2014 SANTA BARBARA COUNTY Sustainability PROGRESS REPORT

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Executive Summary

On March 17, 2009, the Santa Barbara County Board of Supervisors adopted Resolution 09-059 which committed the County of Santa Barbara to take immediate, cost effective, and coordinated steps to reduce the County's collective Greenhouse Gas (GHG) emissions in order to protect the community from the effects of climate change and implement programs to comply with the State of California's Greenhouse Gas emission reduction policies described in Assembly Bill 32, Senate Bill 97, and Senate Bill 375. Respectively, these bills set Greenhouse Gas emission reduction targets for the state, require state and local governments to mitigate the environmental impact of greenhouse gas emissions resulting from government projects, and tie county and city planning efforts into state Greenhouse Gas emission reduction goals.

To prepare for federal climate legislation that is potentially emerging, the County has prepared the updated Sustainability Progress Report. Santa Barbara County Supervisors recognize that climate change has the potential to dramatically affect our businesses and residents, as well as other communities around the world, and that local governments play a significant role in the efforts to reduce GHG emissions and mitigate the potential impacts of climate change. The Santa Barbara County Board of Supervisors' mission statement to "Provide quality public services to the people of Santa Barbara County in response to their need for a safe, healthy, and sustainable environment; and to establish and maintain a workforce which reflects the diversity of the community", acknowledges the County's commitment to its community's environment. There are numerous leadership actions that are lessening the emissions from the County's governmental operations, including increasing energy efficiency in our vehicle fleets and buildings, demonstrating the use of clean and renewable energy sources, and implementing vehicle transportation plans that reduce usage, encouraging waste reduction. The benefits from these leadership actions include lowered energy bills, improved air quality, reduced emissions, economic development, and an improved quality of life throughout the Santa Barbara County.

From the General Services Director

During the last three years there were numerous energy-related projects that were completed as the county worked towards meeting the goals outlined in the 2010 Sustainability Action Plan. The focus of the 2010 Plan was to reduce the County's energy use, and in turn, reduce the County's Carbon Footprint to become more sustainable.

As the earth's population continues to grow, people are using more energy and resources. The need for wise energy generation, consumption, and conservation is more important than ever. Santa Barbara County realizes that its role as a local government entity must include wise energy policies that evolve and change as science teaches us more, and offers us more, in the way of viable cost-effective and environmentally-safe alternatives.

Residents of Santa Barbara County expect their local government to spend dollars wisely. Whereas County budgets have continued to restrict over the last few years, the cost of energy continues to increase. In order to mitigate the impact of these rising energy prices, Santa Barbara County government has implemented policies and conservation programs that strive to save money while still remaining diligent to the County's goal of reducing greenhouse gas emissions.

In this 2014 Sustainability Progress Report, the many activities Santa Barbara County government's operations have undertaken, show its commitment to become more sustainable.

Matthew P. Pontes
General Services Director
January 2014

Section 1. Introduction

What is Sustainability?

The United States Environmental Protection Agency (EPA) describes sustainability in this way: Sustainability is based on a simple principle: Everything that we need for our survival and well-being depends, either directly or indirectly, on our natural environment. Sustainability creates and maintains the conditions under which humans and nature can exist in productive harmony, that permit fulfilling the social, economic and other requirements of present and future generations. Sustainability is important to making sure that we have and will continue to have, the water, materials, and resources to protect human health and our environment.

Santa Barbara County is committed to implementing processes and policies that ensure long-lasting sustainability. Our county is not alone in these endeavors: the federal and state governments, along with other counties and municipalities, are also committed to achieving lasting sustainability. This 2014 Sustainability Progress Report will outline the actions and goals in which Santa Barbara County, and our state and federal governments, have begun a transformative shift from non-renewal resources to renewal and sustainable resources.

Purpose of the 2014 Sustainability Progress Report

The original Sustainability Action Plan was released in Santa Barbara County in June 2010. This 2014 Sustainability Progress Report (hereafter 2014 Report) provides an up-to-date overview of the sustainability goals and accomplishments of Santa Barbara County (hereafter County) operations. Sustainability efforts are essential to effectively manage community resources and environmental quality. The actions identified in this plan focus on the reduction of the County's facility energy consumption, transportation energy consumption, and landfills, and the conservation of County resources and other sustainability activities. The actions benefit all inhabitants of the County by improving the community's health, reducing public costs, and creating a cleaner and healthier environment for all.

The actions of our leaders at the federal, state, and county levels are intended to inspire others to think more, and do more, about sustainability. The next few sections illustrate how past and present processes have and are now being implemented by the leaders of our federal, state, and local county governments to ensure that all of us strive to maintain and sustain our natural and man-made resources.

If your actions inspire others to dream more, learn more, do more and become more, you are a leader.

-President John Quincy Adams

Leadership Goals and Actions Towards Sustainability

Federal Leadership Actions

In 1970, Congress passed the Clean Air Act. That law passed the Senate unanimously and passed the House of Representatives at 375 to 1. Amendments strengthening the Clean Air Act were passed in 1977 and 1990.

> ***We need an energy strategy for the future—an all-of-the-above strategy for the 21st century that develops every source of American-made energy.*** [1]
> *-President Barack Obama*

On June 25, 2013, President Obama shared some of the federal government's sustainability goals during a Georgetown University speech on climate change.

Your federal government will consume 20 percent of its electricity from renewable sources within the next seven years. [2]

State Leadership Actions

In September 2009, Governor Arnold Schwarzenegger issued State Executive Order (SEO) S-21-09 directing that by 2020 33% of California's electricity should come from renewable resources.

Producing electricity from renewable resources provides multiple and significant benefits to California's environment and economy, including improving local air quality and public health, reducing global warming, diversifying our energy supply, improving energy security, enhancing economic development and creating jobs. [3]

On April 25, 2012, California Governor Edmund (Jerry) Brown, issued SEO B-18-12 directing agencies and departments to reduce greenhouse gas emissions and improve energy efficiency at state buildings.

Greening the state's buildings will shrink our environmental footprint and save taxpayers millions of dollars. [4]

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1 Remarks by the President on Energy at Prince George's Community College; Largo, Maryland, March 15, 2012
2 Remarks by the President on Climate Change at Georgetown University; Washington, D.C., June 25, 2013
3 State Executive Order (SEO) S-21-09 by Governor Arnold Schwarzenegger; September 15, 2009
4 Written statement by the Governor regarding Execution Order B-18-12, April 25, 2012

County Leadership Actions

The leadership of the County Board of Supervisors has been essential to effective implementation of original 2010 Sustainability Action Plan. The five-member Board establishes departmental and land-use policies that set the goals and guide the actions of County's departments.

The County Board of Supervisors has approved:

- Extending the emPowerSBC program which makes home energy improvements easier and more affordable for homeowners. (June 2013)
- Installation of two solar energy projects, to help offset the electrical demands of County operations.
  - One megawatt photovoltaic project on the County's Calle Real Campus since going online in April 2012, has generated over 2 million kwh to help power the various County Departments.
  - One megawatt photovoltaic solar power system located at The Laguna County Sanitation District, installed in March 2012. This system reduces the District's power demand by 65 percent and the corresponding energy costs by approximately 70 percent.
- Enhancing the Integrated Pest Management Program in County parks. (December 2007)

COUNTY BOARD OF SUPERVISORS MISSION STATEMENT:

Provide quality public services to the people of Santa Barbara County in response to their need for a safe, healthy, and sustainable environment; and to establish and maintain a workforce which reflects the diversity of the community.

Leadership Policies Towards Sustainability

Santa Barbara County is positioned to address sustainability goals through the implementation of policies and actions that resonate with the unique characteristics of the County's individual jurisdiction. The County is a critical participant in meeting the goals established at state and federal levels for emissions, sustainability, and recycling. Following are past and present federal, state, and local county policies on achieving sustainability.

FEDERAL SUSTAINABILITY POLICIES

- Executive Order (EO) 13423, Strengthening Federal Environmental, Energy, and Transportation Management, was issued by President Bush on January 24, 2007. EO 13423 instructs federal agencies to conduct their environmental, transportation, and energy-related activities in support of their respective missions in an environmentally, economically and fiscally sound, integrated, continuously improving, efficient, and sustainable manner.

- EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance, was issued on October 5, 2009 by President Barack Obama. EO 13514 introduces new greenhouse gas (GHG) emissions management requirements, expands water reduction requirements for federal agencies, and addresses waste diversion, local planning, sustainable buildings, environmental management, and electronics stewardship.

