



## STAFF REPORT

Date: 11/3/2015

To:	
From:	Kenneth Strelo, Senior Planner

SUBJECT: Strategic Energy Plan Acceptance

### Summary and Background

In May of this year, the City of Oakley agreed to take advantage of available grant funding and participate as a "Pilot City" in the East Bay Energy Watch ("EBEW") Strategic Planning Program. An update on the participation and progress was given to the City Council at the August 11, 2015 City Council meeting, where Staff was directed to continue pursuing completion of a Strategic Energy Plan ("Plan"). After several months of bi-monthly meetings with select City Staff and consultants from Newcomb Anderson McCormick, and QuEST, the Strategic Energy Plan has been finalized and is ready for City Council acceptance.

Consultants from NAM will be giving a presentation to the City Council and public. The presentation will outline the background of the plan, the City's vision statement and goals for the Plan, energy programs and projects for implementation, and funding and financing opportunities.

### Fiscal Impact

Minimal Staff time was spent during the 6 months working on the Plan (approximately 4-6 hours combined per month), as a majority of work was conducted by the consultants at no cost to the City. As far as future costs of implementing the Plan, it is written in a manner that puts financial feasibility of any programs and projects first, and encourages seeking grants or rebates.

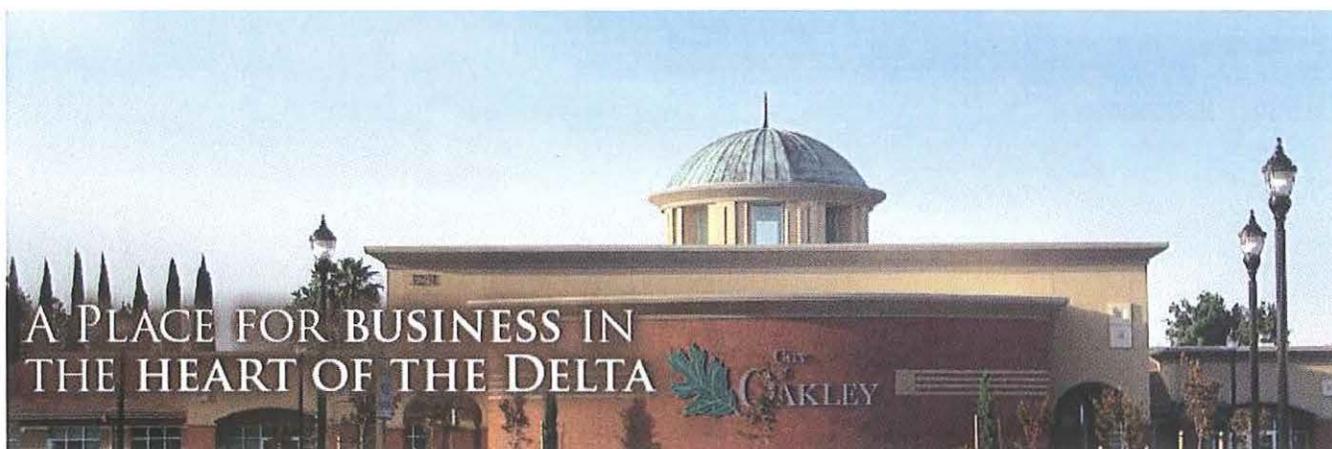
### Recommendation

City Council receive the presentation, accept the Strategic Energy Plan and direct Staff to implement the Plan.

### Attachments

- |  |
|--|
| 1. Strategic Energy Plan with Appendices |
|  |

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# Strategic Energy Plan

Produced by: City of Oakley Energy Leadership Team

Fall 2015

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## ACKNOWLEDGEMENTS

### **Oakley City Council**

Doug Hardcastle, *Mayor*

Kevin Romick, *Vice Mayor*

Randy Pope, *Council Member*

Sue Higgins, *Council Member*

Vanessa Perry, *Council Member*

### **Sustainability Committee**

Kenneth Strelo, *Senior Planner*

Kevin Rohani, P.E., *Public Works Director/ City Engineer*

Paul Abelson, *Finance Director (Former)*

Lindsey Bruno, *Recreation Manager*

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## 1. EXECUTIVE SUMMARY

As with many public sector agencies, the City of Oakley (City) recognizes the environmental, economic, and social benefits of energy-use reduction, clean energy generation, and the reduction of Greenhouse Gas (GHG) emissions. The passage of the California Global Warming Solutions Act (AB 32) in 2006, the Clean Energy and Pollution Act of 2015 (SB 350), and various other legislation has established the State of California as an international leader in efforts to reduce energy use, become a more energy-efficient economy, and move our state toward a more sustainable future. The City of Oakley understands the unique and vital role that local governments have in helping the State reach the goals set forth in these policies.

To help meet these challenges, Oakley agreed to participate as a “Pilot City” in the East Bay Energy Watch (EBEW) Strategic Energy Planning program. EBEW is the Pacific Gas and Electric (PG&E) Local Government Partnership in Alameda and Contra Costa Counties, providing cities in both counties with energy efficiency program and technical assistance services, as well as incentives and rebates for implementing energy savings projects. Several City staff from a variety of departments were engaged throughout the collaborative process, working with EBEW staff, as well as consultants Newcomb Anderson McCormick and QuEST, to develop this Strategic Energy Plan (SEP). This SEP outlines a comprehensive, organized, and actionable approach for the City to meet its “Energy Vision” and energy-use reduction goals while reflecting the City’s unique culture, values, and constraints.

### City of Oakley Energy Vision Statement

*Oakley will consider energy-efficiency in its operations, striving to provide positive and achievable examples to others in the community, and demonstrating that financially viable and sustainable energy-wise options exist that can both reduce overall costs and lower greenhouse gas emissions, without creating negative environmental impacts or lowering the quality of life of its residents.*

The outcome of this process is not just a Strategic Energy Plan for the City of Oakley, but the results, “best practices,” and lessons learned from the planning process that will be incorporated by EBEW and the program consultants into a Strategic Energy Planning “Template”, which will provide a process map and tools to allow other cities in Alameda and Contra Costa Counties to develop their own, customized SEPs. The City of Oakley’s contribution to both their own SEP and to the development of a Template that will benefit other neighboring cities was valuable and commendable.

The following pages describe the policy context for energy planning, the process undertaken by the City to create the SEP, and the resulting Vision, Goals, and specific programs and projects for implementation to achieve the City’s Vision for energy efficiency and sustainability.

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## 2. BACKGROUND

### 2.1 CREATION OF THE STRATEGIC ENERGY PLAN

To create this Strategic Energy Plan, the City of Oakley followed the process and utilized the tools developed for the EBEW Local Government Strategic Energy Plan Template. The energy planning process is illustrated in the flow chart below.



On June 23, 2015, the City made a commitment to create this Strategic Energy Plan by means of a commitment letter issued by the City Manager, Bryan H. Montgomery. An Energy Leadership Team was created that consisted of City staff from a variety of departments (Planning, Finance, and Public Works), as well as members from EBEW and consultants Newcomb Anderson McCormick and QuEST. The Energy Leadership Team worked to implement this process starting in June of 2015, culminating in the production of a Final Strategic Energy Plan in November 2015.

The implementation of the energy planning process and the resulting Strategic Energy Plan are described in the following chapters.

### 2.2 HISTORY OF ENERGY USE REDUCTION EFFORTS TO DATE

The City of Oakley has taken actions to improve municipal energy performance over the past several years, and, as outlined in this Strategic Energy Plan, expects to explore the viability of additional energy projects and programs to help meet the goals outlined above. The City is active in regional energy planning efforts and has taken a leadership role in the PG&E-funded EBEW as a member of its Strategic Advisory Committee. This organization consists of City representation from Alameda and Contra Costa counties, and collaborates on best practices in energy efficiency and sustainability efforts to assist all East Bay cities in becoming more sustainable. The following list summarizes previously implemented energy programs and projects at the City of Oakley.

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## Energy Programs and Policies Implemented

- **PACE Program**
  - The City adopted the Property Assessed Clean Energy (PACE) Program in November 2014, an affordable financing model where solar panels, heating and cooling (HVAC) systems, and a variety of other energy efficiency measures can be financed through an owner's property tax bill. By passing the resolution for the Program, the City of Oakley has enabled its community to work toward the SEP Vision Statement and have easier access to the many economic benefits of energy-savings measures.
  
- **City-wide and Local Government Operations Greenhouse Gas (GHG) Inventory**
  - The City conducted a community-wide and local government operations GHG inventory process in 2011 based on a 2005 baseline. This was accomplished through the PG&E sponsored Green Communities Program. In 2013, the inventories were updated with a 2010 GHG baseline through energy consultant QuEST. The GHG inventory will be used as a starting point for a future Climate Action Plan.
  
- **Environmental Purchasing Policy**
  - An Environmentally Preferable Purchasing Policy was adopted in 2011 and became effective on February 9, 2011. A detailed description of the Policy is provided in Appendix 7.
  
- **Solar Photovoltaic (PV) Feasibility Study**

The City performed a solar photovoltaic feasibility study in 2009 and 2011 that evaluated the economic viability of PV systems on various City buildings and facilities. The study determined that installing systems would not meet the economic criteria established for these projects and therefore no further action was taken. However, the cost of solar panels has dropped significantly since 2011 and many of the projects may have improved significantly enough to warrant further analysis. This has been established as a project for future implementation.
  
- **EBEW Energy Audit of City Hall**
  - In September of 2015, EBEW funded an energy audit of City Hall to identify energy efficiency project opportunities (Appendix 6). Energy consultant QuEST performed the audit and the findings were released in October of 2015.

## Completed Projects

- **LED Streetlight Replacement (Project #125)**
  - Oakley finished replacing 296 City-owned cobra head street lights with energy efficient LEDs in 2012, resulting in energy cost savings of over \$9,000 per year, energy savings of 76,000 kWh per year, and CO2 emissions reduction of over 40,000 pounds per year. The project was completely funded using a \$168,000 grant applied for and approved through the American Recovery and Reinvestment Act of 2009 (ARRA) and through a \$24,000 incentive awarded by PG&E's incentive rebate program for energy efficiency projects.

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- **Traffic Signal Modernization (Project #142)**

- The City recently finished installing new LED street name signs on signal mast arms and also installed LED pedestrian countdown clocks at several intersections throughout the City.

## Planned and Funded Projects – 2015 Capital Improvement Program (CIP)

For a complete listing of past, current, and planned energy programs and projects see the Implementation Programs and Plans Checklist in Appendix 2.

## Future Projects

- **LED Streetlight Replacement**

- The City is currently working with PG&E to evaluate the feasibility of retrofitting the remaining City-owned cobra head street lights with LED fixtures. The project will be financed through a PG&E loan program, with payback through energy cost savings over a period of 5 years.

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## 3. VISION STATEMENT AND GOALS.

The City of Oakley has developed the following Energy Vision Statement as a guide to the creation of the Strategic Energy Plan:

***Oakley will consider energy-efficiency in its operations, striving to provide positive and achievable examples to others in the community, and demonstrating that financially viable and sustainable energy-wise options exist that can both reduce overall costs and lower greenhouse gas emissions, without creating negative environmental impacts or lowering the quality of life of its residents.***

The Vision Statement and an overview of the SEP planning process were presented to the Oakley City Council on August 11, 2015. The Council was very supportive of both the vision and the process to develop the SEP for the City of Oakley.

### 3.1 ENERGY USE BENCHMARKING STUDY

To assist in the development of goals, EBEW performed an Energy Use Benchmarking Study for the City of Oakley. The Benchmarking Study compared the energy performance of the City's buildings and facilities against an established baseline. The results of the study indicated that City Hall operated at a higher energy use intensity (energy use per square feet of space) than the baseline for typical, similar buildings. While there was some question about the accuracy of data collected for the study, it clearly identified a need to perform an energy audit of City Hall to both confirm the usage data and identify if measures could be employed to improve energy performance. The energy audit was performed by EBEW's consultant QuEST in September 2015 and the results are included in Appendix 3.

### 3.2 GOALS

To realize this Vision Statement, the City has defined the following energy planning goals and priorities. The goals and priorities for the SEP reflect City needs, interests, and available resources. The Goals outlined below are not necessarily listed in order of priority. Priorities for all goals and implementation programs are contained in the Implementation Programs and Plans Checklist contained in Appendix 2.

#### Energy Plan Goals and Criteria

Goal No.	Topic	Established Goal
1	Energy Use Reduction	Seek ways to reduce annual energy usage for existing facilities. Explore opportunities for energy efficiency, demand reduction, and/or clean self-generation measures. Evaluate and begin implementing viable measures that meet economic criteria (see below) by December 2017. Low-cost and no-cost measures should be prioritized for immediate implementation.

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2	<b>Green Building</b>	Improve energy performance to exceed Title 24 requirements for new construction and major renovations of City facilities where/when supported by cost-benefit analyses; consider ways to update existing City policies to support this goal.
3	<b>Economics</b>	Evaluate existing economic and fiscal criteria commonly used for the evaluation and implementation of energy use reduction and energy generation strategies. Adopt economic and fiscal criteria from these common examples, or develop and adopt new criteria determined most appropriate for the City of Oakley by December 2016.
4	<b>Greenhouse Gas Reduction</b>	Leverage the GHG inventory conducted in 2013 (or any more recent study), the adopted SEP, and the EBEW Civic Spark intern program to plan and develop a Climate Action Plan (CAP) for the City. Planning for the CAP should occur in early 2016.
5	<b>Community Awareness &amp; Engagement</b>	Engage City staff and the larger community in SEP implementation by developing and offering Education and Awareness Programs to reduce energy use beginning in 2016.

The goals described above were used by the Leadership Team to develop specific programs and projects for implementation to achieve each goal. This process is described in the next section.

The goals and criteria established for the SEP will be monitored during plan implementation as described in Section 6, "Measure and Report Performance".

