Plan, October 2013

Prepared by: _____

Saied Naaseh, Associate Planner



City of Carson Report to Mayor and City Council

December 3, 2013
New Business Discussion

SUBJECT: APPROVAL OF THE CITY OF CARSON'S "ENERGY ACTION PLAN" PER THE REQUIREMENTS OF SOUTHERN CALIFORNIA EDISON'S "ENERGY LEADERS PARTNERSHIP PROGRAM"

Submitted by Massoud Ghiam, P.E.
Acting Director of Public Works/City Engineer

Approved by Jacquelyn Acosta
Acting City Manager

I. SUMMARY

On June 4, 2013, City Council passed Resolution No. 13-052 (Exhibit No. 1), authorizing staff to participate in the Beacon Award Recognition Program. The resolution indicated that the City would undertake policies, programs and activities to reduce greenhouse gas emissions and save energy. It also indicated that the City was working on an Energy Action Plan (EAP) (Exhibit No. 2) that supports the Energy Leader Partnership (ELP) Program.

This plan demonstrates the City's commitment to pursue energy efficiency and reduce Green House Gas (GHG) emissions. The purpose of this EAP is to identify the City of Carson's long-term vision and commitment to achieve energy efficiency in the community and in municipal operations. The basis for Carson's energy efficiency efforts includes demonstrating leadership in implementing cost-effective energy efficiency improvements, minimizing costs associated with energy and utilities, and protecting limited energy and natural resources. This EAP shows the benefits that the City will realize from increased energy efficiency in government operations, and provides a foundation for more comprehensive community-wide efficiency strategies.

II. RECOMMENDATION

TAKE the following actions:

1. APPROVE the Energy Action Plan as a living document.
2. DIRECT City staff to proceed with implementation.

III. ALTERNATIVES

1. DO NOT APPROVE the EAP.
2. TAKE another action the City Council deems appropriate.

IV. BACKGROUND

Southern California Edison's (SCE) and the South Bay Council of Governments' (SBCCOG) ELP Program is a framework that offers enhanced rebates and incentives to cities that achieve measurable energy savings, reduce peak-time electricity demand, and plan for energy efficiency. Through the ELP Program, SCE provides support to local governments to identify and address energy efficiency opportunities in municipal facilities, take actions supporting the California Long Term Energy Efficiency Strategic Plan and increase community awareness and participation in demand side management opportunities. A key goal in SCE's local government partnerships is helping cities and counties lead by example in addressing energy efficiency, first in their own municipal facilities. In addition, the program strives to expand the policies and the energy management capacity at local governments to maintain a long term sustainability focus. In the South Bay, the SBCCOG is leading the implementation of the ELP Program with SCE at no cost to the City.

The ELP Program comprises four focus areas: (1) municipal retrofits, (2) demand response, (3) strategic plan support, and (4) energy efficiency program coordination. The ELP Program has four financial incentive tiers for participating cities: Valued Partner (\$0.03), Silver (\$0.06), Gold (\$0.09), and Platinum (\$0.12) per kWh saved above SCE's normal rebate amount. All cities participating in the ELP Program begin as a Valued Partner. To advance to the next incentive tier, each participating city must achieve the predetermined energy savings and requirements for city facilities and community-wide consumers (Exhibit No. 3).

The financial benefits to local governments increase as they ascend from level to level. The City of Carson is currently identified as a Silver level partner and to move to the Gold tier, the City needs to satisfy the following three requirements:

- Complete EAP
- Additional municipal savings from energy efficiency projects
- One community outreach event

The attached EAP is a stand-alone *living* document that meets multiple objectives of the City and Southern California Edison. It was created in partnership with the SBCCOG and SCE and it identifies municipal and community-wide strategies to achieve the City's longer-term electricity efficiency goals. Specifically, the objectives of this EAP are to: create a long-term vision for energy efficiency; provide and assess information related to energy use and greenhouse gas emissions; establish reduction targets for energy efficiency; identify goals, policies, and actions to achieve energy reductions; and provide a framework implementing the identified goals, policies, and actions.

The draft EAP was provided to the Environmental Commission (EC) for review on November 6, 2013. The EC will be reviewing the EAP at their meeting on December 4, 2013. Since this document is expected to change over time, the EC will refine, as needed, this document through future amendments, to assure that the City is able to implement best practices. Any changes proposed by the EC will be forwarded to the City Council for approval.