STATE SUSTAINABILITY POLICIES

- California Assembly Bill 32 (AB 32), or California Global Warming Solutions Act, triggered many statewide efforts involving environmental and energy efficiency initiatives. Signed into law by Governor Arnold Schwarzenegger on August 27, 2006, AB 32 requires that the California Air Resources Board (CARB) pursue these reductions in GHG emissions to mitigate climate change:

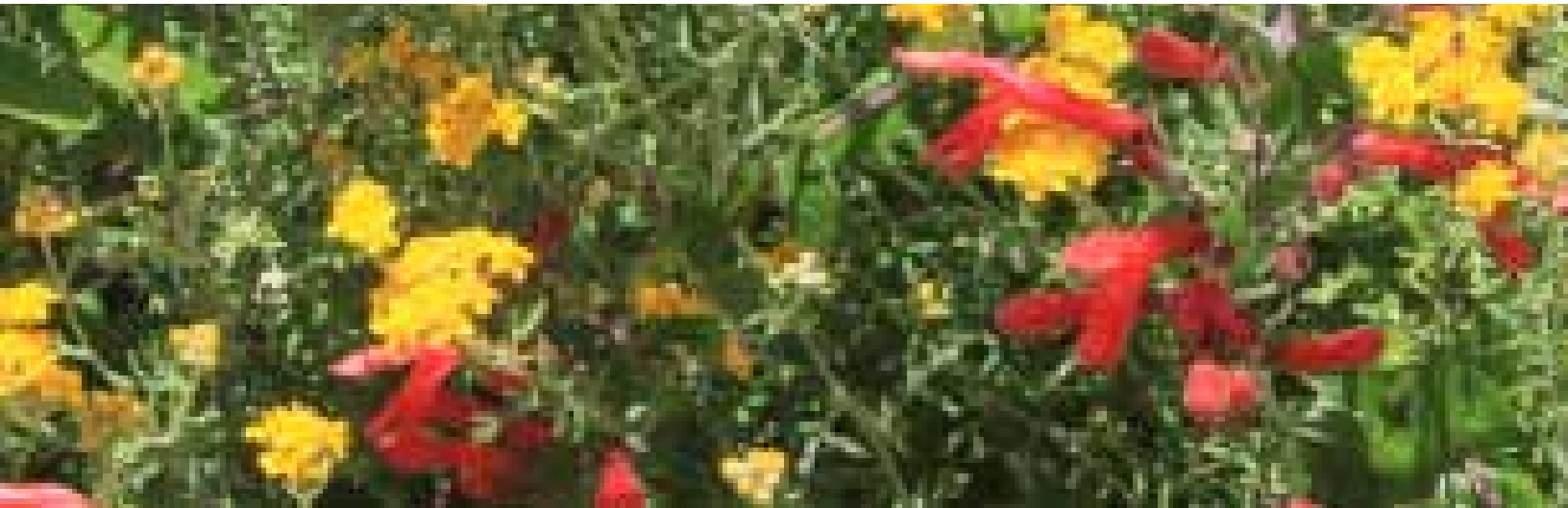
  - GHG emissions reduction to 1990 levels by 2020

  - GHG emissions reduction to 80% below 1990 levels by 2050

Additional State Sustainability Policies:

- Electronic Waste Recycling Act (SB 20)
- Rechargeable Battery Recycling Act (AB 1125)
- California Integrated Waste Management Act of 1989 (AB 939)
- Sustainable Communities and Climate Protection Act of 2008 (SB 375)
- Nonresidential Building Use Disclosure Program (AB 1103)
- Title 24 of the California Code of Regulations
- California Green Building Standards Code
- California Long-Term Energy Efficiency Strategic Plan (CEESP)
- CEQA Greenhouse Gas Emissions (SB 97)

See Appendix A on page 48 for a description of these policies enacted by the State of California.



County Sustainability Policies

Resolution 09-059 was adopted in 2009 by the County's Board of Supervisors. The Resolution committed the County to take immediate, cost effective, and coordinated steps to reduce the County's collective GHG emissions in order to help protect the community from the effects of climate change. The Resolution also directs County staff to seek funding, including grants and rebates, to offset general fund costs of preparing the County's GHG emissions reduction strategy and implementing programmatic actions that support climate protection.

The original Sustainability Action Plan was prepared by the County in 2010. This 2010 Plan had several purposes: to assist the State in meeting the goals of AB 32; to comply with SB 97 and SB 375; and, to prepare for any emerging federal climate legislation. The 2010 Plan first addressed the County's role as a producer of GHG emissions and provided a baseline emissions inventory of County facilities. This GHG emissions inventory was incorporated into the County's Climate Action Strategy.[5] Through the 2010 Plan, the County has positioned itself to provide leadership to the community to achieve and enhance its sustainability goals. The 2010 Plan introduced five milestones to reduce GHG.

5 Climate Action Strategy, developed by the Santa Barbara County Planning and Development Department; located at County website address: http://longrange.sbcountyplanning.org/programs/ climateactionstrategy/ climateaction.php

The five milestones to reduce GHG emissions are as follows:

1. **Conduct a baseline emissions inventory.** A nation can only manage what it has measured; therefore, the first step in managing GHG emissions is to establish an inventory of those emissions. The County accomplished this step in the 2010 Plan.

2. **Adopt an emissions reduction target.** A tangible and specific goal is needed in order for progress to be measured. The Energy Action Plan[6], presented with the adoption of Resolution 09-059 by the Board of Supervisors in April 2013, set a goal for County facilities to reduce electricity consumption by 25% by 2020 and included a benchmarking policy to mark and track progress.

3. **Develop a local Climate Action Plan.** This plan is being developed by the Santa Barbara County Planning and Development Department. It provides a specific strategy to reduce GHG emissions consistent with California Assembly Bill 32 and includes measures already implemented in support of a thriving, well-balanced, and sustainable community.

4. **Implement policies and measures.** This is the most important part of the process, and it generally involves cooperation and coordination among multiple County departments. In October 2011, the County Board of Supervisors approved a grant from Southern California Edison to develop a facility Commissioning and Retro-Commissioning policy. The development of this policy is currently underway and will be presented to the Board of Supervisors along with a Zero Net Energy resolution, both of which have an expected completion this year.

5. **Monitor and verify results.** This milestone provides a valuable tool for measuring progress. It allows for modification of implemented measures that are not working and provides for quantification of emissions to be used should an emission trading mechanism be established by the State of California. Emissions must be quantified in order to comply with maximum threshold requirements as well as to buy and sell allotted quantities of emissions. In October 2011, the Board approved a grant from Southern California Edison to publish the amount of energy consumed at all County owned facilities. That grant is funding the development of a web-based computer system to monitor and record energy consumption with an expected completion date of late 2014.

6 Energy Action Plan, Efficient Electricity Use in County Facilities, by Roy Hapeman and Kurtis Foster; April 2013

Buildings use 70% of the electricity in the United States.

Section 2: Zero Net Energy Resolution

Buildings have a significant impact on energy use and the environment. Commercial and residential buildings use almost 40% of the primary energy and approximately 70% of the electricity in the United States. The energy used by the building sector continues to increase, primarily because new buildings are constructed faster than old ones are retired. Electricity consumption in the commercial building sector doubled between 1980 and 2000 and is expected to increase another 50% by 2025[1]. Energy consumption in the commercial building sector will continue to increase until buildings can be designed to produce enough energy to offset the growing energy demand of these buildings. Toward this end, the U.S. Department of Energy (DOE) has established an aggressive goal to create the technology and knowledge base for cost-effective Zero-Net Energy (ZNE) commercial buildings by 2025.

Resource reduction policies that apply to all facilities throughout the County are essential for implementing the County's greenhouse gas emission reduction goals. By building on policies developed at the federal level, the County can leverage the research already done to support realistic and effective goals at the county level. The proposed ZNE resolution discussed in this section provides a framework for creating measureable and persistent resource consumption reduction.

> *There are risks and costs to a program of action. But they are far less than the long range risks and costs of comfortable inaction.*
> ***-President John F. Kennedy***

1 Zero Energy Buildings: A Critical Look at the Definition, P. Torcellini, S. Pless, M. Deru National Renewable Energy Laboratory; D. Crawley , U.S. Department of Energy; August 2006

Zero Net Energy

Zero Net Energy (ZNE) applies to any building that produces as much energy as it uses. On an annual basis, a ZNE building will consume as much energy as it produces from renewable sources while maintaining an acceptable level of service and functionality. ZNE buildings can exchange energy with the power grid as long as the net energy balance is zero on an annual basis.

According to the ZNE cost study conducted for Pacific Gas & Electric Company in December 2012[2], ZNE commercial buildings can be built with only marginal increased costs compared to conventional buildings.