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## 4. PROGRAMS AND PROJECTS FOR IMPLEMENTATION

Based on the goals and priorities described in Section 2 above, the City has selected programs and projects to actively reduce energy use. The programs and projects were selected from a menu of opportunities provided in the Local Government-Strategic Energy Planning Template. In addition, projects identified from City of Oakley staff are also included.

The programs and projects to be implemented with the SEP fall into the following broad categories:

1. Management and Organization Structure
2. Energy Efficiency
3. Facilities Operations
4. Sustainable Building Practices
5. Onsite Generation and Renewable Energy
6. Outreach and Awareness

Appendix 1 provides a detailed description of the energy programs and projects selected, including those already completed, currently being implemented, and planned for the future. These programs and projects are also reflected in the Implementation Programs and Projects Checklist, located in Appendix 2, which outlines the priorities, responsibility for implementation, schedule, and estimated cost of each. The Checklist will be used by the City to manage the implementation process.

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## 5. FUNDING AND FINANCING OPPORTUNITIES

In an environment of budget cuts and limited funding, the City of Oakley understands the importance of leveraging the many funding resources available to local governments to help finance the energy-use reduction and generation projects selected for implementation in this plan. The following are a list of tools and resources that the City will consider as it evaluates energy projects moving forward. The list is broken into two general categories: funds that can be raised by the City and funds that come from external grants and incentives.

### Funding Through City Action

- **Energy Performance Contracts (EPCs):** Energy Performance Contracts (EPCs) are structured so that energy efficiency projects can be installed with little or no up-front costs to the customer. A portion of the revenue from energy savings go directly to an Energy Service Company (ESCO), who finances and constructs the project. ESCOs will finance the costs for the projects as part of the EPC. The structure and details of EPCs vary from project to project but the keys steps involved are generally universal. For an overview of these steps, best practices, and case studies, visit the link below.

New York State Department of Environmental Conservation – Energy Performance Contracts for Local Governments: Industry Standards and Best Practices:

[www.dec.ny.gov/docs/administration\\_pdf/epcguide.pdf](http://www.dec.ny.gov/docs/administration_pdf/epcguide.pdf)

New York State Department of Environmental Conservation Homepage: [www.dec.ny.gov/](http://www.dec.ny.gov/)

Additional resource: National Association of Energy Service Companies (NAESCO): [www.naesco.org/](http://www.naesco.org/)

- **Power Purchase Agreements (PPA):** A Power Purchase Agreement (PPA) is a contract where an end-use customer purchases clean energy from a power producer for on-site projects. In the case of solar photovoltaic electricity, customers can opt to purchase solar energy from a system installed on-site through a PPA at a negotiated rate instead of purchasing, installing, and maintaining the operations of solar photovoltaic panels themselves. The length of the PPA contract varies (as does the negotiated electricity rate), but typically ranges from 10 to 20 years. For more information on solar power purchase agreements, visit the Environmental Protection Agency (EPA) link below, which outlines PPA benefits and challenges and provides local-government case studies.

EPA – Solar Power Purchase Agreements: [www3.epa.gov/greenpower/buygp/solarpower.htm](http://www3.epa.gov/greenpower/buygp/solarpower.htm)

EPA Homepage: [www3.epa.gov](http://www3.epa.gov)

Additional resources:

Renewable Energy Laboratory (NREL) Homepage: [www.nrel.gov/](http://www.nrel.gov/)

NREL – Power Purchase Agreement Checklist for State and Local Governments:

<https://financere.nrel.gov/finance/content/power-purchase-agreement-checklist-state-and-local-governments>

- Provides a detailed guide to power purchase agreements for state and local governments including financial and contractual considerations.

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Department of Energy (DOE) Homepage: [www.energy.gov](http://www.energy.gov)

DOE – Power Purchase Agreements: [energy.gov/eere/slsc/power-purchase-agreements](http://energy.gov/eere/slsc/power-purchase-agreements)

- Provides a general overview of PPAs and lists additional resources, including case studies.
- **National Renewable Energy Certificates (RECs):** Renewable Energy Certificates (RECs), also known as Renewable Energy Credits, Green Tags, or Tradable Renewable Certificates (TRCs), represent the environmental benefits of one megawatt-hour (mWh) of electricity generated from renewable sources. A REC is a tradable commodity and can be sold as a source of revenue to the City. RECs can also be retained so that the owner has claim to the renewable attributes of the electricity. For more information about RECs, how they work, and how they are purchased and tracked, visit the Environmental Protection Agency links below.

EPA - Renewable Energy Certificates: [www3.epa.gov/greenpower/gpmarket/rec.htm](http://www3.epa.gov/greenpower/gpmarket/rec.htm)

EPA - REC Tracking: [www3.epa.gov/greenpower/gpmarket/tracking.htm](http://www3.epa.gov/greenpower/gpmarket/tracking.htm)

- **Carbon Offset Credits:** Projects that offset or reduce greenhouse gas emissions can be certified by the Climate Action Reserve and traded as a Climate Reserve Tonne (CRT) credit, which is the equivalent of one metric ton of carbon dioxide equivalent emissions reduced or approximately 2,350 vehicle-miles traveled (VMT) for the average passenger vehicle. In addition to the cap-and-trade market, there are other marketplaces where CRTs can be purchased and sold, though similar to RECs, cities that sell CRTs lose the GHG “offset” attributes and cannot count the reductions towards their goals.
- **“Green” Revolving Fund (GRF):** A “green” revolving fund is an internal fund that would provide financing to energy and sustainability projects that generate cost savings. These savings are tracked and used to replenish the fund for future rounds of “green” investments, thus establishing a sustainable funding cycle. Capital for GRF’s may be obtained from a variety of funding sources and the accounting system used to track the funds may also vary. A detailed, and useful guide on the creation and maintenance of a successful GRF can be found by following the link below. Although tailored for the higher educational space, its resources are relevant for a variety of institutions and agencies, including local governments.

Billion Dollar Green Challenge - Green Revolving Funds: An Introductory Guide to Implementation & Management: [http://greenbillion.org/wp-content/uploads/2013/01/GRF\\_Implementation\\_Guide.pdf](http://greenbillion.org/wp-content/uploads/2013/01/GRF_Implementation_Guide.pdf)

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## 6. MEASURE AND REPORT PERFORMANCE

As with any successful program, the ongoing progress and performance of energy reduction activities should be monitored and compared to goals and criteria. This will require continuous participation of the City Energy Leadership Team, City staff, and other participants in the process. To communicate results and ensure transparency and accountability, the results of the SEP activities should be communicated to the City Council and to the larger community on a regular basis.

The following section describes the planned process for measuring and reporting energy use reduction activities and achievements.

### 6.1 MEASURING PERFORMANCE

In order to monitor the City’s progress towards its energy goals, the City Energy Leadership Team plans to collect information on the following key metrics at the regular intervals described below. In addition, the table below indicates responsibility for the accomplishment of each goal to meet the timelines established.

Topic	Established Goal	Performance Metric and Frequency of Measurement	Responsibility
<b>Energy Use Reduction</b>	Seek ways to reduce annual energy usage for existing facilities. Explore opportunities for energy efficiency, demand reduction, and/or clean self-generation measures. Evaluate and begin implementing viable measures that meet economic criteria by December 2017. Low-cost and no-cost measures should be prioritized for immediate implementation.	Utilize 2015 benchmarking study and comprehensive EBEW (QuEST) energy audit conducted in September 2015 to establish annual energy use and demand reduction goals (target 10% reduction). Plan appropriate efficiency, demand reduction, and/or clean generation measures by mid-2016 to meet reduction goals.	Senior Planner
<b>Green Building</b>	Improve energy performance to exceed Title 24 requirements for new construction and major renovations of City facilities where/when supported by cost-benefit analyses; consider ways to update existing City policies to support this goal.	Develop and adopt sustainable design criteria by 2017. Revisit and update criteria bi-annually.	Senior Planner
<b>Economics</b>	Explore existing economic and fiscal criteria commonly used for the evaluation and implementation of energy use reduction and energy generation strategies. Adopt economic and fiscal criteria from these common examples, or develop	Utilize developed economic and fiscal criteria to evaluate and select energy projects by March 2017. Revisit criteria bi-annually to ensure it is still aligned and relevant to City goals and priorities.	Senior Planner, Finance Director

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	and adopt new criteria determined most appropriate for the City of Oakley by December 2016.		
<b>Greenhouse Gas Reduction</b>	Leverage the GHG inventory conducted in 2013 (or any more recent study), the adopted SEP, and the EBEW Civic Spark intern program to plan and implement a CAP for the City. Planning for the CAP should occur in early 2016.	Use the 2013 GHG inventory (or any more recent study) to inform GHG reduction goals and strategies outlined in the future CAP. Conduct a comprehensive GHG inventory every 5 years simultaneously with CAP to ensure goals are being met.	Senior Planner
<b>Community Awareness &amp; Engagement</b>	Engage City staff and the larger community in Energy Plan implementation by developing and offering Education and Awareness Programs to reduce energy use beginning in 2016.	Beginning in 2017, the City will incorporate educational opportunities and information sharing centered on energy and sustainability at community events. Updates to the City sustainability webpage with up-to-date resources and information will occur on a quarterly basis.	Senior Planner

## 6.2 REPORTING PERFORMANCE

The Energy Leadership Team will report progress on established goals in consistency with performance metrics and frequency of measurements identified above. Progress will be reported to the City Council on a regular basis as plan activities are accomplished. In addition, the City will create a Sustainability web page on the City web site that will contain information about energy plan activities and provide periodic progress reports for the community at large.

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## APPENDICES

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APPENDIX 2 – ENERGY PROGRAMS AND PROJECTS CHECKLIST

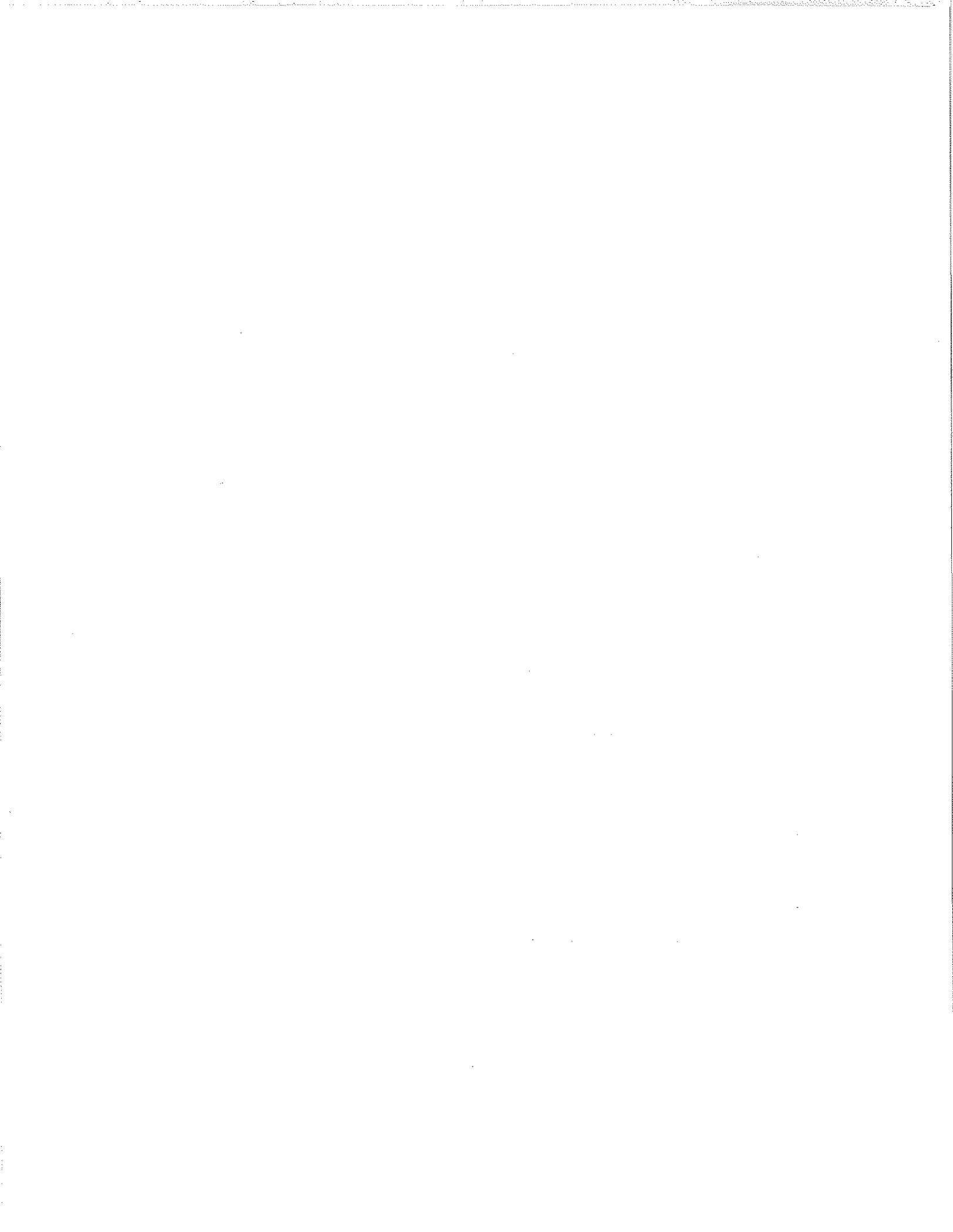
APPENDIX 3 – ENERGY USE BENCHMARKING STUDY

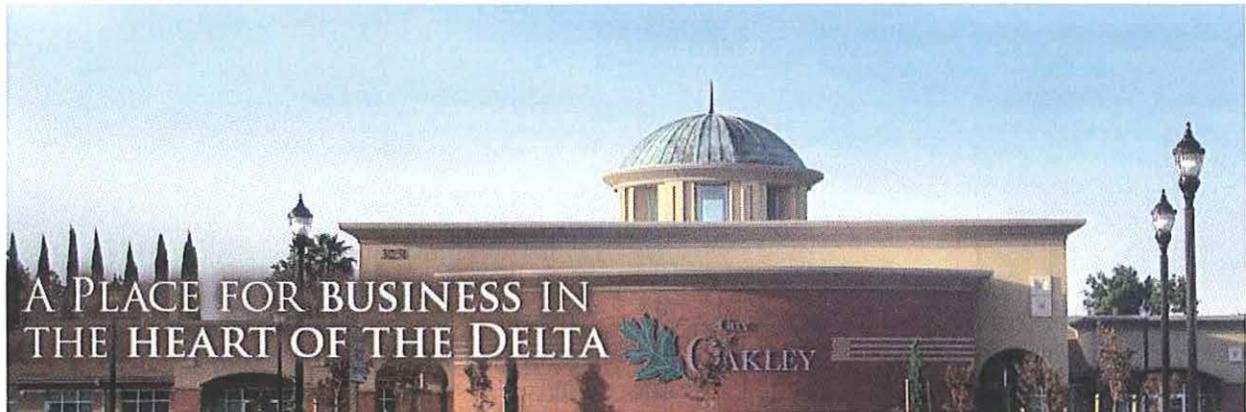
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## CITY OF OAKLEY

### APPENDIX 1: PROGRAMS & PROJECTS

1. MANAGEMENT AND ORGANIZATIONAL STRUCTURE
2. ENERGY EFFICIENCY
3. FACILITIES OPERATION
4. SUSTAINABLE BUILDING PRACTICES
5. ON-SITE GENERATION AND RENEWABLE ENERGY
6. OUTREACH & AWARENESS

## PROGRAMS AND PROJECTS

Based on the goals and priorities adopted by the City, the following programs and projects have been chosen to actively reduce energy use. The programs and projects were selected from a menu of opportunities provided in the LG-SEP Template. In addition, projects identified by City of Oakley staff are also included.