The City Council's approval of this EAP will satisfy one of the remaining requirements and move the City closer to being recognized as a Gold level partner. This is important because it will also allow the City to receive greater rebates and incentives. In addition, staff's presentation today about the ELP program satisfies the "community outreach event" criteria. The remaining criteria, "additional municipal savings from energy efficiency projects," will be completed through a series of projects, some of which are included in the City's "Request for Qualifications, Proposal to Provide Energy Efficiency Program, Solar Photovoltaic Power Generation Systems, and Financing Mechanism," that has recently been advertised.

V. FISCAL IMPACT

The EAP does not commit the City to spend money, but it does recommend that the City consider using energy bill savings and incentives to fund municipal retrofits and staff time to help with implementation and to carry out its policies as funding becomes available. Staff will rely on capital asset replacement funds allocated to each department for replacement of equipment and staff will also work with the SBCCOG and other regional partners to identify additional funding sources and grant opportunities.

VI. EXHIBITS

1. Resolution No. 13-052. (pgs. 5-6)
2. Energy Action Plan – October 2013. (pgs. 7-14)
3. Energy Leader Partnership Model 2013 – 2014. (pg. 15)

Prepared by: Reata Kulcsar, Senior Engineering Technician

Reviewed by:

City Clerk	City Treasurer
Administrative Services	Public Works
Community Development	Community Services

Action taken by City Council

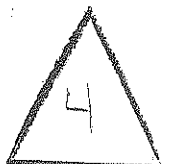
Date _____ Action _____



City of Carson Energy Action Plan

October 2013

EXHIBIT NO. 01



Long Term Vision

The City of Carson is committed to reducing its energy consumption and greenhouse gas (GHG) emissions in both its municipal operations and throughout the community. The following plan was developed to help the City in this effort by establishing a baseline, forecasting possible targets, and identifying strategies that reduce GHG emissions from electricity and natural gas. Electricity and natural gas consumption are the focus of this plan because they are responsible for approximately 87% of the City's community-wide emissions. Concurrently, Carson is developing a Climate Action Plan of which this report will be a major component. It is anticipated that the strategies in this report will be enhanced in the final Climate Action Plan providing a more robust approach to reducing electricity and natural gas consumption.

Goals and Objectives

The City's goal is to implement cost-effective energy efficiency measures to lower energy costs for its residents and businesses and reduce municipal and community GHG emissions from electricity and natural gas sources for the City. Carson is working towards its goal by implementing both large and small scale energy-efficiency projects. The City has made significant upgrades to lighting at the Corporate Yard, and incremental improvements to community pools. Additionally, improvements at several parks are in the planning stages.

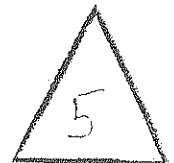
Carson will outline its energy reduction strategies and objectives for 2020 in its forthcoming Climate Action Plan. The Energy Action Plan has two near-term goals: (1) reducing electricity consumption below 2006 levels, consistent with the tiers of the Energy Leader Partnership (ELP) Program; and (2) reducing natural gas energy consumption wherever energy savings can be identified through energy audits.

Municipal Baseline Energy Use

According to the ELP Program Tier Level report for the City of Carson, the 2006 municipal baseline energy use was 7,151,279 kilowatt hour (kWh). Through energy efficiency projects, the City has reduced its municipal energy consumption by 530,938 kWh, or 7.4% below its 2006 baseline, as of October 1, 2013.

Highest Municipal Users

The three municipal facilities in Carson with the largest energy consumption, based on 2011 annual data, are the Community Center (1,373,068 kWh), City Hall (1,109,061 kWh), and the Corporate Yard (593,994 kWh).



*Table 1: Carson's Highest Municipal Facility Users
2011 Annual Energy Consumption and Cost*

Facility Name	Energy Consumption (kWh)	Annual Cost
Community Center	1,373,068	\$188,515
City Hall	1,109,061	\$136,367
Corporate Yard	593,994	\$87,763

Community Baseline Energy Use (2005)¹

Community-wide GHG emissions for the City of Carson in 2005 were 3,629,290 metric tons of CO₂e. (Note: Community emissions include the municipal emissions.) Electricity (420,452 MtCO₂e) and natural gas (2,713,694 MtCO₂e) make up 87% of total GHG emissions. These numbers demonstrate that energy efficiency is a significant part of GHG mitigation strategies for the City.