ZNE is the new standard that our government and US Military strive for. According to Katherine Hammack, Assistant Secretary of the Army, ZNE allows the Army to be both fiscal and environmental stewards of the lands we occupy. The ZNE program saves taxpayer money, uses resources more wisely and efficiently, and reduces the Army's impact on the environment. Other important benefits are providing energy security, reducing vulnerabilities and protecting Soldiers. Hammack goes on to state that, If we can become more resource independent, we can become more sustainable, which means we can focus on our mission --serving and protecting this nation."[3]

2 The Road to ZNE, Mapping Pathways to ZNE Buildings in California: Heschong Mahone Group; December 2012
3 Army News Service, June 6, 2013

Federal ZNE Goals

Executive Order (EO) 13514, issued by President Barack Obama on October 5, 2009, requires government agencies to measure, manage, and reduce greenhouse gas (GHG) emissions following agency-defined targets. EO 13514 describes a process by which agency goals will be set and reported to the president by the Council on Environmental Quality. The EO also requires government agencies to meet a number of energy, water, and waste reduction targets including implementation of the 2030 Net Zero Energy Building requirement.

See Appendix B on page 49 for additional Federal ZNE Goals.

State ZNE Goals

On September 18, 2008, the California Public Utilities Commission adopted California's first California Long Term Energy Efficiency Strategic Plan (the Strategic Plan) for the years 2008 through 2020. The Strategic Plan includes several big, bold energy efficiency strategies to guide market transformation efforts in the state of California. These strategies include the following goals:

- All new residential construction in California will be Zero Net Energy by 2020;
- All new commercial construction in California will be Zero Net Energy by 2030.

It is important to note that the Zero Net Energy (ZNE) goals identified in the Strategic Plan and the State of Caifornia's Integrated Energy Policy Report are aspirational goals that provide a long-term target for the California Public Utilities Commission (CPUC) and California Energy Commission (CEC), respectively. The general concept of ZNE is currently not mandated in any form. Moreover, from a legal perspective, there are no legal consequences for the state if the ZNE goals are not met.

To further drive action at the state level, Governor Jerry Brown set the standard for State-owned facilities in EO B-18-12. One goal to be implemented dictates:

- All new State buildings and major renovations beginning design after 2025 be constructed as Zero Net Energy facilities with an interim target for 50% of new facilities beginning design after 2020 to be Zero Net Energy. State agencies shall also take measures toward achieving Zero Net Energy for 50% of the square footage of existing state-owned building area by 2025.

See Appendix C on page 50 for additional State ZNE Goals.

County ZNE Goals

To implement ZNE facilities and reduce water consumption, the County must improve its facilities' energy efficiency, train staff how to be energy conscious, generate renewable energy, and report on energy usage. These efforts must be done in unison to provide the maximum benefit to the County and the public. In order to make this happen, the County is implementing four actions with the Santa Barbara County Board of Supervisors' leadership and support.

The four actions implemented by the County are as follows:

1. **Facility Energy Efficiency Plan.** Increasing energy efficiency is a critical step to reaching the 100% renewable goal. By maximizing energy efficiency and encouraging conservation, we reduce the amount of electricity generation needed and thus the amount of renewable energy generation that needs to be supplied. All new energy-consuming equipment installed in County facilities shall be highly efficient. (General Services is currently following this policy.)

2. **Energy Conscious Staff.** Staff members who work in County buildings can contribute toward reduced-energy usage. A program now under development will train staff on energy-saving behavior such as turning off lights, installing additional workspace occupancy sensors, and using energy-efficient equipment in their workspaces. (A website will be created to publish the energy consumption characteristics of County facilities and will provide information for staff to develop energy consumption reduction strategies.)

3. **Energy Usage Report.** Creating a report on County building energy consumption and energy star labeling can provide staff and the County Board of Supervisors with timely information on energy use and the most effective energy efficiency improvements. The Board of Supervisors approved a Benchmarking Policy that will allow County buildings to systematically be benchmarked according to the federal ENERGY STAR® building benchmark standards as County building data is collected and analyzed. The Benchmarking Policy is part of the reporting strategy to show energy use within County buildings and to contribute to strategies to reduce the County's energy costs. A grant was obtained from SCE to help create the energy consumption reporting software, and it is scheduled to be operational in late 2014. (The reporting software will interlink the County's existing facilities maintenance software and sub-metering software systems, allowing County staff to make regular improvements to the way County building operations are performed based on real-time data.)

4. **Generate Renewable Energy.** The County will establish a policy on solar photovoltaic (PV), solar water heating, and small wind-ready requirements for all County-owned facilities. This policy will set the standard for future energy consumption by County-owned facilities. The California Code of Regulations, Title 24, has been updated to require solar-ready measures for low-rise nonresidential buildings (both new construction and major retrofits) to allow solar PV and solar water heating to be easily added in the future. Among the challenges of developing renewable energy systems is the fact that many County-owned facilities do not have adequate electrical or structural infrastructure to install renewable technologies such as solar or wind. Other challenges include: considerable rewiring needed to install renewables; the installation of roof penetrations (required for solar systems) which often void roofing warranties; and, the installation of roof-mounted wind turbines which may cause vibrations and unsafe stress on the buildings structures. To avoid these challenges in the future, the County's focus will be on all new facilities being built ready to accommodate future renewable energy installations. The ongoing policy for County-owned facilities shall require new construction, heavily renovated buildings, and buildings undergoing roof replacement to install renewable energy systems and/or install appropriate conduit (electrical and/or plumbing) and supports for viable renewable energy installation.

RESOLUTION OF THE BOARD OF SUPERVISORS
COUNTY OF SANTA BARBARA, STATE OF CALIFORNIA

IN THE MATTER OF SANTA BARBARA COUNTY) RESOLUTION NO.: 14-_____
ZERO NET ENERGY)
FOR ALL COUNTY OWNED FACILITIES)

ZERO NET ENERGY FACILITIES RESOLUTION

WHEREAS, energy efficiency improvements in Santa Barbara County owned facilities and operations save Santa Barbara County money and boost Santa Barbara County's economy by investing in green technology companies and green jobs; and

WHEREAS, the California Global Warming Solutions Act of 2006 requires the State to reduce greenhouse gas emissions to 1990 levels by 2020 and beyond, and the energy used in buildings accounts for the second largest contribution to California's greenhouse gas emissions; and

WHEREAS, the Santa Barbara County adopted Resolution 09-059 "to take immediate, cost effective and coordinated steps to reduce the County's collective greenhouse gas emissions"; and

WHEREAS, the State of California issued Executive Order B-18-12 establishing milestones for California State Facilities to transition to Zero Net Energy Facilities; "ordering that all new State buildings and major renovations beginning design after 2025 be constructed as Zero Net Energy. State agencies shall also take for 50% of new facilities beginning design after 2020 to be Zero Net Energy facilities with an interim target measures toward achieving Zero Net Energy for 50% of the square footage of existing state-owned building area by 2025"; and

WHEREAS, the Federal Government issued Executive Order 13514 establishing milestones for Federal Facilities to transition to Zero Net Energy Facilities "Beginning in 2020 and thereafter, ensuring that all new Federal buildings that enter the planning process are designed to achieve zero-net-energy by 2030"; and

WHEREAS, President Barack Obama stated federal facilities will consume 20 percent of its electricity from renewable sources within the next seven years;

NOW, THEREFORE, IT IS HEREBY RESOLVED AND ORDERED that:

1. All new Santa Barbara County owned facilities and major renovations beginning design after 2025 be constructed as Zero Net Energy Facilities with an interim target for 50% of new facilities beginning design after 2020 to be Zero Net Energy. Santa Barbara County departments shall also take measures toward achieving Zero Net Energy for 50% of the square footage of existing Santa Barbara County owned facilities by 2025 and the remaining 50% by 2035.

PASSED, APPROVED, AND ADOPTED this____ day of_____, 2014 by the following vote:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

_____
STEVE LAVAGNINO, Chair,
Board of Supervisors, County of Santa Barbara

ATTEST:

_____
MONA MIYASATO
County Executive Officer
Clerk of the Board of Supervisors

APPROVED AS TO FORM:

MICHAEL C. GHIZZONI
County Counsel

By_____
Deputy County Counsel

1

Section 3: Concept Renewable Energy Transition Plan

The County's Renewable Energy Transition Plan proposes a four-phase transition of several County-owned facilities to nearly Zero Net Energy facilities. Renewable energy system benefits, technology, and projects currently in County are described below. The four proposed phases for the facilities and estimated costs follow.

Benefits of Renewable Energy

Utilizing solar and wind generated energy contributes to global energy sustainability, and it benefits Santa Barbara County both environmentally and financially. By installing renewable energy systems, the County can reduce its monthly electric and gas bills, receive rebates to subsidize the system cost, reduce its carbon footprint, and play an important role in moving the state toward a cleaner energy future. When the County installs a renewable energy system, it will select a Net Energy Metering (NEM) rate option. With NEM, the County can zero out its bills by receiving a credit for any surplus energy the County generates beyond what it consumes.

Economic Advantages

- Solar is predictable and is most efficient when utility rates are at their highest. In some areas of Santa Barbara County, such as in Lompoc or Santa Maria, wind is predictable.
- Solar produces local on-site energy which reduces the need for extensive high-voltage transmission lines or a complex infrastructure.
- Solar is reliable over the long term. Solar has no moving parts, and fixed photovoltaic systems last for over 25 years.
- Solar costs are predictable and equal to or below retail energy rates.