The following provides a detailed description of the selected programs and projects, including those already completed, currently being implemented, and planned for the future. These programs and projects are also reflected in the Implementation Programs and Projects Checklist, located in Appendix 2, which outlines the priorities, responsibility for implementation, schedule, and estimated cost of each. The Checklist will be used by the City to manage the implementation process.

## **1. MANAGEMENT AND ORGANIZATIONAL STRUCTURE**

In order to implement an effective SEP, it is important for a city to have a policy mandate for energy and/or sustainability, the organizational structure required to manage the process, and the financial and technical resources to accomplish the plan goals.

The following implementation programs will be implemented to meet this goal:

### **1.1. ADOPT A CITY ENERGY POLICY**

The City has demonstrated its commitment to environmental, fiscal, and social sustainability by drafting the Energy Vision statement outlined in the SEP. Upon adoption of the SEP by the Oakley City Council, the Energy Vision statement will act as a formal City policy, informing and guiding the City to a more environmentally sustainable future.

### **1.2. ESTABLISH A CITY ENERGY COMMITTEE**

The City has authorized the establishment of an “Energy Leadership Team” that is responsible for the drafting of an SEP. The Team consists of staff from a variety of City departments and currently meets on a bi-monthly basis. Upon adoption of the SEP by the Oakley City Council, the Team will meet, as necessary, to assist in the implementation of the Plan. Annual meetings will be held to monitor Plan implementation and to make revisions and/or updates to the Plan as needed.

### **1.3. APPOINT AN ENERGY PLAN COORDINATOR**

An existing City staff member will be responsible for the implementation of the SEP as well as tracking and reporting its results to the City Manager, City Council, and community-at-large.

In addition, the City of Oakley will explore taking advantage of the EBEW “Civic Spark” Initiative, which will provide an intern to work full time at the City to assist with coordination and management of all Energy Plan activities.

### **1.4. FUNDING AND RESOURCES TO SUPPORT ENERGY PLAN ACTIVITIES**

The City will develop a plan to identify and obtain funding for the implementation of energy plan activities. This funding plan will be consistent with the objectives of the City’s Two-Year Strategic Plan. Sources of funding may be from internal City budgets, grants, local or state agencies and energy utilities. Where possible, support from PG&E, including energy project incentives and the EBEW local government partnership resources, will be employed.

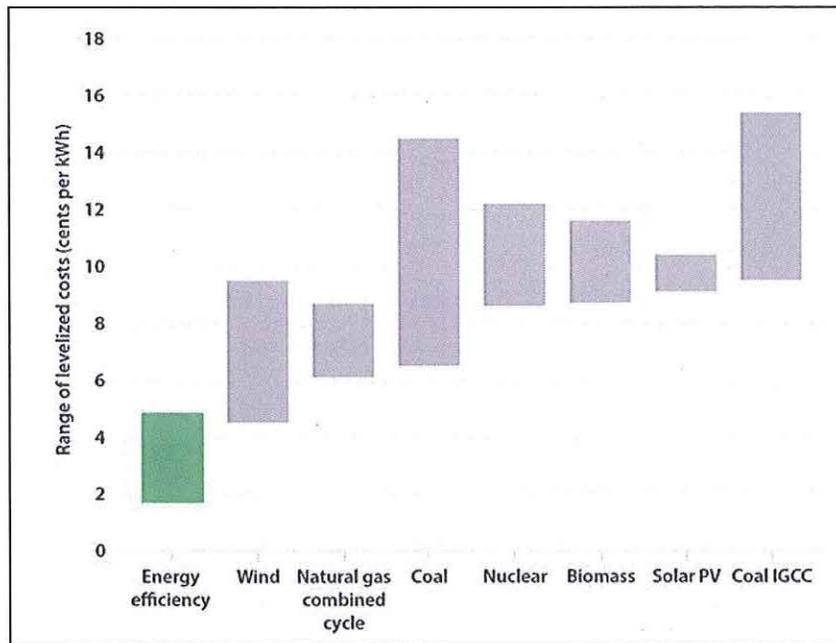
### **1.5. ENGAGE ENERGY PROFESSIONALS AS REQUIRED**

Many of the projects identified in the plan may require a level of technical or programmatic expertise not available among City personnel. Based on need and expertise required, the City will engage experts or consultants to assist with the evaluation and implementation of energy efficiency or other sustainability projects to ensure project success.

## 2. ENERGY EFFICIENCY

Energy efficiency is one of the most cost effective ways to reduce the City's energy use and carbon footprint. When implemented properly, efficiency measures can decrease energy use without compromising comfort, can improve indoor air quality and enhance employee and staff performance. Energy efficiency will be a higher priority than renewable energy due to more favorable economics and to avoid over-sizing renewable energy systems.

The chart below illustrates a comparison of the cost effectiveness of energy efficiency to power generation. These costs do not account for externalities, such as health costs, pollution costs, and costs incurred from environmental damage and cleanup.



Costs of electricity resource options, March 2014. *Source: American Council for an Energy-Efficient Economy*

The following Energy Efficiency Implementation Programs and Projects will be implemented by the City.

### 2.1. SET ENERGY EFFICIENCY GOALS

The City will establish energy use reduction goals based on a benchmarking analysis of City facilities. The energy projects and measures to be implemented to achieve these goals will be evaluated and selected based on City economic and fiscal criteria. Performance of energy projects will be monitored annually by the Energy Leadership Team to ensure progress towards established goals.

### 2.2. EVALUATE MECHANISMS FOR THE IMPLEMENTATION OF ENERGY EFFICIENCY PROJECTS

The City will evaluate appropriate project delivery models for the implementation of energy efficiency projects and programs based on factors that include the specialized expertise and capabilities necessary for each project.

## **2.3. CONDUCT COMPREHENSIVE FACILITY ENERGY AUDITS**

“No-cost” audits will be utilized by the City to evaluate its facilities to the extent practicable. Where possible, the level of detail and energy savings calculations will be that of an American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) Level II audit. An ASHRAE Level II audit includes an analysis of energy use at a facility and identifies no-cost, low-cost and capital improvement energy efficiency measures with detailed energy and financial calculations.

### **2.3.1. EVALUATE AND IMPLEMENT NEW AND EXISTING AUDIT RECOMMENDATIONS**

Audit recommendations will be implemented where appropriate and consistent with the City’s policies. Audits will be promptly reviewed by the City upon completion to ensure that the City capitalizes on the cost-savings that would result in swift project implementation. In making decisions about investments in energy efficiency and renewable energy projects, the City will use life-cycle cost analyses, targeting projects with low and no additional life-cycle costs first. Where appropriate, the City will consider the life-cycle costs of combinations of projects, particularly to encourage the bundling of energy efficiency projects with renewable energy projects to improve project economics.

## **2.4. IMPLEMENT ONGOING ENERGY MONITORING**

The City has smart meters installed at the building level to monitor City energy use. The installation of an energy management system (EMS) will be considered to further aid in energy monitoring and analysis.

## **2.5. PARTICIPATE IN DEMAND RESPONSE (DR) PROGRAMS**

Several City sites are currently enrolled in the PG&E Peak Pricing program to reduce energy demand. By using less electricity on Peak Day Pricing Event Days when the power grid is under the most strain, the City is helping keep California’s energy supply reliable for everyone and reduces the City’s energy cost. City Hall is not among the sites currently enrolled in the program but plans are in place for all City facilities to participate by 2016.

## **2.6. IDENTIFY AND TAKE ADVANTAGE OF GRANT AND INCENTIVE PROGRAMS**

The City has taken advantage of available incentives for energy efficiency projects offered through PG&E, such as the nearly \$24,000 rebate that was granted for the LED Street-Light installation project described in Section 3. The City will continue to identify and take advantage of grant and incentive programs available, including any additional energy utility incentive programs and the CEC low-interest energy project loan programs. See Section 5 for more details on funding opportunities.

## **2.7. ENERGY EFFICIENT EQUIPMENT**

When purchasing new equipment, the City will seek to purchase and utilize energy efficient equipment, consistent with the City of Oakley Environmentally Preferable Purchasing Policy, described in more detail below.

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## 2.7.1 ESTABLISH AN ENERGY EFFICIENCY PURCHASING POLICY

The City adopted an “Environmentally Preferable Purchasing Policy” in February 2011, which guides the City in its purchasing activities when environmentally preferable options are both practical and cost effective. It includes a section on energy efficiency that states that, where applicable and practical, the City will seek to purchase energy-efficiency equipment, including:

- High efficiency space heating systems and high efficiency space cooling equipment.
- Replace inefficient interior lighting with energy-efficient equipment.
- Replace inefficient exterior lighting, street lighting and traffic signal lights with energy-efficient equipment. Minimize exterior lighting where possible to avoid unnecessary lighting of architectural and landscape features while providing adequate illumination for safety and accessibility.
- Purchase EPA Energy Star certified products when available and cost effective. When Energy Star labels are not available, choose energy-efficiency products that are in the upper 25% of energy efficiency as designated by the Federal Energy Management Program.

The policy also addresses purchasing in a variety of other areas including water saving products, green building, and landscaping. The full City of Oakley Environmentally Preferable Purchasing Policy can be found on the City of Oakley webpage at [www.ci.oakley.ca.us](http://www.ci.oakley.ca.us).

## 2.7.2 EFFICIENT LIGHTING AND LIGHTING CONTROLS

Consistent with the Environmentally Preferable Purchasing Policy, when installing new interior and exterior applications, the City will seek to install current generation of energy efficient lighting and lighting controls. Energy efficient lighting technologies include low-wattage linear fluorescent lights, compact fluorescent lights, LEDs, and induction lighting. Examples of lighting controls include occupancy sensors, photocell installations for turning off lights when there is enough daylight, and time clocks for scheduling lights on and off automatically.

## 2.7.3 INSTALL ENERGY EFFICIENT HVAC SYSTEMS

In addition to buying energy efficient air conditioners, chillers, and boilers, the City will consider the feasibility of further increasing the energy efficiency of their HVAC systems using the following strategies:

- Install Economizers
- Enhance Control of Equipment
- Appropriately Size Equipment
- Reduce Unnecessary Heat Gain and Loss
- Perform Regular Maintenance on Equipment

## 2.7.4 MANAGE PLUG LOADS

“Plug Loads” are energy consuming equipment that draws electricity from a wall socket. Examples of plug loads include computers, printers, refrigerators, and space heaters. The City manages plug loads by activating any energy saving features on equipment, where appropriate, and will explore whether substantial benefits might be obtained by installing occupancy sensed power strips.

### **3. FACILITIES OPERATION**

In addition to installing energy efficient equipment, the City will strive to operate high-performing facilities, buildings, and energy infrastructure systems that are optimized for inhabitant comfort, productivity, and energy and resource efficiency. The following programs will be implemented by the City to meet this goal:

#### **3.1. ENCOURAGE AND SUPPORT ENERGY EFFICIENCY TRAINING OF STAFF**

The City will provide informal training and reminders to encourage staff to practice energy reduction best practices in the operations and maintenance of City facilities.

#### **3.2. INSTALL ENERGY MANAGEMENT SYSTEMS**

The City will explore the installation of a computerized energy management system (EMS) to provide centralized reporting and control of City energy-related activities. City staff will strive to achieve optimum efficiency in the use of natural gas, electricity, or other energy resources to meet the heating, cooling, and lighting needs of City facilities. This will be a future project and will be considered if appropriate and consistent with the City's energy and fiscal goals.

#### **3.3. ADJUST TEMPERATURE SET POINTS AND SCHEDULE OPERATING TIMES**

The City building thermostats have been programmed such that heating will only occur at certain temperature set points, helping the City avoid the energy costs associated with overcooling and overheating of its buildings. The City will prioritize improving the control of heating and cooling within the City Hall building through the implementation of measures identified as part of a thorough energy audit. The City is also in the process of identifying funding for new, remotely controlled thermostats for the Recreational Building – a measure that is estimated to significantly increase energy efficiency and reduce energy costs.