Table 2 Carson Community GHG Emissions Over Time - Sources of Emissions (MtCO₂e)

Source	2005	%	2010	%	2011	%
Natural Gas	2,330,412	71%	2,713,694	75%	2,803,818	76%
Electricity	385,768	12%	420,452	12%	386,673	11%
Gasoline	432,910	13%	411,648	11%	399,941	11%
Solid Waste	111,934	3%	48,593	1%	51,886	1%
Diesel	26,076	1%	29,664	1%	29,350	1%
Biogas	--	--	114	0.0%	114	0.0%
LPG/Propane/Butane	5,136	0.2%	4,051	0.1%	2,271	0.1%
Diesel/Fuel Oil	5,560	0.2%	1,044	0%	972	0%
CNG	16	0%	30	0%	32	0%

Table 3 Carson Community GHG Emissions Over Time - Commercial Emissions (MtCO₂e)

Commercial	2005	%	2010	%	2011	%
Natural Gas Total	224,002	100%	260,833	100%	252,637	100%
Commercial	224,002	100%	260,312	100%	252,116	100%
Municipal	--	--	521	0%	521	0%
Electricity Total	84,875	100%	120,082	100%	115,166	100%
Commercial	82,520	97%	117,244	98%	112,573	98%
Municipal	2,355	3%	2,838	2%	2,593	2%

¹ Tables 2-5 are from the City of Carson, Community Greenhouse Gas Emissions Inventory Report, March 2011.

http://southbaycities.org/sites/default/files/documents/inventories/Carson_Community_Inventory.pdf



Table 4 Carson Community GHG Emissions Over Time – Industrial Emissions (MtCO₂e)

Industrial	2010	2010 Percentage	2015	2015 Percentage	2017	2017 Percentage
Natural Gas Total	2,054,096	100%	2,391,943	99%	2,490,728	99%
Industrial	2,054,096	100%	2,378,126	99%	2,472,957	99%
Utilities	--	--	13,817	1%	17,772	1%
Electricity Total	272,599	100%	255,618	100%	227,983	100%
Industrial	272,599	100%	255,618	100%	227,983	100%
Fuel Total	10,696	100%	5,209	100%	3,357	100%
Diesel/Fuel Oil	5,560	52%	1,044	20%	972	29%
LPG, Propane, Butane	5,136	48%	4,051	78%	2,271	68%
Biogas ¹	--	--	114	2%	114	3%

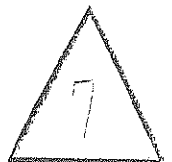
Table 5 Carson Community GHG Emissions Over Time – Residential Emissions (MtCO₂e)

Residential	2010	2010 Percentage	2015	2015 Percentage	2017	2017 Percentage
Natural Gas Total	52,314	100%	60,919	100%	60,452	100%
Multi Family	--	--	6,076	10%	5,835	10%
Single Family	--	--	54,843	90%	54,617	90%
Electricity Total	28,294	100%	44,751	100%	43,523	100%

Municipal and Community GHG Reduction Strategies

The City will set its long term targets and strategies for reducing municipal and community GHG emissions below its baseline (2005) for 2020 in its forthcoming Climate Action Plan. Cities are not required by the state of California to set a GHG emissions reduction target. However, State Assembly Bill 32 Scoping Plan suggests that local governments set a reduction goal of 15% below baseline (2005) levels by 2020.

New and existing measures needed to reduce the City's community-wide emissions can be achieved through future energy efficiency projects that reduce electricity (kWh) and natural gas (therms) consumption. Carson is working with the South Bay Cities Council of Governments (SBCCOG), Southern California Edison (SCE), and the Southern California Gas Company (SCG) to identify potential electricity (kWh) and natural gas (therms) savings when conducting energy assessment audits. The City will further outline in its forthcoming Climate Action Plan what existing and new measures it will implement to meet its GHG emissions reduction target and reduce its electricity (kWh) and natural gas (therms) consumption.



Current Municipal Projects

The City's current energy efficiency projects involve upgrading park lighting, installing Variable-Frequency Drives (VFD) on pool pumps, and upgrading city-owned street lights. Once completed, the combined projects will reduce the City's 2006 electricity consumption (7,151,279 kWh) by approximately 21.7% (1,549,044 kWh).

The City of Carson is currently identified as a Silver level partner within the ELP Program. The City is currently working towards the Gold level. The ELP program provides financial incentives to the City for reduced energy usage.

Once all projects are completed, Carson will work with SCE and SBCCOG to confirm energy (kWh) savings from these projects.

List of City Energy Efficiency Projects

Facility	Expected Installation Date	Status	Estimated Savings kWh	Estimated Savings kW	Measures
Carson Park	Q1 2014	On-Bill Financing (OBF)	44,810	0	Retrofit Pump Motor w/ VFD
Scott Park	Q1 2014	On-Bill Financing (OBF)	51,601	.54	Retrofit Pump Motor w/ VFD & Install New Pump
11 Other Parks	Q3 2014	Identifying funding	762,783	0	Exterior / Interior Lighting
Schedule LS-2 Street Lights	Q2 2014	Identifying funding	689,850	0	LED Lighting

Potential Projects

Carson will continue working with SCE and SBCCOG to identify potential energy efficiency projects utilizing technical assistance as needed.