Environmental Advantages

- Solar and wind energy do not emit greenhouse gasses.
- Renewable energy uses little to no water in the production of zero-emission electricity.
- Solar and wind energy are a renewable alternative to building power plants that burn fossil fuels and emit greenhouse gases.

Social Advantages

- Solar and wind energy create clean renewable energy that will sustain and support the health of future generations.
- Solar and wind energy support national energy independence because the County can generate electricity where it is consumed.
- The installation of renewable energy systems creates local jobs for our new energy-conscious economy.

Renewable Energy Technologies

The Renewable Energy Transition Plan consists of implementing the following renewable energy savings technologies:

- Solar Photovoltaic (PV) Panels.
- Small Wind Energy Turbines.
- Solar Thermal Collectors.

Renewable Energy in the State of California

Renewable Energy Systems are being installed all over southern California. For example, SCE receives more than 20% of its power from renewable sources.[1]

California has become the largest solar energy market in the country, thanks in part to its incentives for putting solar panels on the roofs of homes and businesses. Now it is also leading the way in installing projects that rely less on government subsidies.

The state added 258.3 megawatts of residential and commercial rooftops during the first half of 2013. 57.2 megawatts of those did not receive incentives from the California Solar Initiative, a program responsible for the growth of the rooftop solar generation in the state, according to a report released on September 12, 2013, by the Solar Energy Industries Association and GTM Research.[2]

1 Southern California Edison (accessed December 3, 2013); available from www.sce.com/wps/portal/home/residential/generating-your-own-power/solar-power

2 Ucilia Wang, Report: How Solar Remains Attractive Without Key Incentives in California, www.forbes.com/sites/uciliawang/2013/09/12/report-how-solar-remains-attractive-without-key-incentives-in-california/ (September 12, 2013)

Renewable Energy Projects in the County

The County initiated several energy efficiency and renewable energy measures as part of its 2010 Sustainability Progress Report. The following Renewable Energy Transition Plan projects have been completed to date:

1 MW Solar Photovoltaic (PV) Renewable Energy Power Generation Plant near the Santa Barbara County Jail, installed by Endelos Energy, Inc., that will save the County over $15,000,000 in electricity costs over the life of the system.

1 MW Solar Photovoltaic (PV) Renewable Energy Power Generation Plant at the Public Works Sanitation District, installed by Premier Power, that will save the County over $15,000,000 in electricity costs over the life of the system.

38.64 kW Solar Photovoltaic (PV) System on the Emergency Operations Center that will save the County over $400,000 in electricity costs over the life of the system.

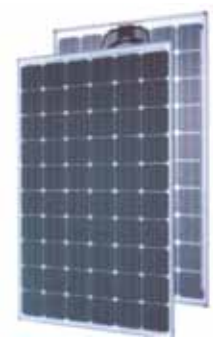
11.97 kW Solar Photovoltaic (PV) System on the Public Works building on Foster Road that will save the County over $150,000 in electricity costs over the life of the systems.

20.0 kW Solar Photovoltaic (PV) System on the carport parking lot in Isla Vista that will save the County thousands of dollars in electricity costs over the life of the system.

Solar Photovoltaic (PV) System lighting systems on County bike paths, the County Road Yard, and a few County parks that will save the County thousands of dollars in electricity costs over the life of the systems.

Examples of Renewable Energy Systems

Renewable Energy Systems that might be installed on Santa Barbara County facilities are Solar Photovoltaic (PV) Panels, Small Wind Energy Turbines, and Solar Thermal Collectors. These can be place on rooftops with minimal visual impact. Each project will be presented to the Board for approval before implementation.



SOLAR PHOTOVOLTAIC (PV) PANELS

Photovoltaic (PV) is a method of generating electrical power by converting solar radiation into direct current electricity. In general higher quality panels are monocrystalline silicon. The Solar Photovoltaic Panel of choice is the monocrystalline silicon SolarWorld 270W Sunmodule. The 270 Watt Sunmodule is a highly efficient module with panel size 3'-5" x 4'-10". The SW270W panel is made in the USA (Camarillo, CA, and Portland, OR). This solar technology was used on the Calle Real Solar PV Project.

This technology will be utilized on all County owned buildings where sunlight is available and structurally capable (except the County Courthouse).

SMALL WIND ENERGY TURBINES

The Small Wind Energy Turbine technology of choice is the 2 Kilowatt Vertical Access Wind Turbine (VAWT) and the 240 Watt Wind Appliance. The 2 Kilowatt WindCharger Turbine VAWT (2 Kilo-Watt with turbine paddle size 5'-0"H x 4'-0W x 5'-6" Diameter), is a bird-friendly, highly efficient, vertical access wind turbine.

The 240 Watt Wind Appliance (240 Watt Array with blade diameter of 2'-6") is a unique, low wind speed turbine. The Wind Appliance can be combined in wind arrays (like solar arrays) which will produce continuous renewable power from low wind speeds even after the sun goes down.
These wind technologies will be utilized in windy County areas such as Santa Maria, Lompoc, Jalama Beach, and Santa Ynez Valley.

Additionally, various other Wind Turbine technologies will be evaluated and considered.

SOLAR THERMAL COLLECTORS

A single solar thermal panel produces 18,000 BTU/Day energy savings. The Solar Thermal Collector compact size panel (1'-8"H x 12'-0"L x 0'-8"D) allows for easy installation on building exterior walls and rooftops. Solar Thermal Collectors consist of a drain-back system that utilizes distilled water as a heat transfer fluid. The drain-back system configuration helps protect the system from freezing or over-heating by allowing all the water in the collectors to drain back into the solar storage tank during times of extreme weather. The drain-back system also puts less stress on the system's components because it is non-pressurized, and it can be up to 15% more efficient than closed-looped water glycol systems.

This technology will be utilized at all County owned buildings with a demand for hot water (except the County Courthouse). The Building must have sufficient sunlight and be structurally capable of supporting this system.

Renewable Energy Transition Plan: Project Phases

In addition to the existing County-owned installations mentioned, the County has identified several additional County-owned facilities that can benefit from the Renewable Energy Transition Plan to continue the County's sustainable green energy future. Installation of renewable energy systems for these identified facilities can be accomplished in four project phases.

PHASE 1:

Consists of implementing a total of 333 KW-AC (222 kW-AC of Solar PV, 82 kW-AC of Wind Power and 29 kWth Solar Thermal Water Heating) in several of the County-owned facilities in Santa Maria, Lompoc, and Solvang (PG&E accounts).

Estimated Budget:

$945,000 (Solar PV, Wind, and Solar Thermal)

PHASE 2:

A total of 1.209 MW-AC (1.08 MW-AC of Solar PV, 108 kW-AC of Wind Power Generation and 10.9 kWth Solar Thermal Systems) at Lake Cachuma, New Cuyama, Broadway Street, fire stations, and other County-owned facilities (PG&E accounts); Calle Real complex and Jalama Beach Park (SCE accounts).

Estimate Budget:

$3,589,000 (Solar PV, Wind, and Solar Thermal)

PHASE 3:

A total of 2.885 MW-AC (2.77 MW-AC of Solar PV, 101 KW-AC of Wind Power Generation of 10 kWth Solar Thermal Systems) for smaller County-owned facilities under both PG&E and SCE accounts.

Estimate Budget:

$8,875,000 (Solar PV, Wind, and Solar Thermal)

PHASE 4:

Installation of approximately of 5+ MW-AC Solar PV, solar thermal, and small wind systems for smaller County-owned facilities under both PG&E and SCE accounts.

Estimate Budget:

Unknown with new technology (Solar PV, Wind, and Solar Thermal)

NOTE: The sites in Phases, 1, 2, 3, and 4 above are grouped together for logistical efficiency.

Phase 1 in Detail

PHASE 1 - SOLAR PV AND WIND ENERGY SYSTEMS PROJECTS

Phase 1 includes the installation of Solar PV and Wind Energy Systems on a total of 15 sites throughout the County in Lompoc, Santa Maria, Solvang, and Santa Barbara. These solar and wind projects have a return on investment of less than 10 years. The goal is to offset 82% of the electricity usage and the remaining 18% with energy efficiency reductions. The solar and wind system sites locations are identified in Table 1 below.

Current Electricity Usage of Phase 1 Facilities

Table 1 lists Phase 1 facilities and their current electricity usage. Currently for these 15 projects, the County pays on average over $0.20 per daytime kWh of electricity usage across SCE and PG&E service territories. The total energy usage of Phase 1 buildings during the period of January 2013 to December 2013 was approximately 483,000 kWh. Phase 1 includes installing Solar Thermal Water Heating Systems on a total of 15 buildings throughout the county located in Lompoc, Santa Maria, and Santa Barbara. The Thermal Water Heating energy savings goal is to offset 25% of the gas or propane usage of the currently installed water heating systems.