#### **3.4. OPTIMIZE BUILDING OCCUPANCY SCHEDULING**

The Oakley City Hall building is currently closed two Fridays out of each month to help reduce operational costs and save energy. During these closure periods, minimal lighting and HVAC equipment is used in the building. Computers, copy-machines and printers are placed on "stand-by" mode to reduce plug load energy usage as well.

#### **3.5. OPTIMIZE HVAC EQUIPEMENT SCHEDULING**

The City currently optimizes HVAC equipment scheduling, and avoids cooling and heating spaces when unnecessary. All air conditioning equipment, including supply and return air fans, are shut off on weekends, holidays, and for varying periods each night.

### **3.6. ACTIVATE ENERGY-SAVING FEATURES FOR APPLIANCES AND COMPUTERS**

Where appropriate, the City activates energy-saving features on appliances and computer equipment within City facilities, for example, power-saving modes on PCs, copiers, printers, and other office equipment.

## **4. SUSTAINABLE BUILDING PRACTICES**

Construction and renovation of new and existing facilities provides a significant opportunity to reduce the environmental impacts of the built environment through sustainable building practices. The City will incorporate energy and resource efficient “green building” practices in the design and construction of all new and renovated facilities. The following are planned to meet this goal:

### **4.1. IMPLEMENT SUSTAINABLE DESIGN PRACTICES**

The City will incorporate sustainability into the design criteria for new construction, renovation, maintenance, and repair projects compatible with the City’s economic and fiscal criteria. Energy efficient and sustainable design will be addressed early in the project planning and design phases to identify those design elements that deliver both energy savings and maximize cost effectiveness. Sustainable design criteria for consideration include:

- Solar energy opportunities
- Durable systems and finishes with long life cycles that minimize maintenance and replacement
- Systems designed for optimization of energy, water, and other natural resources
- Maximization natural daylighting and ventilation
- Optimization of indoor environmental quality for occupants by limiting the use of building materials and furnishing with high levels of Volatile Organic Compounds (VOCs) and utilizing energy- efficient HVAC systems
- Utilization of environmentally preferable products and processes, such as recycled content materials and recyclable materials
- Optimization of layout and design of spaces to accommodate reconfiguration, with the expectation that the facility will be renovated and re-used (versus demolished)
- Procedures that monitor, trend, and report operational performance
- Design outdoor spaces to incorporate sustainable landscaping practices, minimize impervious surfaces, and plant trees to shade parking lots to prevent the heat island effect
- Any energy-using equipment acquired for the furnishing of new and renovated buildings will be ENERGY STAR® rated or equivalent in accordance with the purchasing policy adopted by the City

The design criteria listed above will include taking advantage of utility-provided design programs that help incorporate and evaluate the benefits of these practices, including the PG&E “Savings by Design” program.

### **4.2. COMMISSION NEW BUILDINGS**

All new buildings will be commissioned after construction to ensure that systems were installed and operating as designed. Individual systems will also be commissioned to ensure that they run as efficiently as possible.

## 5. ON-SITE GENERATION AND RENEWABLE ENERGY

As described below, the City has evaluated the potential for renewable energy and clean on-site generation on City Hall. The City adheres to the philosophy that renewable generation implementation should occur only after significant efficiency and conservation plans have been implemented to ensure that any self-generation or demand response programs or projects are sized appropriately.



The following implementation programs will be implemented by the City to meet this goal:

### 5.1. RE-EVALUATE RENEWABLE ENERGY GENERATION

The City had solar photovoltaic (PV) feasibility studies conducted for City Hall by a vendor in January 2009 and September 2011. Solar panel installation was not recommended at those times due to unfavorable economics. Since the cost of solar has been reduced dramatically since 2011, the City will consult an independent consultant to provide an updated feasibility study and will continue to consider opportunities for renewable generation where appropriate and consistent with the City's economic policy.

### 5.2. IDENTIFY AND TAKE ADVANTAGE OF GRANT AND INCENTIVE PROGRAMS

The City will explore and take advantage of grant and incentive programs available for self-generation or renewable energy through the local utilities. See Section 5 of the SEP for utility incentive program information.

## 6. OUTREACH & AWARENESS

The effectiveness of a Local Government SEP is highly dependent on the actions of individual City staff and employees. While energy efficient equipment and the installation of solar panels will make a city more energy responsible, cultural and behavioral changes can have a large impact on the effectiveness of these projects. These factors also strongly influence the likelihood of the continued prioritization of sustainability within City operations and in the community itself. Additionally, it is important to maintain transparency and keep employees and the community informed of the City's progress with energy planning and action. Ideally, the city of Oakley SEP will act as a springboard toward more robust activities with the larger community.

The City will implement the following to help achieve this goal and will evaluate future programs and projects on an annual basis.

## **6.1. CREATE A WEBPAGE DEDICATED TO CITY SUSTAINABILITY**

The City will establish a webpage on the City website dedicated to energy and sustainability efforts. The intent of the webpage is to act as an education and awareness tool for the larger community and highlight the City's commitment to energy use reduction and sustainability as whole. It will host the latest version of the City's completed SEP and provide a summary of the vision, goals, and past, and planned projects. The Energy Plan Coordinator provided through the Civic Spark Program, or a member of the Energy Leadership Team, will manage the webpage and ensure that it is kept up-to-date with the latest City developments and the results of the City's efforts.

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## APPENDIX 2: ENERGY PROGRAMS AND PROJECTS CHECKLIST

**Strategic Energy Plan Summary  
Implementation Programs and Checklist**

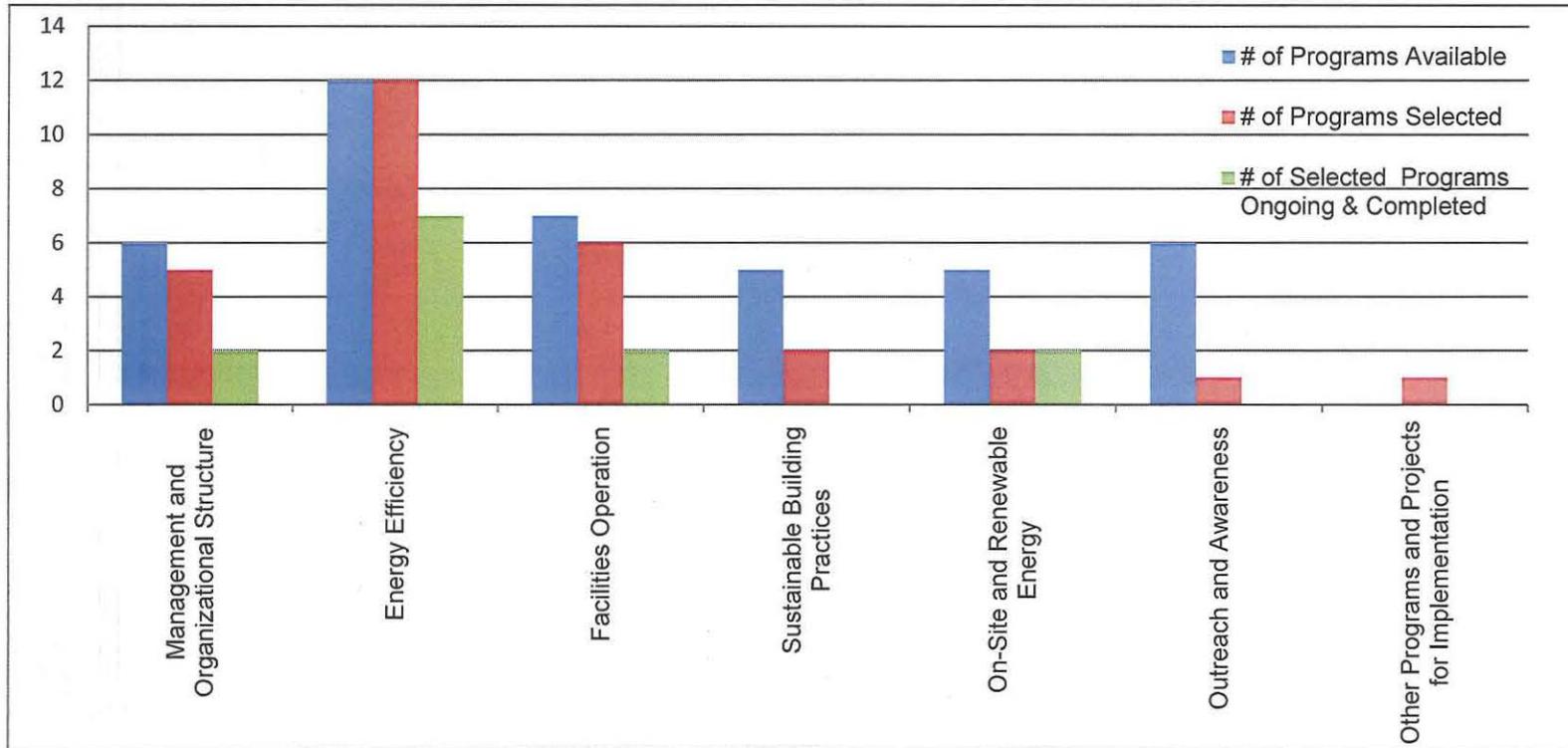
**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

<b>Plan Section</b>	<b>Template Plan Section Description</b>	<b># of Programs Available</b>	<b># of Programs Selected</b>	<b># of Selected Programs Ongoing &amp; Completed</b>
<u>1</u>	Management and Organizational Structure	6	5	2
<u>2</u>	Energy Efficiency	12	12	7
<u>3</u>	Facilities Operation	7	6	2
<u>4</u>	Sustainable Building Practices	5	2	0
<u>5</u>	On-Site and Renewable Energy	5	2	2
<u>6</u>	Outreach and Awareness	6	1	0
<u>7</u>	Other Programs and Projects for Implementation	6	1	0
<b>Totals</b>		<b>41</b>	<b>29</b>	<b>13</b>

For questions, comments, or feedback, please contact Matt Sullivan, Newcomb | Anderson | McCormick, 415-896-0300, matt\_sullivan@newcomb.cc

## Strategic Energy Plan Programs and Projects Chart

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015



**Sustainability Template Plan  
Implementation Programs and Plans Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 1	MANAGEMENT AND ORGANIZATIONAL STRUCTURE	Comments
<input type="checkbox"/>	1.x	Establish a City Council Energy Committee
<input checked="" type="checkbox"/>	1.1	Adopt a City Energy Policy
<input checked="" type="checkbox"/>	1.2	Establish a City Energy Committee
<input checked="" type="checkbox"/>	1.3	Appoint an Energy Plan Coordinator
<input checked="" type="checkbox"/>	1.4	Funding and Resources to Support Energy Plan Activities
<input checked="" type="checkbox"/>	1.5	Engage Energy Professionals as Required
<input type="checkbox"/>	1.6	Integrate Energy Planning into City General Plan or Climate Action Plan
<input type="checkbox"/>	1.x	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	1.x	<i>Enter Other Program and Project 2, text will change color</i>

See SEP Appendix 1 for details on the above implementation projects and programs.

**Strategic Energy Plan  
Implementation Programs and Checklist**

City: Oakley  
Project: Strategic Energy Plan  
Date: 10/26/2015

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 2 ENERGY EFFICIENCY		Comments
<input checked="" type="checkbox"/>	2.1	Set Energy Efficiency Goals
<input checked="" type="checkbox"/>	2.2	Evaluate Mechanisms for the Implementation of Energy Efficiency Projects
<input type="checkbox"/>	2.2.1	Conduct Facility Prioritization Survey
<input checked="" type="checkbox"/>	2.3	Conduct Comprehensive Facility Energy Audits
<input checked="" type="checkbox"/>	2.3.1	Evaluate & Implement New and Existing Audit Recommendations
<input checked="" type="checkbox"/>	2.4	Implement Ongoing Energy Monitoring
<input checked="" type="checkbox"/>	2.5	Participate in Demand Response (DR) Programs
<input checked="" type="checkbox"/>	2.6	Identify and Take Advantage of Grant and Incentive Programs
<input checked="" type="checkbox"/>	2.7	Energy Efficient Equipment
<input checked="" type="checkbox"/>	2.7.1	Establish an Energy Efficiency Purchasing Policy
<input checked="" type="checkbox"/>	2.7.2	Efficient Lighting and Lighting Controls
<input checked="" type="checkbox"/>	2.7.3	Install Energy Efficient HVAC Systems
<input checked="" type="checkbox"/>	2.7.4	Manage Plug Loads
<input type="checkbox"/>	2.x	<i>Enter Other Program and Project 2, text will change color</i>

See SEP Appendix 1 for details on the above implementation projects and programs.

**Strategic Energy Plan  
Implementation Programs and Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 3	FACILITIES OPERATION	Comments
<input checked="" type="checkbox"/>	3.1	Encourage and Support Energy Efficiency Training of Staff
<input checked="" type="checkbox"/>	3.2	Install Energy Management Systems
<input checked="" type="checkbox"/>	3.3	Adjust Temperature Set Points and Schedule Operating Times
<input checked="" type="checkbox"/>	3.4	Optimize Building Occupancy Scheduling
<input checked="" type="checkbox"/>	3.5	Optimize HVAC Equipment Scheduling
<input checked="" type="checkbox"/>	3.6	Activate Energy-Saving Features for Appliances and Computers
<input type="checkbox"/>	3.7	Pursue Monitoring-Based(MBCx)/Retro-Commissioning (RCx)
<input type="checkbox"/>	3.x	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	3.x	<i>Enter Other Program and Project 2, text will change color</i>

See SEP Appendix 1 for details on the above implementation projects and programs.