Carson has entered into the Enterprise Energy Management Information System program (EEMIS) with the County of Los Angeles. The Carson system will be fully functional by the fourth quarter of 2013. The City will then have the ability to benchmark baseline and compare like facilities for the purposes of identifying potential cost and energy saving measures. Beginning in 2014, Carson will be able to rely on EEMIS to identify and seek out the most cost-effective and feasible projects to implement.

The City is also currently working with SCG and SBCCOG to identify potential projects to reduce the City's municipal natural gas (therms) consumption. If the future scope of EEMIS will include tracking natural gas consumption, then the City might also rely on this system to help better identify natural gas savings. Once all projects are



completed, Carson will work with SCG to confirm natural gas (therms) savings from these projects.

Community Programs

The City has implemented policies and programs to reduce electricity and natural gas consumption from residents and businesses. The City has also been working with the SBCCOG to promote some of these, such as the Energy Upgrade California program and other SCE/SCG core residential and commercial programs. The following highlights the City's activities:

- Holding Energy Efficiency program workshops in English and Spanish for City residents and businesses in partnership with the SBCCOG.
- Promoting community energy savings by inviting SBCCOG speakers to present at professional group meetings.
- Leading by example; City Council meetings included utility rebate check presentations, announcing on cable television that homeowners and businesses could save energy and money.
- Providing Energy Efficiency program and Energy Upgrade California information to the greater community in Carson, including hosting website links to the South Bay Environmental Service Center (SBESC) programs where more information can be obtained.
- Promoting SBCCOG "no cost" energy efficiency lighting; retro-commissioning; and Heating, Ventilating and Air Conditioning (HVAC) workings for City business.
- Conducting community events such as Farmers Markets and Juneteenth Celebrations.
- Partnering with SBCCOG and SCE to help conduct a community event to educate the public on demand response (DR).
- Supporting SBESC efforts to inform the small-business community about the utility direct install program, which helps businesses implement energy efficiency measures at no cost.
- Participating in SBCCOG Title 24 Training for City staff.
- Participating in SBCCOG Green Building Ordinance Training for commercial buildings.
- Providing a Green Building Ordinance Training for residential buildings.
- Adopting the CalGreen code.
- Working with SBCCOG and SCG to promote Energy Efficiency kits to residents; these kits include low-flow shower heads and faucet aerators that help reduce natural gas consumption (therms) needed to heat water.



- Supporting SBCCOG and their partner, West Basin Municipal Water District, to promote the Cash for Kitchens program, which includes SCG technician assistance to ensure that commercial kitchens are operating efficiently and utilizing efficient water consuming equipment.

Carson will continue implementing community outreach programs to achieve further reductions in its community electricity and natural gas consumption. The SBCCOG will also continue working with the City to promote Energy Upgrade California and other SCE/SCG core residential and commercial programs. Overall, these municipal projects and community programs will help the City meet its long-term energy and emissions reduction goals for 2020 in the Climate Action Plan. Carson's forthcoming Climate Action Plan will also outline future energy efficiency measures needed to meet targets and how they will be funded and implemented. Carson will also work with the SBCCOG to determine whether Neighborhood Electric Vehicle (NEV) and Local Use Vehicle (LUV) programs would be suitable and feasible for the City, as well as what infrastructure the City might need to prepare for electric vehicle demand by 2020.

Policies

To increase energy efficiency in its facilities' operations, the City will:

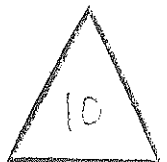
1. Utilize energy efficiency partner programs with SBCCOG, SCE and SCG to continue identifying potential projects where significant municipal energy savings can be made and implement them where cost effective and feasible.
2. Work with SBCCOG, SCE, and SCG to identify audiences and venues where energy efficiency programs can be promoted and educate the community regarding the benefits of energy savings. Aggressively manage the program to help ensure that City receives its energy efficiency program credits through the ELP Program model.
3. Upon system completion, utilize EEMIS for City facilities to ensure that the best data and analysis are made available and to bear on decisions regarding facility operations and maintenance.