Phase 1 consists of installing hybrid solar and wind rooftop and carport systems on all Phase 1 buildings and parking lots. Small rooftop- and ground-mount solar systems will be installed at Lake Cachuma. Additionally, preliminary solar layouts of Phase 1 projects are provided at the end of this Section. The projects will be 222 kW-AC of Solar PV, 82 kW-AC of Wind Power and 29 kWth Solar Thermal Water Heating to provide a total Hybrid Renewable System size for Phase 1 of 333 kW-AC. This hybrid system provides enough a renewable energy to offset approximately 82% of the energy consumption. (Note: this number is subject to change upon completion of engineering and detailed design.)

TOTAL COST OF PHASE 1

The cost for Phase 1 installation is estimated to be approximately $946,000 if purchased directly by the County. The project price breakdown of Solar Thermal System Installation includes all rebates. The estimated total cost for Phase 1 Solar and Wind Systems plus Solar Thermal will be approximately $946,000 ($750,000 + $196,000). The Phase 1 projects reduction of energy purchased from the utility company will offset the costs of the installation over time which is estimated to have an ROI of less than 10 years.

UTILITY NAME	ADDRESS	CITY	TOTAL ANNUAL KWH CONSUMED
PG&E	749 BURTON MESA BLVD,	LOMPOC	3,000
PG&E	HWY 1 MT SANTOS, HARRIS GRADE	LOMPOC	1,000
PG&E	3500 HARRIS GRADE RD	LOMPOC	24,000
PG&E	753 BURTON MESA BLVD # B	LOMPOC	143,000
PG&E	SWEENEY RD & HWY 154	LOMPOC	52,000
PG&E	2 MI N/HWY 154, &-LIVE-OAK-CAMP	SAN YNEZ	6,000
PG&E	LAKE CACHUMA PART 1	SAN YNEZ	42,000
PG&E	200 E FESLER ST STE 202	SANTA MARIA	6,000
PG&E	212 CARMEN LN STE 104	SANTA MARIA	11,000
PG&E	5800 BRADLEY RD	SANTA MARIA	35,000
PG&E	NOJOQUI PARK-ALISAL RD	SOLVANG	2,000
PG&E	FIRE STATION 166 HWY 246	SOLVANG	2,000
SCE	4415 CATHEDRAL OAKS RD	SANTA BARBARA	8,000
SCE	4417 CATHEDRAL OAKS RD	SANTA BARBARA	145,000
SCE	ARROYO BURRO BEACH	SANTA BARBARA	3,000
Total			**483,000**

Table 1

Phase 2 – Project Plan Details

PHASE 2 - SOLAR PV AND WIND ENERGY SYSTEMS PROJECTS

Phase 2 includes installation of many small Solar PV and Wind Energy Systems on a total 66 sites throughout the County in Lompoc, Los Alamos, Buellton, Santa Maria, Orcutt, Carpinteria, Solvang, and Santa Barbara. Theses systems have an estimated ROI of less then 10 years. Then goal for Phase 2 is to offset 90% of the electricity usage and the remaining 10% with energy efficiency reductions.

Table 2 lists all Phase 2 facilities and their current electricity usage. Currently for these 66 projects, the County pays on average over $0.18 per daytime kWh for electricity usage across SCE and PG&E service territories on these facilities. The total usage during the period of January 2013 to December 2013 was approximately 1,762,000 kWh energy consumed.

Phase 2 includes installing Solar Thermal Water Heating Systems on a total of nine buildings throughout the county located in Lompoc, Santa Maria, and Santa Barbara. The energy savings goal is to offset 10% of the gas or propane usage of the currently installed water heating systems. The Solar Thermal project selection was based on the California Solar Thermal Rebate ($14.53 / Therm Saved) and ROI of 7 years or less.

UTILITY NAME	ADDRESS	CITY	TOTAL ANNUAL KWH CONSUMED
PG&E	166 HWY 246	BUELLTON	3,000
PG&E	94 COMMERCE DR #E,	BUELLTON	5,000
PG&E	94 COMMERCE DR #G,	BUELLTON	6,000
PG&E	ALISAL RD HWY 101, NOJOQUI FALLS	BUELLTON	6,000
PG&E	FIRESTATION 166 W HIGHWAY 246 # B	BUELLTON	3,000
PG&E	FIRESTATION HWY 246 W/CENTRAL,	BUELLTON	20,000
PG&E	751 BURTON MESA BLVD # B	LOMPOC	5,000
PG&E	FIRE STATION 385 LESLIE ST,	LOS ALAMOS	3,000
PG&E	FIRE STATION CENTENNIAL-LESLIE,	LOS ALAMOS	20,000
PG&E	NEWSOME ST,	NEW CUYAMA	12,000
PG&E	4892 BETHANY LN,	ORCUTT	20,000
PG&E	LAKE CACHUMA, PART2	SAN YNEZ	112,000
PG&E	1410 S BROADWAY STE B,	SANTA MARIA	33,000
PG&E	1410 S BROADWAY STE G,	SANTA MARIA	35,000
PG&E	1410 S BROADWAY # H-J,	SANTA MARIA	47,000
PG&E	1410 S BROADWAY # N,	SANTA MARIA	19,000
PG&E	1410 S BROADWAY STE A,	SANTA MARIA	43,000
PG&E	1410 S BROADWAY STE C,	SANTA MARIA	28,000
PG&E	1410 S BROADWAY STE D,	SANTA MARIA	38,000
PG&E	1410 S BROADWAY STE F,	SANTA MARIA	34,000
PG&E	1410 S BROADWAY STE M,	SANTA MARIA	34,000
PG&E	1444 S BROADWAY # P,	SANTA MARIA	52,000
PG&E	1444 S BROADWAY # V,	SANTA MARIA	25,000
PG&E	1444 S BROADWAY # Z,	SANTA MARIA	37,000
PG&E	2007 PREISKER LN STE A	SANTA MARIA	4,000
PG&E	201 S MILLER ST # 201-204,	SANTA MARIA	44,000

Table 2 Continued on next page

UTILITY NAME	ADDRESS	CITY	TOTAL ANNUAL KWHCONSUMED
PG&E	201 S MILLER ST STE 205, & 206	SANTA MARIA	25,000
PG&E	201 S MILLER ST STE 210A,	SANTA MARIA	9,000
PG&E	201 S MILLER ST STE 210B	SANTA MARIA	5,000
PG&E	212 CARMEN LN STE 101,	SANTA MARIA	10,000
PG&E	212 CARMEN LN STE 102	SANTA MARIA	3,000
PG&E	212 CARMEN LN STE 103,	SANTA MARIA	9,000
PG&E	212 CARMEN LN STE 201,	SANTA MARIA	18,000
PG&E	212 CARMEN LN STE 203,	SANTA MARIA	8,000
PG&E	212 CARMEN LN STE 204,	SANTA MARIA	12,000
PG&E	212 CARMEN LN,	SANTA MARIA	19,000
PG&E	212 CARMEN LN STE 202,	SANTA MARIA	11,000
PG&E	218 CARMEN LN STE 111,	SANTA MARIA	12,000
PG&E	3239 SKYWAY DR,	SANTA MARIA	29,000
PG&E	402 FARNEL RD # A-D,	SANTA MARIA	69,000
PG&E	402 FARNEL RD STE I,	SANTA MARIA	30,000
PG&E	402 FARNEL RD STE II,	SANTA MARIA	51,000
PG&E	402 FARNEL RD STE K,	SANTA MARIA	38,000
PG&E	402 FARNEL RD STE M,	SANTA MARIA	33,000
PG&E	624 W FOSTER RD,	SANTA MARIA	6,000
PG&E	708 W FOSTER RD	SANTA MARIA	5,000
PG&E	912 W FOSTER RD,	SANTA MARIA	44,000
PG&E	FIRESTATION 1596 TIFFANY DR,	SANTA MARIA	15,000
PG&E	GOODWIN RD, & WALLER LN	SANTA MARIA	20,000
PG&E	94 COMMERCE DR #D,	SANTA MARIA	12,000
PG&E	3900 E HIGHWAY 246,	SANTA YNEZ	28,000
PG&E	FIRE STATIONS 900 AIRPORT RD,	SANTA YNEZ	9,000
PG&E	FIRESTATION 5003 DEPOT,	SISQUOC,	19,000
PG&E	1430 MISSION DR,	SOLVANG	22,000
PG&E	1745 MISSION DR,	SOLVANG	9,000
SCE	14470 CALLE REAL 2	GOLETA	58,000
SCE	14550 CALLE REAL	GOLETA	17,000
SCE	JALAMA BEACH PARK	GOLETA	37,000
SCE	105 EAST ANAPAMU	SANTA BARBARA	233,000
SCE	1480 SCHOOL HOUSE RD	SANTA BARBARA	7,000
SCE	4568 CALLE REAL	SANTA BARBARA	19,000
SCE	5473 OVERPASS RD	SANTA BARBARA	33,000
SCE	605 CAMINO DEL REMEDIO	SANTA BARBARA	25,000
SCE	SUMMERLAND LIGHTING DISTRICT	SANTA BARBARA	43,000
SCE	4564 HOLLISTER AVE A	SANTA BARBARA	8,000
SCE	15 LOOKOUT PARK RD	SUMMERLAND	14,000
Total			1,762,000