**Strategic Energy Plan  
Implementation Programs and Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 4 SUSTAINABLE BUILDING PRACTICES		Comments
<input type="checkbox"/>	4.x	Establish a Green Building Standard
<input checked="" type="checkbox"/>	4.1	Implement Sustainable Design Practices
<input type="checkbox"/>	4.x	Use an Integrated Systems Approach in Building Design
<input type="checkbox"/>	4.x	Hire Sustainable Design Professionals
<input checked="" type="checkbox"/>	4.2	Commission New Buildings
<input type="checkbox"/>	4.x	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	4.x	<i>Enter Other Program and Project 2, text will change color</i>

See SEP Appendix 1 for details on the above implementation projects and programs.

**Strategic Energy Plan  
Implementation Programs and Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 5 ON-SITE AND RENEWABLE ENERGY		Comments
<input checked="" type="checkbox"/>	5.1	Re-evaluate Renewable Energy Generation
<input type="checkbox"/>	5.x	Evaluate Load Shifting Technologies
<input type="checkbox"/>	5.x	Minimize Greenhouse Gas Intensity of Purchased Electricity
<input type="checkbox"/>	5.x	Participation in Community Choice Aggregation
<input checked="" type="checkbox"/>	5.2	Identify and Take Advantage of Grant and Incentive Programs
<input type="checkbox"/>	5.x	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	5.x	<i>Enter Other Program and Project 2, text will change color</i>

See SEP Appendix 1 for details on the above implementation projects and programs.

**Strategic Energy Plan  
Implementation Programs and Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 6 OUTREACH AND AWARENESS		Comments
<input checked="" type="checkbox"/>	6.1	Create a Webpage Dedicated to City Sustainability
<input type="checkbox"/>	6.2	Hold Workshops and Presentations
<input type="checkbox"/>	6.3	Coordinate Sustainability Events
<input type="checkbox"/>	6.4	Hold Sustainability Challenges and Competitions
<input type="checkbox"/>	6.5	City Organization Outreach and Awareness
<input type="checkbox"/>	6.6	Community-wide Outreach & Awareness
<input type="checkbox"/>	6.6	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	6.7	<i>Enter Other Program and Project 2, text will change color</i>

See SEP Appendix 1 for details on the above implementation projects and programs.

**Strategic Energy Plan  
Implementation Programs and Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

Selected Programs and Plans for Implementation are Summarized Below		
Section 7	OTHER PROGRAMS AND PROJECTS FOR IMPLEMENTATION	Comments
<input type="checkbox"/>	7.1	<i>Enter Other Program and Project 1, text will change color</i>
<input type="checkbox"/>	7.2	<i>Enter Other Program and Project 2, text will change color</i>
<input type="checkbox"/>	7.3	<i>Enter Other Program and Project 3, text will change color</i>
<input type="checkbox"/>	7.4	<i>Enter Other Program and Project 4, text will change color</i>

See SEP Appendix 1 for details on the above implementation projects and programs.

**Strategic Energy Plan Summary  
Implementation Programs and Plans Checklist**

City: Oakley  
Project: Strategic Energy Plan  
Date: 10/26/2015

**Priority Implementation Plans Indicated Below**

Section 1 MANAGEMENT AND ORGANIZATIONAL STRUCTURE									
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
1.1	Adopt a City Energy Policy	11/15/2015	High	In-process		1,2,3,4,5		Senior Planner	
1.2	Establish a City Energy Committee		High	Complete		1,2,3,4,5		Senior Planner	
1.3	Appoint an Energy Plan Coordinator		Low	Planned		1,2,3,4,5		Senior Planner	
1.4	Funding and Resources to Support Energy Plan Activities		High	Planned		1,2,3,4,5		Senior Planner	
1.5	Engage Energy Professionals as Required		Med	Ongoing		1,2,3,4,5		Senior Planner	

Section 2 ENERGY EFFICIENCY									
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
2.1	Set Energy Efficiency Goals		High	Planned		1,4		Senior Planner	
2.2	Evaluate Mechanisms for the Implementation of Energy Efficiency Projects		High	Ongoing		1		Senior Planner	
2.3	Conduct Comprehensive Facility Energy Audits	Audited City Hall 9/15	High	In-process		1,3		Senior Planner	
2.3.1	Evaluate & Implement New and Existing Audit Recommendations	Audited City Hall 9/15	High	Planned		1,3		Senior Planner	
2.4	Implement Ongoing Energy Monitoring		High	Planned		1		Senior Planner	
2.5	Participate in Demand Response (DR) Programs	City enrolled in PG&E Peak Day Pricing Program at the following sites (City Hall not currently enrolled): 10 RED BARN CT (IRRIGATION CONTROLLER); 4015 EMPIRE AVE; 4200 LIVE OAK AVE; 608 SCABBARD WY (IRRIGATION CONTROLLER); 1882 LAKEWOOD DR; 1799 PARK PL A (IRRIGATION CONTROLLER); 2300 OAKLEY RD; N/S CAROENTER RD W/O; NS/LAUREL RD AND 204 2ND ST; 1250 OHARA AVE	High	Complete		1,4		Senior Planner	
2.6	Identify and Take Advantage of Grant and Incentive Programs		High	Ongoing		1,3		Senior Planner	
2.7	Energy Efficient Equipment		Med	Ongoing		1		Senior Planner	
2.7.1	Establish an Energy Efficiency Purchasing Policy		High	Complete		1,3		Senior Planner	
2.7.2	Efficient Lighting and Lighting Controls		High	Ongoing		1		Senior Planner	
2.7.3	Install Energy Efficient HVAC Systems		Med	Planned		1		Senior Planner	
2.7.4	Manage Plug Loads		High	Ongoing		1		Senior Planner	

**Strategic Energy Plan Summary  
Implementation Programs and Plans Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

<b>Section 3 FACILITIES OPERATION</b>									
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
3.1	Encourage and Support Energy Efficiency Training of Staff		Med	Planned		2,5		Senior Planner	
3.2	Install Energy Management Systems		Med	Planned		1,2		Senior Planner	
3.3	Adjust Temperature Set Points and Schedule Operating Times		Med	Planned		1,2		Senior Planner	
3.4	Optimize Building Occupancy Scheduling		High	Complete		1,2		Senior Planner	
3.5	Optimize HVAC Equipment Scheduling		Med	Complete		1,2		Senior Planner	
3.6	Activate Energy-Saving Features for Appliances and Computers	Copy & Fax machines have been programmed; Computers still need programming	High	Planned		1,2		Senior Planner	

<b>Section 4 SUSTAINABLE BUILDING PRACTICES</b>									
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
4.1	Implement Sustainable Design Practices		Low	Planned		2		Senior Planner	
4.2	Commission New Buildings		Low	Planned		2		Senior Planner	

<b>Section 5 ON-SITE AND RENEWABLE ENERGY</b>									
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
5.1	Re-evaluate Renewable Energy Generation	As needed; Last feasibility study completed in 2011	Med	Ongoing		1,4		Senior Planner	
5.2	Identify and Take Advantage of Grant and Incentive Programs		High	Ongoing		1,3		Senior Planner	

**Strategic Energy Plan Summary  
Implementation Programs and Plans Checklist**

**City:** Oakley  
**Project:** Strategic Energy Plan  
**Date:** 10/26/2015

**Priority Implementation Plans Indicated Below**

Section 6 OUTREACH AND AWARENESS									
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address
6.1	Create a Webpage Dedicated to City Sustainability		High	Planned		5		Senior Planner	

Section 7 OTHER PROGRAMS AND PROJECTS FOR IMPLEMENTATION									
Section	Selected Program or Project	Action Items/Notes	Priority (select)	Status (select)	Cost (\$)	Associated GOAL(s)	Target Completion Date	Assigned To	Email address



# FINAL DRAFT

## APPENDIX 3: ENERGY USE BENCHMARKING STUDY

The East Bay Energy Watch (EBEW)<sup>1</sup> benchmarked the energy performance of the buildings and facilities operated by the City of Oakley. The purpose of energy benchmarking is to measure changes in energy performance of a building, or portfolio of buildings, against an established baseline. Buildings can be benchmarked against their own historic baseline, or using the energy performance of other, similar buildings. It should be noted that Energy Star Portfolio Manager, the industry-standard benchmarking tool, does not standardize energy use by building operations for the many types of buildings local governments manage. Therefore, benchmarking should not be the only tool in a facility manager’s toolbox. It provides a platform on which an agency can collect and organize its energy data, draw comparisons on building energy performance using very limited information, and form questions that require deeper investigation.

The data presented below provides a snapshot of benchmarking results. Benchmarking utilizes 12-month periods of energy use data; the end of each building’s baseline and current energy period is indicated in Table 1<sup>2</sup>. All energy sources (e.g. electricity and natural gas) used in a building are converted to kBtu and standardized by floor area. Figure 1 compares baseline to current energy performance for each building. Energy performance of the Community Annex Building improved over time, but City Hall, which also hosts the Police Department, increased in energy use intensity more than twofold. Changes in operation that led to this increase in intensity occurred during a period of time less than two years (refer to End Dates, Table 1). Buildings housing both central administrative and law enforcement functions are usually the most energy intense and expensive buildings for local governments. Oakley spent over \$50,000 on energy used in City Hall during the current energy period (Figure 2).

**Table 1.** City buildings, space type as designated by Energy Star, and 12-month baseline and current energy period ending dates.

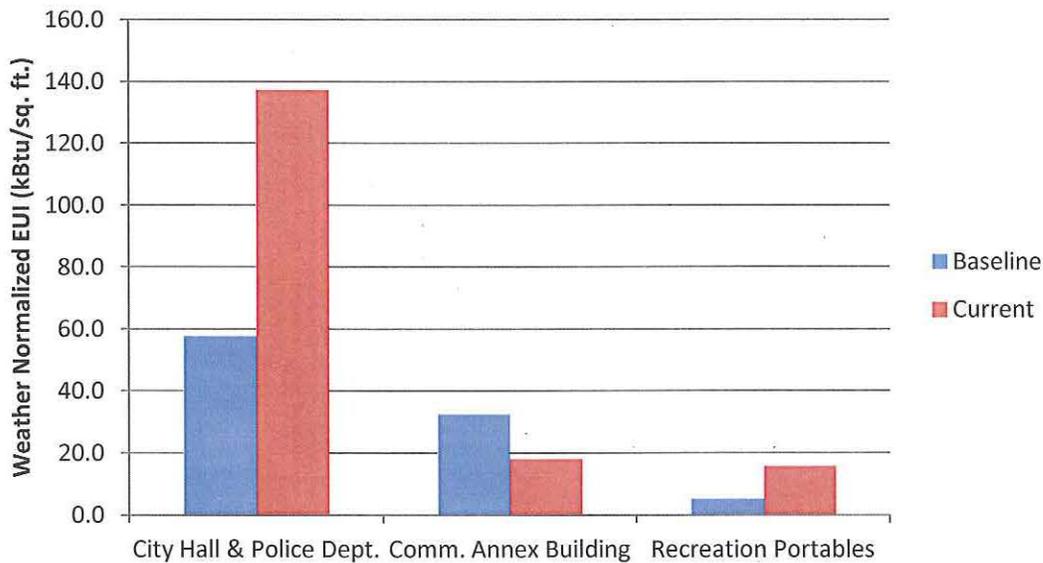
Oakley Buildings	Baseline Period End Date	Current Period End Date	Space Type
City Hall & Police Dept.	10/31/2013	6/30/2015	Office
Comm. Annex Building	6/30/2010	6/30/2015	Social/Meeting Hall
Recreation Portables	6/30/2011	6/30/2015	Social/Meeting Hall

Still, City Hall was relatively less energy intense when compared to the energy performance of other, similar buildings in the region (Figure 3). The low energy intensity of Oakley’s other buildings, illustrated in Figure 3, may represent their relative efficiency compared to similar buildings in the region, but more than likely it reflects the extreme differences in their patterns of use. It is recommended that the City of

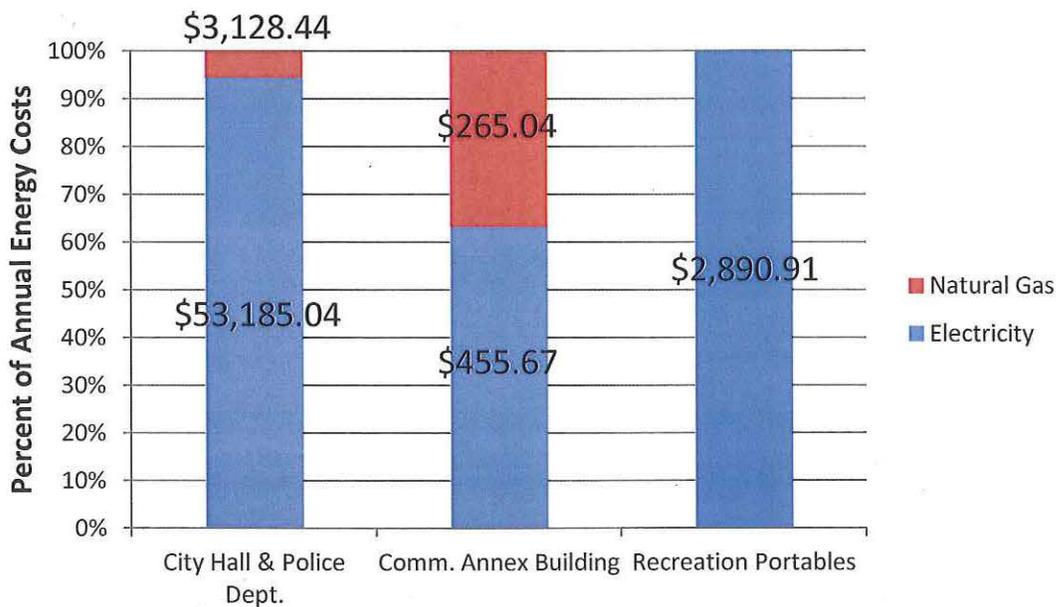
<sup>1</sup> The East Bay Energy Watch (EBEW) is a partnership between Pacific Gas and Electric Company (PG&E) and local governments, non-profit and for-profit energy service providers in the East Bay dedicated to providing innovative energy efficiency solutions for residents and businesses in communities throughout Alameda and Contra Costa Counties.