Funding

The City continues to work closely with SCE and SCG to obtain incentives and rebates for energy efficiency projects, both large and small. Savings from these various conservation projects may be used to help fund additional projects. The City's current plans for continued energy efficiency upgrades rely on general funds allocated to each department for the replacement of equipment; such as boilers, generators, pumps, small-scale HVAC, and lighting.

Tracking

The City will work closely with the SBCCOG to track its energy efficiency projects and the resulting energy kWh and therm savings. The SBCCOG technical staff will work closely with the City on energy projects to determine whether installations are



successful and targets are being met. In addition, the SBCCOG will work with SCE and SCG and report the City's annual municipal and community energy consumption and program achievements.

Execution of this Energy Action Plan

The City of Carson's Energy Action Plan will be considered implemented when the following actions have been completed:

- 1) The City has completed the projects identified in this Energy Action Plan and/or others yet to be specified as necessary to achieve sufficient municipal energy savings to qualify for the Platinum Tier.
- 2) The City has, as needed, accepted technical support services offered by or through SCE for the identification of additional municipal energy savings projects.
- 3) The City has consistently promoted energy savings in its community, completing the requirements for the Platinum Tier, as specified in the ELP Program model.
- 4) A report has been generated for at least one City facility documenting the annual energy consumption and the conditions of the building shell, lighting, and HVAC systems.
- 5) City staff has identified at least some funding, which may include grant sources, for future energy efficiency projects and programs.
- 6) The City has incorporated this Energy Action Plan into its Climate Action Plan (or other long term policy document) adopted by the City for implementation.

Conclusion

The City will begin implementing the Energy Action Plan in 2013 and identifying, installing, and confirming savings from energy efficiency projects. Beginning in 2014, Carson will reevaluate the effectiveness of the Energy Action Plan and will explore new options for energy savings.



Energy Leader Partnership Model 2013 - 2014



Carson is currently at the Silver Level

Platinum Level

Recognition Levels

Gold Level

Silver Level

Valued Partner

5% kWh Savings

10% kWh Savings

20% kWh Savings

Offerings

- Valued Partner Level enhanced incentives
- Technical Support
- Strategic Plan Support
- Co-Branded Marketing & Outreach Support

- Silver Level enhanced incentives
- Technical Support
- Strategic Plan Support
- Co-Branded Marketing & Outreach Support

- Gold Level enhanced incentives
- Technical Support
- Strategic Plan Support
- Co-Branded Marketing & Outreach Support

- Platinum Level enhanced incentives
- Technical Support
- Strategic Plan Support
- Co-Branded Marketing & Outreach Support

Energy Efficiency Criteria

- Basic EE Criteria:**
- Commitment to Long Term Energy Efficiency Leadership
 - Commitment to Partnership goals including energy savings in municipal facilities

- Basic EE Criteria Plus:**
- City initiates Energy Action Plan
 - 5% kWh reduction for city facilities
 - 1 Community Menu Item
 - Co-sponsor marketing & outreach to the community on EE programs

- Basic EE Criteria Plus:**
- City completes Energy Action Plan
 - 10% kWh reduction for city facilities
 - 1 Additional Community Menu Item
 - Co-sponsor marketing & outreach to the community on EE programs

- Basic EE Criteria Plus:**
- City implements Energy Action Plan
 - 20% kWh reduction for city facilities
 - 1 Additional Community Menu Item
 - Co-sponsor marketing & outreach to the community on EE programs

Demand Response Criteria

- Basic DR Criteria:**
- Enroll in California's Statewide Flex Alert and implement an internal educational campaign
 - Complete an Integrated Demand Side Management (IDSM) audit of all eligible facilities; greater than 200 kW

- Basic DR Criteria Plus:**
- Distribute Energy Solutions brochure to partner employees
 - Enroll one (1) eligible facility in a Demand Response program and develop an Event Curtailment Plan for participating facility

- Basic DR Criteria Plus:**
- Enroll 25% of eligible facilities in Demand Response Programs and develop Event Curtailment Plan(s) for participating facilities
 - Conduct one (1) co-branded DR awareness item from Marketing & Outreach Menu

- Basic DR Criteria Plus:**
- Enroll one eligible service account into one of SCE's Auto Demand Response Programs and reduce load with automated controls or conduct a community forum with all eligible facilities
 - 50% of the program content Demand Response focused
 - Enroll 50% of eligible facilities in Demand Response Programs and develop Event Curtailment Plan(s) for participating facilities
 - Conduct one (1) additional co-branded DR awareness item from Marketing & Outreach Menu

Based on cumulative kWh savings from 2006 (Percentage of total municipal energy use)

Energy Leader Partnership Model

EXHIBIT NO. 2