Table 2

Phase 3 – Project Plan Details

PHASE 3 - SOLAR PV AND WIND ENERGY SYSTEMS PROJECTS

Phase 3 includes installation of Solar PV and Wind Energy Systems that have a Return on Investment between 10 and 15 years. It is proposed to install Solar PV and Wind Energy Systems on a total of 33 sites throughout the County in Lompoc, Los Alamos, Buellton, Santa Maria, Orcutt, Carpinteria, Solvang, and Santa Barbara. Additionally, Phase 3 consists of installing a Central or Non-Central PV plant on the available open grounds at the Betteravia Complex and small wind rooftop and carport systems on buildings and parking lots. The goal for Phase 3 is to offset approximately 90% of the electricity usage and the remaining 10% with energy efficiency reductions.

Table 3 lists all Phase 3 facilities and their current electricity usage. Currently for these 33 projects, the County pays on average over $0.16 per daytime kWh of electricity usage across SCE and PG&E service territories.

Utility Name	Address	City	Total Annual kWh Consumed
PG&E	HUBBARD & ESCUELA ST,	NEW CUYAMA	62,000
PG&E	LAKE CACHUMA, Part3	SANTA BARBARA	159,000
PG&E	1318 S BROADWAY STE A,	SANTA MARIA	273,000
PG&E	2111 CENTER POINTE PKWY,	SANTA MARIA	30,000
PG&E	2115 CENTER POINTE PKWY,	SANTA MARIA	262,000
PG&E	2121 CENTER POINTE PKWY,	SANTA MARIA	219,000
PG&E	2123 CENTER POINTE PKWY	SANTA MARIA	60,000
PG&E	2125 CENTER POINTE PKWY,	SANTA MARIA	837,000
PG&E	511 LAKESIDE PKWY BLDG D,	SANTA MARIA	130,000
PG&E	548 FOSTER RD,	SANTA MARIA	227,000
PG&E	500 W FOSTER RD,	SANTA MARIA	194,000
PG&E	812 W FOSTER RD # A,	SANTA MARIA	203,000
PG&E	812 W FOSTER RD # B,	SANTA MARIA	166,000
PG&E	912 W FOSTER RD,	SANTA MARIA	115,000
PG&E	WALLER PARK	SANTA MARIA	97,000
PG&E	1745 MISSION DR,	SOLVANG	117,000
SCE	5330 CALLE REAL	GOLETA	39,000
SCE	6901 FREY WAY – Fire station	GOLETA	30,000
SCE	GOLETA BEACH	GOLETA	40,000
SCE	112 W CABRILLO BLVD	SANTA BARBARA	48,000
SCE	117 E CARRILLO ST	SANTA BARBARA	103,000
SCE	429 N SAN ANTONIO RD	SANTA BARBARA	130,000
SCE	4408 CATHEDRAL OAKS RD	SANTA BARBARA	186,000
SCE	4415 CATHEDRAL OAKS RD	SANTA BARBARA	16,000
SCE	4420 CALLE REAL	SANTA BARBARA	40,000
SCE	4436 CALLE REAL	SANTA BARBARA	79,000
SCE	4568 CALLE REAL	SANTA BARBARA	56,000
SCE	4570 HOLLISTER AVE	SANTA BARBARA	30,000
SCE	5473 OVERPASS RD	SANTA BARBARA	60,000
SCE	576 TORO CANYON RD	SANTA BARBARA	29,000
SCE	66 SAN ANTONIO CREEK ROAD	SANTA BARBARA	87,000
SCE	LOS PRIETOS BOYS CAMP	SANTA BARBARA	194,000
SCE	2171 ORTEGA HILL RD	SUMMERLAND	20,000
Total	4,328,000		

Table 3

Phase 4 - Project Plan Details

PHASE 4 - SOLAR PV, WIND ENERGY SYSTEMS AND SOLAR THERMAL PROJECTS

Phase 4 project details are unknown at this time due to the energy analysis, engineering, and project planning that are required. Additionally, implementation of Phase 1, 2, and 3 projects will change as year-to-year budget priorities take place.

From initial Renewable Energy Transition Analysis, there still remains an "ESTIMATED" 5+ MW-AC Solar/Wind and 1M+ Therms of Solar Thermal opportunities across various sites in the county.

The Average Renewable Energy Generation installation cost per Watt for uncomplicated projects are shown in Table 4 below. With future technology changes and inflation, these numbers will change. The number of years for a project to recover its costs are decreasing due to the rapid increase in electrical costs.

AVERAGE RENEWABLE ENERGY GENERATION INSTALLATION COST PER WATT (UNCOMPLICATED PROJECTS)				
Carport PV	Roof Mounting PV	Ground Mounting PV	Wind	Thermal
$ 3.20	$ 2.85	$ 2.25	$ 1.95	$ 2 - $ 4

Table 4

Renewable Energy Transition Project Funding

Two options are proposed to implement Renewable Energy Transition Projects:

- Self-financed and owned by the County
- Energy purchase under a Power Purchase Agreement (PPA) from a third-party ownership.

SELF-FINANCED AND OWNED BY THE COUNTY

The Board of Supervisors may choose to fund any of the projects and retain ownership of the PV systems. This can be achieved by issuing bonds, as was done for the Calle Real 1MW solar PV project.

For example, with a solar PV system construction cost of approximately $4,000,000, the Return on Investment (ROI) payback is estimated to be 10 years, after which the electricity from the system will be virtually free. Over a 25-year period, the County may expect to make approximately $15+ million in energy value. The PV panels are warranted to produce power for 25 years, although in reality they tend to last longer.

POWER PURCHASE AGREEMENT (PPA) EXAMPLE OF A ONE MEGAWATT SYSTEM.

In this approach, a third-party builds, owns, and operates the systems, and the County purchases power under a PPA. Although the long-term savings are inferior to self-ownership, the advantage here is that the County saves money from the very beginning without any initial investment. A vendor proposal for a PPA would look like the following:

Current Average Utility Rate ($/kWh)	$ .15
Average Utility Annual Escalation Rate	4.0%
kWh purchase from the PPA	2,000,000
PPA Start Rate ($/kWh)*	$ .125
PPA Annual Escalation Rate	4.0%
PPA Term (Years)	25
Operation & Maintenance by	PPA Provider
First Year estimated savings in electricity bill	$50,000
Estimated savings over 25 years	$1.25 Million

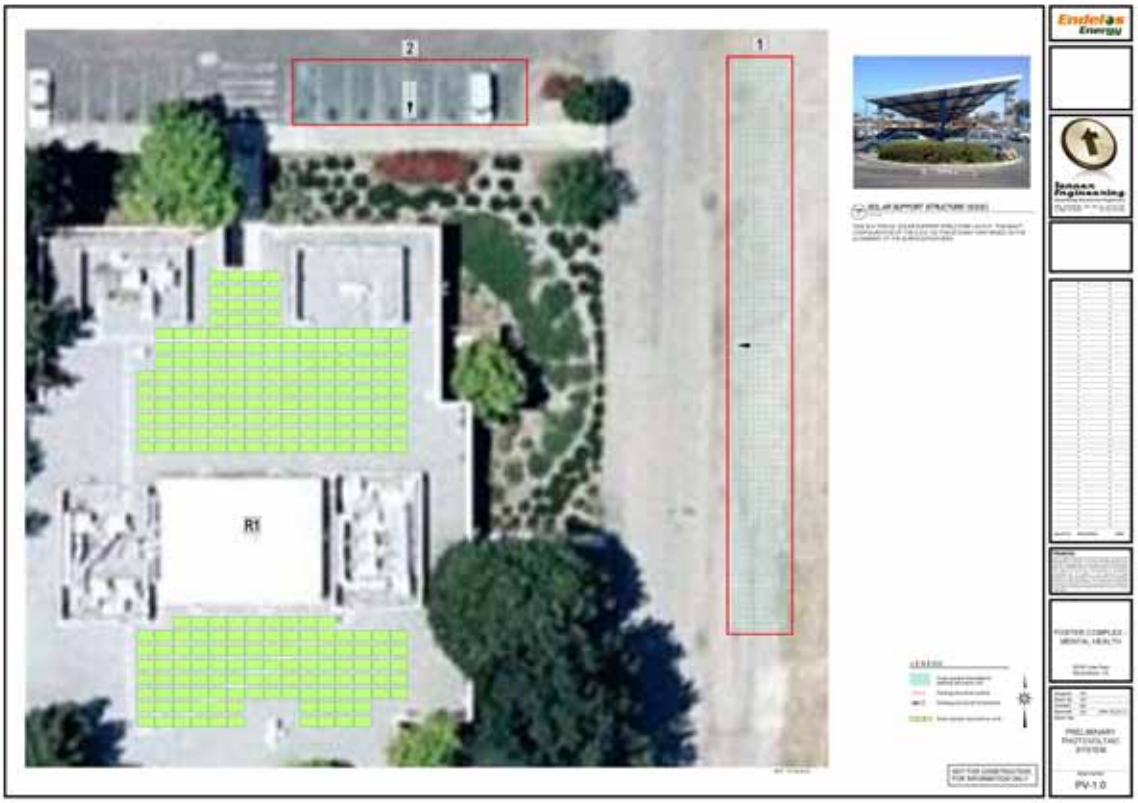
As a general rule, a PPA is considered to be beneficial to the consumer as long as the PPA start rate is below the avoided cost AND the annual escalation is below the utility rate escalation (determined over a long period of time, typically 20-30 years). In the above case, the PPA start rate for the County is not only below the avoided cost but also below the average cost that the County is paying to the utility. The escalation rate is also lower than the utility escalation rate as determined by the County. Thus, the County will save money from the very beginning.