<sup>2</sup> Energy period ending dates necessarily differ based on availability of energy data.

Oakley examine the patterns of energy use in all of their facilities<sup>3</sup> using simple tools like PG&E's MyEnergy database ([www.pge.com/myenergy](http://www.pge.com/myenergy)), and explore opportunities for energy efficiency retrofits or other efforts to reduce the energy intensity of the buildings they operate, particularly that of City Hall. Most energy efficiency projects are eligible for rebates from PG&E, and some projects may qualify for 0% interest On-Bill Financing.

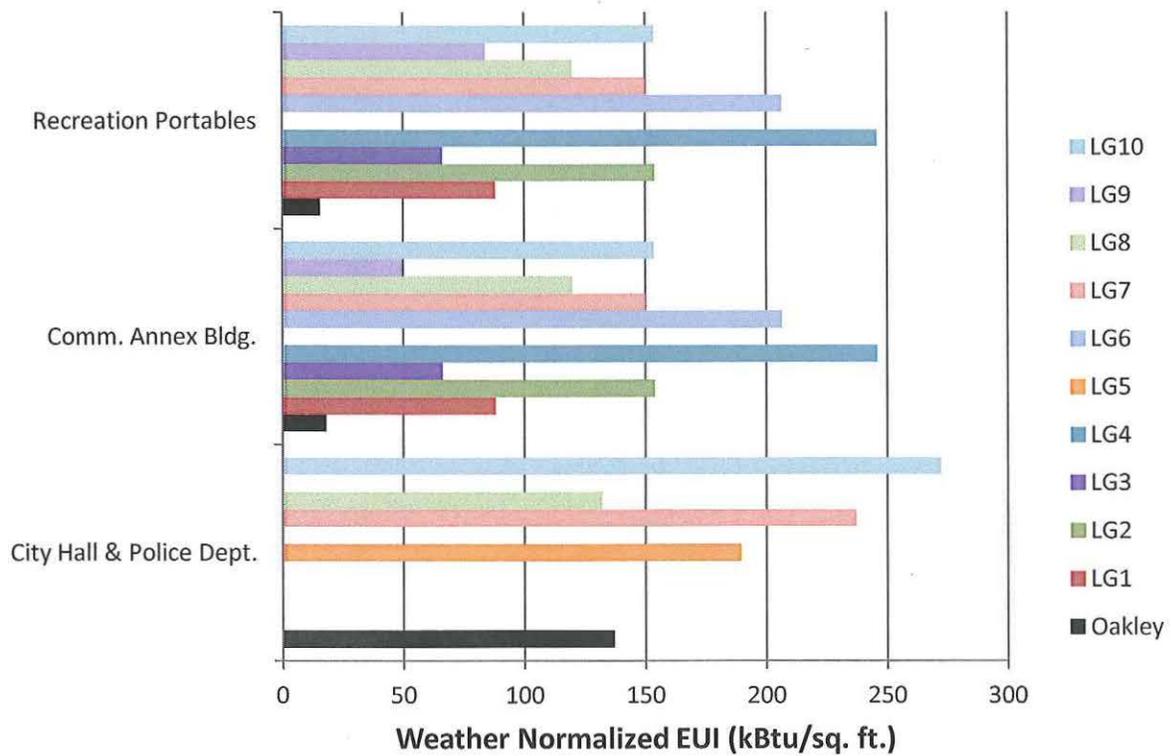


**Figure 1.** Comparison of baseline period EUI (energy use intensity; kBtu/ft<sup>2</sup>) to current period EUI, by building operated by City of Oakley.



**Figure 2.** Comparison of current period energy costs and their percent distribution by energy source.

<sup>3</sup> Local governments use energy to operate numerous irrigation controllers, traffic and street lights, and park facilities. Benchmarking is not an appropriate exercise for these non-building end uses, but the usage and costs of all energy should be organized and monitored using a variety of available tools.



**Figure 3.** Comparison of current period EUI across similar buildings operated by other East Bay local governments (LG1-13). Community centers, recreation buildings, and senior centers in the region were all included in comparisons of the Oakley Community Annex and Recreation buildings because their patterns of use are not consistent or typical. Buildings that house both administrative and police functions were selected for comparisons with Oakley's City Hall.

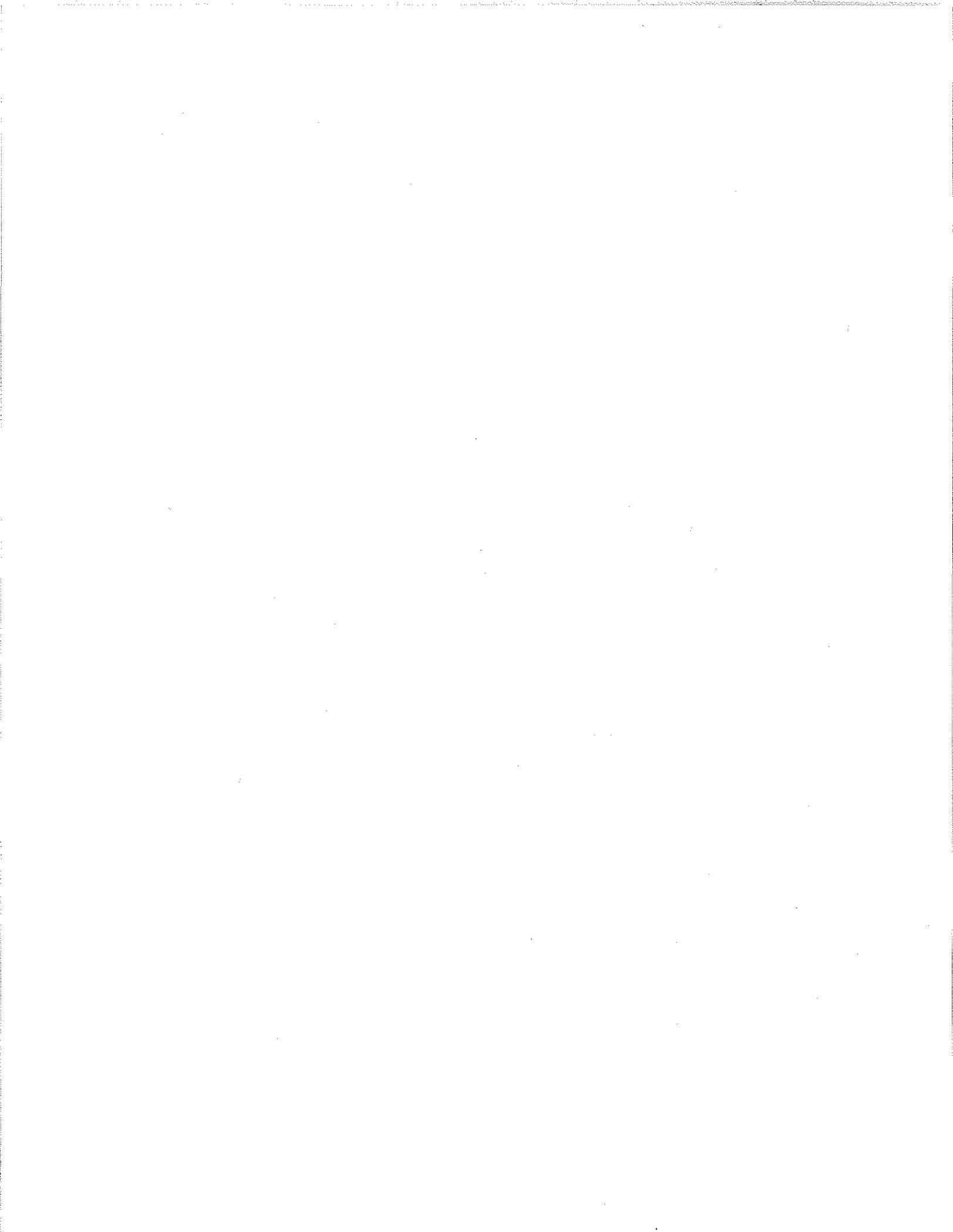
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## APPENDIX 4: THE POLICY CONTEXT OF STRATEGIC ENERGY PLANNING

The State of California and local agencies have been on the forefront of establishing aggressive policies and standards for environmental protection and reducing greenhouse gas (GHG) emissions that contribute to global warming. In 1970, the State adopted the California Environmental Quality Act (CEQA) with the goal to inform governments and the public about potential environmental impacts of projects. From 2005 onward, legislation has been passed to directly regulate GHG emissions, encouraging the creation of incentive mechanisms and cap-and-trade programs and the participation in voluntary activities such as purchasing emissions offsets and offering renewable energy certificates (RECs).

In September of 2015 the most recent and significant legislation, the **Clean Energy and Pollution Reduction Act of 2015 (SB-350)**, was passed by the California State Legislature. This bill outlines California Governor Brown's "50/50/50" energy plan for the State, which aims to increase electricity from renewable sources by 50 percent, reduce petroleum consumption by 50 percent, and increase building efficiency by 50 percent by 2030. Compliance with state and local policies and regulations regarding these issues is an important factor for consideration by the City of Oakley. The following list outlines some of the numerous policies and regulatory drivers that contributed to the creation of this Plan.

- **Warren Alquist Act 1974** – Created the California Energy Commission (CEC) mandate to develop and regularly update Building Energy Efficiency and Equipment Standards, now known as Title 24 and Title 20 codes. These standard are largely credited with holding California's per capita energy consumption essentially flat since the mid-1970s.
- **AB 4420, 1988 (Sher)** – Directed the CEC to inventory and study greenhouse gases (GHGs) and the impacts of climate change on the states' economy and environment.
- **SB 1771, 2000 (Sher)** – Established the State's Climate Action Registry and established GHG baselines and ongoing monitoring.
- **AB 1493, 2002 (Pavley)** – Landmark "Clean Car Legislation" after California received authorization from the US EPA to regulate these emissions. These rules were initially heavily fought by the auto industry but have since become the standard for the nation.
- **SB 1078, 2002 (Sher); SB 107, 2006 (Simitian); SB X1-2 (Simitian)** – Establishing the State's Renewable Portfolio Standard (RPS) goals with increasing targets, currently requiring all retail sales of electricity to include 33% renewable power by the end of 2020.
- **AB 32, 2006 (Nunez)** – Global Warming Solutions Act of 2006; Established goal to reduce California's GHG emissions below 1990 levels by 2020 and 80% below these levels by 2050.
- **California Long-Term Energy Efficiency Strategic Plan (CEESP) drafted by the CPUC in 2008 and updated 2011** – Outlines "big and bold" goals including 40% of residential building to be zero net energy (ZNE) by 2030 and 50% of commercial building to meet this criteria by 2040
- **AB758, 2009, (Skinner)** – Comprehensive Energy Efficiency Program for Existing Buildings; requires the CEC to create and implement an Existing Building Energy Efficiency Action Plan, in coordination with the CPUC and stakeholders.



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## APPENDIX 5: GLOSSARY OF TERMS AND ACRONYMS

**Air-side Economizer:** a device that conserves energy by allowing outside airflow to enter the building instead of air-conditioned air if the outdoor temperature is within a set temperature set range.

**ASHRAE Level II Audit:** audit includes an analysis of energy use at a facility and identifies no-cost, low-cost and capital improvement energy efficiency measures with detailed energy and financial calculations.

**Biomass:** Organic non-fossil material of biological origin constituting a renewable energy source.

**Clean Energy:** energy produced from renewable sources in a process that has minimal impact to the environment.

**CleanPowerSF:** The City and County of San Francisco's Community Choice Aggregation (CCA) program, administered by the San Francisco Public Utilities Commission (SFPUC) and monitored by the San Francisco Local Agency Formation Commission (LAFCo).

**Community Choice Aggregation (CCA):** efforts as developed by Alameda County or other local agencies, as appropriate. CCA permits public agencies to aggregate the electric loads of residents, businesses, and facilities to facilitate the purchase and sale of electrical energy.

**Energy Benchmarking:** process of collecting, analyzing and relating energy performance data of a building with the purpose of evaluating and comparing its performance to itself, other buildings within a portfolio, and/or its peers.

**Energy Management System (EMS):** a computer-aided tool used to monitor, measure, and control electrical building loads. Energy management systems can be used to control devices like HVAC units and lighting systems across multiple locations. They can also provide metering, sub-metering, and monitoring functions that allow facility and building managers to gather data and insight that allows them to make more informed decisions about energy activities across their sites.

**ENERGY STAR®:** a government-backed labeling program that helps people and organizations save money and reduce greenhouse gas emissions by identifying factories, office equipment, home appliances and electronics that have superior energy efficiency.

**Energy Use Intensity (EUI):** metric that expresses a building's energy use as a function of its size or other characteristics.

**Fuel Cell:** A device capable of generating an electrical current by converting the chemical energy of a fuel (e.g., hydrogen) directly into electrical energy. Fuel cells differ from conventional electrical cells in that the active materials such as fuel and oxygen are not contained within the cell but are supplied from outside. It does not contain an intermediate heat cycle, as do most other electrical generation techniques.

**Geothermal Energy:** Hot water or steam extracted from geothermal reservoirs in the earth's crust that can be used for geothermal heat pumps, water heating, or electricity generation.

**Green Building:** an environmentally sustainable building, designed, constructed and operated to minimize the total environmental impacts.

**Greenhouse Gas Emissions:** a gas contributes to the greenhouse effect by absorbing infrared radiation, e.g., carbon dioxide and chlorofluorocarbons.

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**Leadership in Energy and Environmental Design (LEED):** a set of rating systems developed by the U.S. Green Building Council for the design, construction, operation, and maintenance of green buildings, homes and neighborhoods.

**LED Lighting:** a more environmentally-friendly alternative to incandescent lighting.

**Plug Load:** energy used by products that are powered by means of an ordinary AC plug. It typically includes office and general miscellaneous equipment, computers, elevators and escalators.

**Renewable Energy:** energy from a source that is not depleted when used, such as wind or solar power.

**Solar Feasibility Assessment:** a study that assesses energy available, risks, costs, and size of equipment most appropriate for a building or specified location.

**Variable Frequency Drives (VFDs):** a type of motor controller that drives an electric motor by varying the frequency and voltage supplied to the electric motor.

**Variable Speed Drives (VSDs):** a piece of equipment that regulates the speed and rotational force, or torque output, of an electric motor.

## Acronyms

**ABAG:** Association of Bay Area Governments

**ASHRAE:** American Society of Heating, Refrigerating and Air-Conditioning Engineers

**CAP:** Climate Action Plan

**EBEW:** East Bay Energy Watch

**HVAC:** Heating, Ventilation, and Air-Conditioning

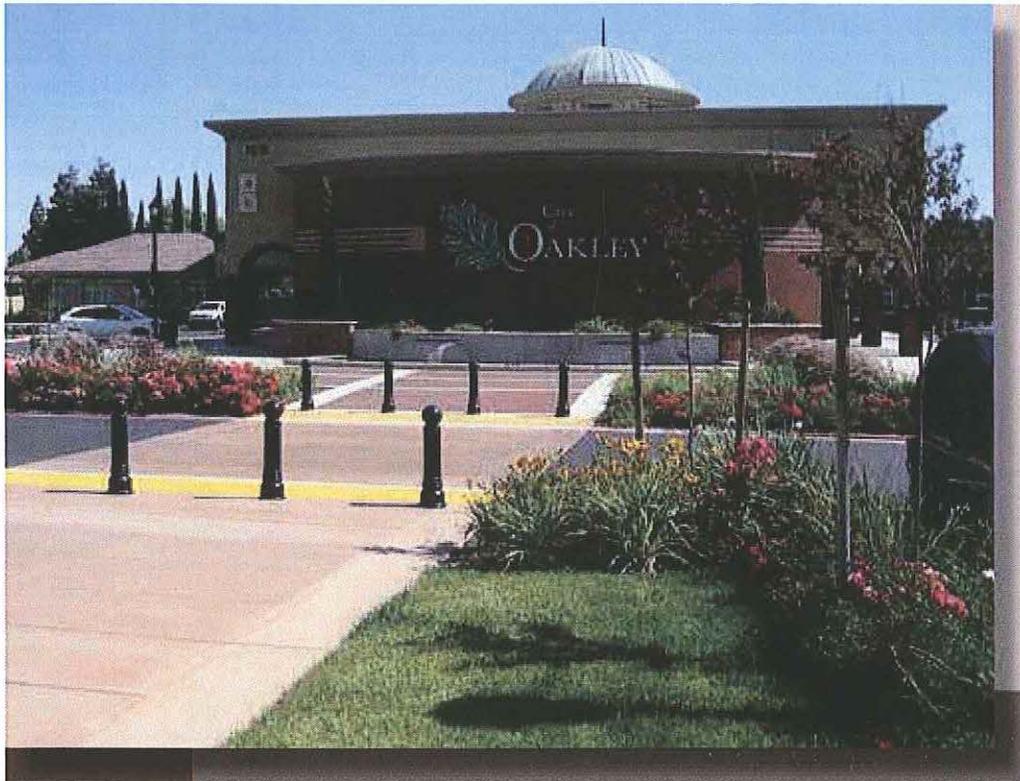
**REN:** Regional Energy Network

**SEP:** Strategic Energy Plan

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## APPENDIX 6: OAKLEY CITY HALL AUDIT REPORT

**Oakley City Hall  
MIT Audit Report  
QuEST, Inc.**



**I. DESCRIPTION OF BUILDING**

Oakley City Hall is a 24,795 square foot, 1-story building located at 3231 Main Street in Oakley, California. The building is divided into three wings: the north, east, and west. Building wings were not constructed at the same time. The east and west wings were constructed first and the north wing was added on in 2007. The City's administration services occupy the north wing, the building and public works department occupies the east wing, and the finance, recreation, and police departments occupy the west wing. The building is primarily used as office space, but additional space types include several conference rooms, kitchens, bathrooms, and a lobby. The building is occupied from 7:30 AM to 6:00 PM Monday through Thursday and 7:30 AM to 5:00 PM on Friday, except for the 1<sup>st</sup> and 3<sup>rd</sup> Fridays of each month.

The building has a total of fifteen packaged units that utilize both natural gas heating and electric cooling. The north wing has seven units and the east and west wings have four units each. The east and west wing units are all the same 5-ton model. The seven packaged units serving the

north wing include two units at 10 tons each, two units at 4 tons each, and three units at 3 tons each. All units are located on the roof. Some of the units have programmed schedules, the most common being 6:00 AM to 10:00 PM M-F and 6:00 PM to 10:00 PM Sa-Su. There are five exhaust fans; each is smaller than 1 HP (horsepower). The building has two hot water heaters that supply domestic hot water to the entire building. The water heaters have capacities of 50 and 19 gallons, respectively. These units are relatively new and have high efficiencies.

The number of thermostats is the same as the number of packaged units, indicating that there are fifteen thermal zones in the building. There are two main types of thermostats, Honeywell and Carrier, and both are programmable. There are two additional thermostats that were found during the audit that do not appear to have programming capability; they have only on/off control. These thermostats are made by Automated Logic Corp. The programmable thermostats shared the same schedule, but the room temperature set point varied by space because it was adjusted by the occupants.

When asked about the temperature in the space, occupants expressed that they were comfortable. During the audit the spaces felt cool and well ventilated. There were no personal heating devices or fans observed in offices during the audit.

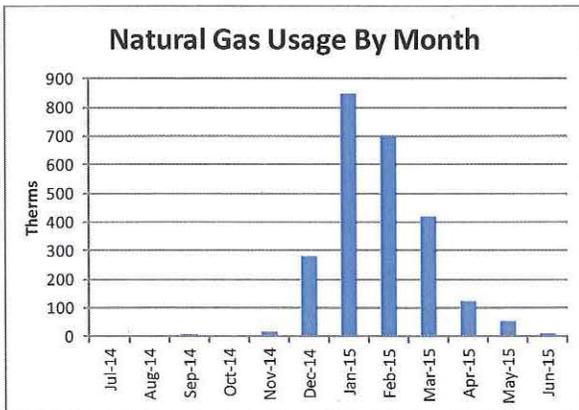
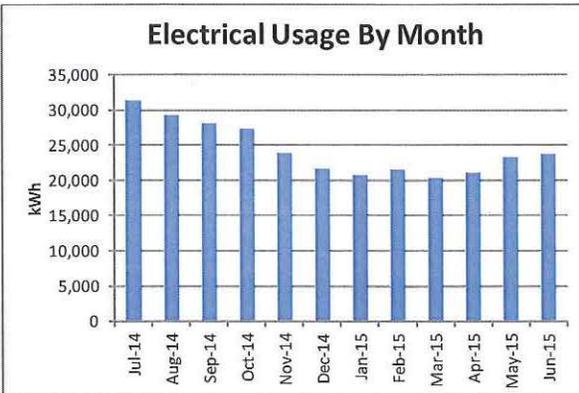
The interior lighting includes several fluorescent fixtures with 4' and 2' T8s, a few 4' T12s, and 2' U-tube lamps. The exterior lighting includes parking lot lights and security lights. The parking lot pole lights are 150 W high pressure sodium fixtures. Other fixtures identified in the plans include 130 and 95 W HID fountain stem and in-ground stem fixtures, 27 W CFL and 95 W HPS wall fixtures, 50 W Halogen poster illuminating wall fixtures, and 59 W T5 strip soffit cove fixtures.

## II. UTILITY USE SUMMARY

Building Address: Oakley City Hall  
3231 Main St.

Conditioned Building Area: 24,795 ft<sup>2</sup>

Period	Electricity (kWh)	Gas (therms)	Energy Cost				Energy Use Index	
			Annual Electricity Cost (\$)	Annual Gas Cost (\$)	Average Electricity Rate (\$/kWh)	Average Gas Rate (\$/Therms)	Electricity (kWh/sf-yr)	Natural Gas (Therms/sf-yr)
Jul-14 To Jun-15	292,819	2,465	\$52,757	\$3,127	\$0.18	\$1.27	11.8096	0.0994



Month	kWh	Electricity Cost	Month	Therms	Gas Cost
Jul-14	31,324	\$6,398	Jul-14	2	\$49
Aug-14	29,366	\$6,008	Aug-14	3	\$46
Sep-14	28,142	\$5,706	Sep-14	5	\$51
Oct-14	27,365	\$5,669	Oct-14	2	\$48
Nov-14	23,865	\$5,047	Nov-14	17	\$59
Dec-14	21,766	\$3,118	Dec-14	280	\$325
Jan-15	20,762	\$2,913	Jan-15	847	\$948
Feb-15	21,502	\$3,036	Feb-15	698	\$808
Mar-15	20,356	\$2,892	Mar-15	420	\$488
Apr-15	21,124	\$3,101	Apr-15	125	\$165
May-15	23,391	\$3,737	May-15	55	\$89
Jun-15	23,855	\$5,133	Jun-15	11	\$53

The site EUI (energy use intensity) of Oakley City Hall is 47.05 kBTU/ft<sup>2</sup>, which is lower than a typical building of this type (67.3 kBTU/ft<sup>2</sup>)<sup>1</sup>.

The monthly consumption of electricity is consistent with slight seasonal peaks, which suggests that there is a high base load. Significant energy savings can come from reducing the base load. For example, the base load can be reduced by increasing equipment efficiencies and/or schedules can be adjusted on the energy consuming equipment so that they can be turned off when they are not being used.

### III. EQUIPMENT

- Fifteen (15) packaged units of varying size and capacity.
- Two (2) hot water heaters.
- Five (5) small exhaust fans.

### IV. MEASURE SUMMARY

Because the building is relatively new, and its equipment and fixtures are of relatively high efficiency and in good condition, retrofits would not be recommended for this building. However, there are opportunities to save energy by reducing the operating schedules of HVAC and lighting equipment (Table 1). HVAC packaged units could run on weekdays until 6:00 PM on Monday through Thursday and until 5:00 PM on Fridays. They should also be turned off on the weekends and on the 1<sup>st</sup> and 3<sup>rd</sup> Friday of each month when staff do not occupy the building.

Additional savings could be achieved by adding occupancy, day lighting, or schedule controls to all of the light fixtures. Some, but not all, lights are equipped with occupancy sensors. The parking lot pole lights are on schedules, but they could be upgraded with day-lighting sensors that turn on the light relative to the demand and adjust to seasonal light shifts.

**Table 1. Proposed energy efficiency measures**

EEM	Measure Description	Measure Code	Peak Demand Savings (kW)	Electrical Energy Savings (kWh/yr)	Natural Gas Energy Savings (therms/yr)	Energy Cost Savings (\$/yr)	Measure Cost (\$)	Simple Payback Period (years)	Incentive Rebate (\$)	Adjusted Payback Period (years)
M1	Add Occupancy Sensors	CLA82	-	-	-	-	-	-	-	-
M2	Add Lighting Schedule Controls	CLA80	-	-	-	-	-	-	-	-
M3	Add Daylighting Controls to Parking Lot Lights	CLA81	-	-	-	-	-	-	-	-
M4	Reprogram Thermostats	CCA11	-	-	-	-	-	-	-	-
				29,282	345.1	\$ 5,714	\$ 31,500	5.5	\$2,687.66	5.0

<sup>1</sup>Energy Star. (2014, September). *Technical Reference: U.S. Energy Use Intensity by Property Type*. Retrieved August 31, 2015, from Portfolio Manager: <https://portfoliomanager.energystar.gov/pdf/reference/US%20National%20Median%20Table.pdf>

The estimated total savings of 29,282 kWh/yr and 345 therms/yr are based on the assumption that the implementation of the proposed measures will reduce the annual electrical and thermal energy consumption by 10% and 14% respectively. The total energy cost savings is estimated to be \$5,714 and the incentive is estimated to be \$2,688. The total project cost is estimated to be \$31,500 with a payback period of 5.5 years without the incentive and 5.0 years with the incentive.

The expected contribution of savings from each measure will be estimated during detailed lighting and HVAC control investigations. The measure savings and all relevant information outlined in Table 1, will be provided with the Investigation Report(s). It is recommended that lighting experts from the SmartLights Program be deployed to the site to assess the energy savings potential of implementing interior and exterior lighting controls. MIT staff will continue investigation of HVAC control opportunities with City staff.

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## APPENDIX 7: CITY OF OAKLEY ENVIRONMENTALLY PREFERABLE PURCHASING POLICY



Agenda Date: 02/08/11  
Agenda Item: 3.6

## MEMORANDUM

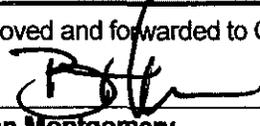
Date: February 8, 2011

To: Bryan Montgomery, City Manager

From: Rebecca Willis, Community Development Director

Project: Adopt a Resolution to approve an Environmentally Preferable Purchasing Policy

Approved and forwarded to City Council

  
Bryan Montgomery,  
City Manager

### Summary

This item is a follow up to the AB 939 Planning Documents that were approved on May 25, 2010. One of the planned Solid Waste Diversion Program requirements is to implement an Environmentally Preferable Purchasing Policy (EPP). The EPP is intended to supplement Title 3, Chapter 6 of the Oakley Municipal Code, which deals with Purchasing and Contracting. As stated within the AB 939 Planning Documents, the City already purchases environmentally preferable products and City Staff has been encouraged to reuse and reduce in the workplace; the EPP will be used to further guide this practice. The adoption of an EPP policy may also assist the City in obtaining future grants through CalRecycle.