Preliminary Layouts

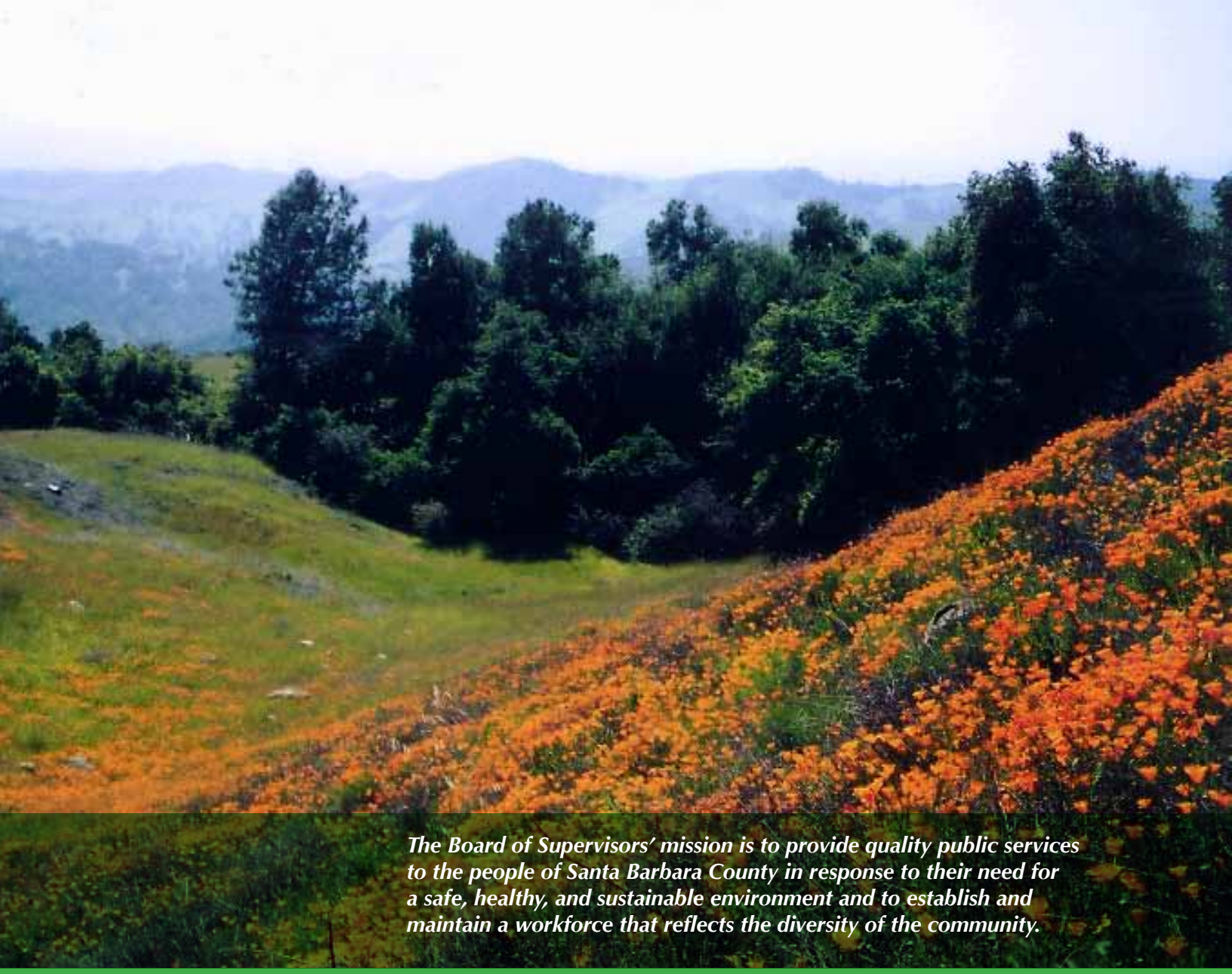
Preliminary Layouts

Preliminary Layouts

Preliminary Layouts



Preliminary Layouts



The Board of Supervisors' mission is to provide quality public services to the people of Santa Barbara County in response to their need for a safe, healthy, and sustainable environment and to establish and maintain a workforce that reflects the diversity of the community.

Section 4: Sustainability Activities by Santa Barbara County Departments

Under the County's leadership, every County department, regardless of its size or function, contributes to the sustainable activities of County operations. There are 21 different County departments with 3,923 employees (budget book 2013-2015). Below is each department with its mission statement, number of employees, and a partial list of its contributions to making County operations sustainable while performing its important functions.

AGRICULTURAL COMMISSIONER/ WEIGHTS & MEASURES DEPARTMENT

NUMBER OF EMPLOYEES:
28

MISSION STATEMENT:
To improve and protect agriculture, natural resources, and the quality of life in Santa Barbara County.

CONTRIBUTIONS:

- One-third of the electrical energy for Agricultural Commissioner/Weights & Measurement Department facilities on the Calle Real Campus now comes from the Calle Real solar array.
- Replaced old steam heating system with energy-efficient, 2-zone HVAC system and 2 programmable thermostats.

- Replaced 2 old restroom exhaust fans with energy efficient fans with motion sensors and timers.
- Suggested and implemented the change in some professional group meetings in southern counties from in-person meetings to conference calls.
- Reduced office hours in several of our remote offices.
- Replaced remaining CRT computer monitors and televisions with energy efficient LED panels.
- Use recycled paper in all copy machines.

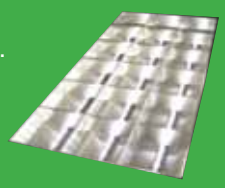
ALCOHOL, DRUG & MENTAL HEALTH SERVICES

NUMBER OF EMPLOYEES:
297

MISSION STATEMENT:
To promote the prevention of and recovery from addiction and mental illness among individuals, families, and communities, by providing effective leadership and delivering state-of-the-art, culturally-competent services.

CONTRIBUTIONS:

- One-third of the electrical energy for Alcohol, Drug, & Mental Health Service facilities on the Calle Real Campus now comes from the Calle Real solar array.
- Installed window tinting in high sun areas to reduce sun exposure and reduce cooling costs.
- Installed waterless urinals in some restrooms.
- Use seven different Video Conferencing units around the County to allow meetings to be attended remotely. This has reduced the amount of travel time by ADMHS staff as well as significant vehicle mileage and gas charges to the County.
- Authorize telecommuting to numerous employees who work primarily from home. Other employees work at home 1 to 2 days per week. This can significantly reduce County energy and insurance costs.
- Allow flexible work schedules to reduce energy costs.
- Use Virtual Servers. (More than eight physical servers were combined onto two “host” computers. These two host computers have eight virtual instances of the old physical servers on only two machines. This has significant cost savings from an electrical and cooling standpoint.)
- Currently in process of installing an Electronic Health Record, complete with electronic forms and signature pads to collect electronic signatures. Currently all progress notes are written in an electronic format and stored on our computers. All claiming is done electronically as is reimbursement from the state and federal government.
- Instruct employees to shut down computers at night.
- Use centralized printing to copy machines to eliminate most local printers.
- Upgraded to more efficient lighting at the Children’s Mental Health Services facility.
- Installed motion sensors in conference rooms to reduce lighting costs.
- Use shredding/recycling services.
- Use recycled paper in all copy machines.



AUDITOR-CONTROLLER

NUMBER OF EMPLOYEES:
46

MISSION STATEMENT:
To ensure the financial integrity of the County of Santa Barbara by providing superior financial services, maintaining the public trust, and promoting governmental efficiency, effectiveness, and accountability.