### Recommendation

Staff recommends the City Council adopt the Resolution approving the Environmentally Preferable Purchasing Policy.

### Attachments

1. Proposed Resolution
2. Draft Environmentally Preferable purchasing Policy

RESOLUTION NO. \_\_\_\_\_

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF OAKLEY APPROVING  
THE ENVIRONMENTALLY PREFERABLE PURCHASING POLICY**

**WHEREAS**, the City of Oakley adopted AB 939 Planning Documents, in which a requirement is to adopt an Environmentally Preferable Purchasing Policy, and

**WHEREAS**, the City desires to institute practices that reduce waste by increasing product efficiency and effectiveness, purchase products where cost effective, that minimize environmental impacts, such as toxics, pollution and hazards to worker and community safety; purchase cost effective products that reduce greenhouse gas emissions in their production, shipping, use and discard; and purchase products that include recycled content, are durable and long-lasting, and conserve energy and water, and

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of Oakley adopt the Environmentally Preferable Purchasing Policy.

**PASSED AND ADOPTED** by the City Council of the City of Oakley, California, this 8<sup>th</sup> day of February 2011 by the following vote:

AYES:

NOES:

ABSTENTIONS:

ABSENT:

APPROVED:

\_\_\_\_\_  
James L. Frazier, Jr., Mayor

ATTEST:

\_\_\_\_\_  
Nancy Ortenblad, City Clerk

\_\_\_\_\_  
Date



**ENVIRONMENTALLY  
PREFERABLE PURCHASING  
POLICY (EPP)**

---

**1.0 STATEMENT OF POLICY**

It is the policy of the City of Oakley (City) to:

- Institute practices that reduce waste by increasing product efficiency and effectiveness;
- Purchase products where cost effective, that minimize environmental impacts, such as toxics, pollution and hazards to worker and community safety;
- Purchase cost effective products that reduce greenhouse gas emissions in their production, shipping, use and discard; and
- Purchase products that include recycled content, are durable and long-lasting, and conserve energy and water.

**2.0 PURPOSE**

This Policy is adopted in order to:

- Conserve natural resources;
- Minimize environmental impacts such as pollution and use of water and energy;
- Eliminate or reduce toxics that create hazards to workers and our community;
- Support strong recycling markets;
- Reduce materials that are landfilled;
- Increase the use and availability of environmentally preferable products that protect the environment;
- Identify environmentally preferable products and distribution systems;

- Reward manufacturers and vendors that reduce environmental impacts in their production and distribution systems or services; and
- Create a model for purchasing environmentally preferable products that supports environmentally friendly practices during production, and that encourages other purchasers in our community to adopt similar goals.

### **3.0 STRATEGIES FOR IMPLEMENTATION**

#### **3.1 Source Reduction**

- 3.1.1 Institute practices that reduce waste, and encourage reuse.
- 3.1.2 Whenever feasible, purchase remanufactured products such as toner cartridges, tires, furniture, equipment and automotive parts.
- 3.1.3 Consider short-term and long-term costs in comparing product alternatives. This includes evaluation of total costs expected during the time a product is owned, including, but not limited to, acquisition, extended warranties, operation, supplies, maintenance and replacement parts, disposal costs and expected lifetime compared to other alternatives.
- 3.1.4 Purchase products that are durable, long lasting, reusable or refillable trying to avoid purchasing one-time use or disposable products.
- 3.1.5 Encourage vendors to eliminate packaging or use the minimum amount necessary for product protection. Also, vendors will be encouraged to take back packaging for reuse. A vendor's willingness to take back packaging may be used as part of the consideration in the bid process.
- 3.1.6 Indicate to vendors a preference for packaging that is reusable, recyclable or compostable, when suitable uses and programs exist.
- 3.1.7 Encourage vendors to take back and reuse pallets and other shipping materials.
- 3.1.8 Encourage suppliers of electronic equipment, including but not limited to computers, monitors, printers, and copiers, to take back equipment for reuse or environmentally sound recycling when the City discards or replaces such equipment, whenever possible. If the City requests a supplier to also dispose of equipment being replaced, and selection of the

vendor is determined using a bidding process, bidders will be required to state their take back, reuse or recycling programs during the bidding process.

3.1.9 Consider provisions in contracts with suppliers of non-electronic equipment that require suppliers to take back equipment for reuse or environmentally sound recycling when the City discards or replaces such equipment, whenever possible. If the City requests a supplier to also dispose of non-electronic equipment being replaced, and selection of the vendor is determined using a bidding process, bidders will be required to state their take back, reuse or recycling programs during the bidding process.

3.1.10 Encourage printing and copying of all documents on both sides to reduce the use and purchase of paper. Encourage the practice of setting printers and copiers to duplex as the default.

3.1.11 Encourage the use of scanning documents as a primary means for distribution to reduce the number of faxes transmitted.

## **3.2 Recycled Content Products**

3.2.1 Purchase products, to the extent that it is cost effective for the City, with the highest post-consumer content available. The City will refer to the United States Environmental Protection Agency (U.S. EPA) Comprehensive Procurement Guidelines for product recycle content standards.

3.2.2 Purchase copiers and printers compatible with the use of recycled content and remanufactured products.

3.2.3 To the extent possible and cost effective, when specifying asphalt, concrete, aggregate base or portland cement concrete for road construction projects, use recycled, reusable or reground materials in accordance with adopted standards and specifications.

3.2.4 To the extent possible and cost effective, specify and purchase recycled content traffic control products, including signs, cones, parking stops,

delineators, channelizers and barricades in accordance with adopted standards and specifications.

3.2.5 When feasible and cost effective, pre-printed recycled content papers intended for distribution by the City, that are either purchased or produced should contain a statement that the paper is recycled content and also indicates the percentage of post-consumer recycled content.

### **3.3 Energy Efficient and Water Saving Products**

3.3.1 Where applicable, purchase energy-efficient equipment. This includes, but is not limited to, high efficiency space heating systems and high efficiency space cooling equipment.

3.3.2 Whenever practicable, replace inefficient interior lighting with energy-efficient equipment.

3.3.3 Replace inefficient exterior lighting, street lighting and traffic signal lights with energy-efficient equipment, whenever practical. Minimize exterior lighting where possible to avoid unnecessary lighting of architectural and landscape features while providing adequate illumination for safety and accessibility.

3.3.4 Purchase U. S. EPA Energy Star certified products when available and cost effective. When Energy Star labels are not available, choose energy-efficient products that are in the upper 25% of energy efficiency as designated by the Federal Energy Management Program.

3.3.5 Whenever practical, purchase water-saving products. This includes, but is not limited to, high-performance fixtures like toilets, low-flow faucets and aerators, and upgraded irrigation systems.

### **3.4 Green Building Products and Practices**

3.4.1 Consider Green Building practices for design, construction, and operation as described in the LEED™ Rating System for building and renovations undertaken by the City.

### **3.5 Landscaping Products and Practices**

- 3.5.1 Refer to and employ where practical, sustainable landscape management techniques for landscape renovations, construction and maintenance performed by the City. The City will request that workers and contractors providing landscaping services for the City refer to and use these techniques wherever practical, including, but not limited to, integrated pest management, grasscycling, drip irrigation, composting, and procurement and use of mulch and compost.
- 3.5.2 Select plants to minimize waste by choosing species for purchase that are appropriate to the microclimate, species that can grow to their natural size in the space allotted them, and consider perennials rather than annuals for color. Additionally, native and drought-tolerant plants that require no or minimal watering once established are preferred.
- 3.5.3 Hardscape and landscape structures constructed of recycled content materials are encouraged. Limit the amount of impervious surfaces in the landscape. Permeable substitutes, such as permeable asphalt or pavers, are encouraged for walkways, patios and driveways.
- 3.5.4 Consider creating swales in landscape renovations and construction performed by the City to assist in water run-off management. If applicable, develop outreach programs to instruct the public in the proper maintenance of swales.

### **4.0 RESPONSIBILITIES**

- 4.1 The health and safety of our workers and citizens is of utmost importance and takes precedence over all other practices. Nevertheless, the City recognizes its duty to act in a fiscally responsible as well as in a timely manner.
- 4.2 Nothing contained in this policy shall be construed as requiring a department, purchaser or contractor to procure products that do not perform adequately for their intended use, exclude adequate competition, risk the health or safety of workers and citizens, or are not available at a reasonable, competitive and cost effective price in a reasonable period of time.

4.3 Nothing contained in this policy shall be construed as requiring the City, department, purchaser, or contractor to take any action that conflicts with local, state or federal requirements.

4.4 The City has made significant investments in developing a successful recycling system and recognizes that recycled content products are essential to the continuing viability of that recycling system and as the foundation of an environmentally sound production system. Therefore, to the greatest extent practicable, recycled content shall be included in products that also meet other specifications, such as chlorine free or bio-based.

4.5 Utilize grant funds to support and implement the Environmentally Preferable Practices Policy to the extent allowable and eligible, where such funds are available and their use for this purpose desirable.

## **5.0 IMPLEMENTATION**

5.1 The City Manager or his/her designee shall implement this policy in coordination with other appropriate City personnel.

5.2 Require successful bidders to certify in writing that the environmental attributes claimed in competitive bids are accurate. When required by State law, vendors shall be required to specify the minimum or actual percentage of recovered and post-consumer material in their products, even when such percentages are zero.

5.3 Upon request, buyers making the selection from competitive bids shall be able to provide justification for product choices that do not meet the environmentally preferable purchasing criteria in this policy.

5.4 Encourage vendors, contractors and grantees to comply with applicable sections of this policy for products and services provided to the City.

## **6.0 PROGRAM EVALUATION**

6.1 The City Manager or his/her designee shall provide information about the program, including changes to the program, in the City's annual reporting to CalRecycle..

## 7.0 DEFINITIONS

- 7.1 "Bay Area Green Business Program" is a partnership of governments and businesses that certifies the environmental performance of government agencies and businesses.
- 7.2 "Buyer" means anyone authorized to purchase or contract for purchases on behalf of this jurisdiction or its subdivisions.
- 7.3 "Contractor" means any person, group of persons, business, consultant, designing architect, association, partnership, corporation, supplier, vendor or other entity that has a contract with the City of Oakley or serves in a subcontracting capacity with an entity having a contract with the City of Oakley for the provision of goods or services.
- 7.4 "Energy Star" means the U.S. EPA's energy efficiency product labeling program.
- 7.5 "Energy-Efficient Product" means a product that is in the upper 25% of energy efficiency for all similar products, or that is at least 10% more efficient than the minimum level that meets Federal standards.
- 7.6 "LEED™ Rating System" means the most recent version of the Leadership in Energy and Environmental Design (LEED™) Commercial Green Building Rating System, or other related LEED™ Rating System, approved by the U.S. Green Building Council and designed for rating new and existing commercial, institutional, and residential buildings.
- 7.7 "Post-consumer Material" means a finished material which would normally be disposed of as a solid waste, having reached its intended end-use and completed its life cycle as a consumer item, and does not include manufacturing or converting wastes.
- 7.8 "Pre-consumer Material" means material or by-products generated after manufacture of a product is completed but before the product reaches the end-use consumer. Pre-consumer material does not include mill and manufacturing trim, scrap, or broke which is generated at a manufacturing site and commonly reused on-site in the same or another manufacturing process.

- 7.9 "Recovered Material" means fragments of products or finished products of a manufacturing process, which has converted a resource into a commodity of real economic value, and includes pre-consumer and post-consumer material.
- 7.10 "Recycled Content" means the percentage of recovered material, including pre-consumer and post-consumer materials, in a product.
- 7.11 "Recycled Product" means a product that meets the City's recycled content policy objectives for post-consumer and recovered material.
- 7.12 "Remanufactured Product" means any product diverted from the supply of discarded materials by refurbishing and marketing said product without substantial change to its original form.
- 7.13 "Reused Product" means any product designed to be used many times for the same or other purposes without additional processing except for specific requirements such as cleaning, painting or minor repairs.
- 7.14 "U.S. EPA Guidelines" means the Comprehensive Procurement Guidelines established by the U.S. Environmental Protection Agency for federal agency purchases as of May 2002 and any subsequent versions adopted.
- 7.15 "Water-Saving Products" are those that are in the upper 25% of water conservation for all similar products, or at least 10% more water-conserving than the minimum level that meets the Federal standards.

## **8.0 EFFECTIVE DATES**

- 8.1 This policy shall take effect on February 9, 2011.

**RESOLUTION NO. 16-11**

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF OAKLEY APPROVING  
THE ENVIRONMENTALLY PREFERABLE PURCHASING POLICY**

**WHEREAS**, the City of Oakley adopted AB 939 Planning Documents, in which a requirement is to adopt an Environmentally Preferable Purchasing Policy, and

**WHEREAS**, the City desires to institute practices that reduce waste by increasing product efficiency and effectiveness, purchase products where cost effective, that minimize environmental impacts, such as toxics, pollution and hazards to worker and community safety; purchase cost effective products that reduce greenhouse gas emissions in their production, shipping, use and discard; and purchase products that include recycled content, are durable and long-lasting, and conserve energy and water, and

**NOW, THEREFORE, BE IT RESOLVED** that the City Council of the City of Oakley adopt the Environmentally Preferable Purchasing Policy.

**PASSED AND ADOPTED** by the City Council of the City of Oakley, California, this 8<sup>th</sup> day of February 2011 by the following vote:

AYES: Anderson, Frazier, Pope, Rios, Romick

NOES: None

ABSTENTIONS: None

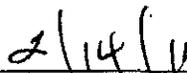
ABSENT: None

APPROVED:

  
James L. Frazier, Sr., Mayor

ATTEST:

  
Nancy Ortenblad, City Clerk

  
Date