CONTRIBUTIONS:

- Converted in-house Accounting System from many paper forms to online forms that are electronically processed.
- Added "scan and attach" features to online forms so that backup documents and invoices are saved electronically.
- Use electronic storage for each employee payroll file on our network to eliminate paper copies.
- Moved legal and accounting research to online format to reduce paper publications and books.
- Developed both Employee Self Service and Departmental Employee Network applications to allow online access of employee pay statements and many payroll reports instead of generating paper copies.
- Use electronic deposits to pay employees instead of generating paper warrants.
- Use Automated Clearing Houses to pay vendors instead of generating paper warrants.
- Provide online availability of annual publications and reports on our website to reduce paper and mailing usage and cost along with increasing distribution and access.
- Provide online continuing education and training group classes to reduce travel.
- Installed online meeting capabilities to reduce travel.
- Encourage carpooling.
- Implemented alternative work schedules to allow commuters to use mass transit.
- Allow telecommuting where it is conducive.
- Use shared virtual computer servers as opposed to multiple dedicated servers.
- Request shutting down of computers nightly.
- Installed motion sensor lights in all offices and hallways.

- Encourage recycling as much as possible by having numerous recycle bins located in our office.
- Use shredding service for confidential documents to facilitate recycling.
- Use recycled paper in all copy machines.

CHILD SUPPORT SERVICES

NUMBER OF EMPLOYEES:
85

MISSION STATEMENT:
To serve children and families by establishing parentage and enforcing support orders in a fair and equitable manner.

CONTRIBUTIONS:

- Move towards a paperless environment including:
  - Scanning documents as much as possible for data retention instead of using paper.
  - Building information into our website as much as possible to reduce mailing of information in paper format.
  - When possible, using online forms format as opposed to hard copy to save paper, storage need, and time.
- Encourage carpooling

- Use video and/or telephonic system for meetings whenever possible to save gas, time and expense.
- Encourage recycling as much as possible by having numerous recycle bins located in our office.

- Use shredding service for confidential documents to facilitate recycling.
- Use recycled paper in all copy machines

COMMUNITY SERVICES

NUMBER OF EMPLOYEES:
95

MISSION STATEMENT:
To provide community, cultural, and recreational resources that sustain and enhance quality of life for all who live, work, and play in Santa Barbara County.

CONTRIBUTIONS:

- Developed emPowerSBC program to help homeowners county-wide overcome obstacles to making energy saving improvements to their homes. By making home upgrade projects easier and more affordable through incentives, financing, qualified contractors, and expert energy advice, emPowerSBC helps homeowners be more comfortable in their homes and lower utility bills.
- Installed Smart irrigation controllers at 12 neighborhood parks for water conservation.
- Replacing under-utilized turf areas with drought-tolerant landscape plantings for water conservation.
- Applied extensive mulching to add nutrients and retain soil moisture for water conservation.
- Proposed construction of a creekside boardwalk to be constructed of recycled/reclaimed materials (e.g., pressed rice husk).
- Proposed pilot recycling partnership project with the Willbridge non-profit group to maximize recycling within parks.
- Proposing Pack-It-In/Pack-It-Out program at low- to moderate-use recreational areas to reduce trash on beaches.
- Reduced number of Parks vehicle fleet by three vehicles.
- Sell or send to scrap metal old or no longer used equipment to clean up corporation yards.
- Replaced vehicles with smaller, electric motor, John Deer "Gators".

- Purchased chipper to create mulch on-site and to eliminate transportation and disposal of green waste.
- Installed or replaced passive solar skylights in six restroom roofs.
- Installed photocell sensors for night lighting.
- Replaced incandescent bulbs with CFL's (Compact Fluorescent Lights) at all locations where possible.
- Use recycled paper in all copy machines.

COUNTY CLERK-RECORDER-ASSESSOR

NUMBER OF EMPLOYEES:
93

MISSION STATEMENT:
To honor the public's trust by assuring honest and open elections, recording, maintaining and preserving property and vital records, setting fair and impartial values for tax purposes, and providing courteous and professional service at a reasonable cost.

CONTRIBUTIONS:

- One-third of the electrical energy for County Clerk-Recorder-Assessor facilities on the Calle Real Campus now comes from the solar array.
- Use E-filing or E-recording systems to reduce the traffic of visits or mailed documents.
- Use digital imaging of files to reduce use of paper and folders.
- Installed Geothermal unit in Hall of Records, providing far more efficiency in energy consumption than HVAC.

- Use Webinars for meeting or trainings to reduce driving.
- Authorize telecommuting where appropriate.
- Encourage staff to use economy-sized cars when driving for County business.
- Installed sensor lights where appropriate.

- Use reverse-osmosis water instead of bottled water where feasible.
- Recycle paper clips by delivering them to various departments.
- Use recycled paper in all copy machines.

COUNTY COUNSEL

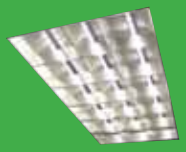
NUMBER OF EMPLOYEES:
38

MISSION STATEMENT:
To maintain the legal integrity of the County. We are the County's civil lawyers. We advise and advocate to protect and promote our clients' policies and actions.

CONTRIBUTIONS:

- Use telephonic system whenever possible to allow our attorneys to phone into the Courts as opposed to driving to Santa Maria or farther to appear.
- Encourage staff carpooling to attend meetings.
- Use shared server as opposed to a dedicated server.
- Request shutting down of computers nightly.

- Installed motion sensor lights in all offices and hallways.
- Installed reflective panels within light elements to put off more light without the need for another bulb.



- Move towards a paperless environment including scanning documents as much as possible for data retention.
- Use shredding service for confidential documents to facilitate recycling.
- Use recycling bins to reduce waste.
- Use recycled paper in all copy machines.

COUNTY EXECUTIVE OFFICE

NUMBER OF EMPLOYEES:
56

MISSION STATEMENT:
To utilize structured management systems to deliver County services in accordance with the Board of Supervisors' strategic goals, operational priorities, and budgeted resources.

CONTRIBUTIONS:

- Implemented County-wide Transportation Demand Management Plan that offers incentives to employees who use alternative forms of transportation for commuting to and from work. (Examples: reimbursement for the purchase of bus or van pool passes, credit up to two vacation days per year for using an alternate form of transportation at least 80 percent of the time, a pre-tax deduction to save on van pool or bus expenses, and free parking for ridesharing. Employees also have the option of working on an alternative schedule, e.g. 9/80 or 4/40.)
- Implemented Mobile Workforce program that offers a "work anywhere" strategy for suitable employees with flexible work schedules. Technologically-sound telecommuting systems enable employees to continually provide seamless service while working from home, the field, alternate locations, and satellite offices. Studies have shown that "work anywhere" programs result in:
    - Benefits for the employee and the organization, such as increased productivity for well-suited employees, decreased employer costs (overhead, electricity, space, etc.), and improved employee morale and job satisfaction.
    - Benefits for the environment, such as reduced fuel consumption and fewer cars on the road, and a decreased carbon footprint for employees and employers.
    - Mobile Workforce Accomplishments: Implementation of a new Teleworking Policy setting annual goals for increasing teleworking arrangements (March 2012); two online tutorials (required for teleworkers) created and provided through the Human Resources intranet site (September 2012).
    - Utilize in-place technology required for telecommuting, eliminating the need for costly set-up and design, to allow for virtual offices, web meetings, employee interaction via web cameras, training and development webinars, and using online work tools to coordinate work.

DISTRICT ATTORNEY

NUMBER OF EMPLOYEES:
122

MISSION STATEMENT:
The mission of the District Attorney is to pursue truth and justice by employing the highest ethical standards in vigorously prosecuting the guilty, protecting the innocent, and preventing crime.

CONTRIBUTIONS:
- Installed HVAC system for future use of ground loop cooling and heating.
- Installed 52 thermostats in 28,000 square-foot space for more efficient air control.
- Used recycled material in the building of the Santa Barbara office.
- Installed glass office doors in Santa Barbara to allow more natural light and reduce lighting in hallways.

- Installed waterless urinals in Santa Barbara.
- Use video conference equipment to attend prison hearings as well as County-wide meetings, significantly reducing travel.
- Encourage carpooling and cycling as means of transportation. Installed bike storage room for safekeeping of employee bikes.
- Reduce the amount of hard copy Discovery provided in Arraignment to only what is necessary (significantly reduced paper consumption and electricity).
- Provide electronic Discovery to Public Defender and defense attorneys (significantly reduced paper consumption and electricity).
- Legal research done online. Eliminated most hard copy publications.
- Scan documents for record retention.
- Encourage shutting down/ off computers at night.

- Upgraded lighting to more efficient lighting such as LED MR16 lights.
- Turn off HVAC system and lighting at 5:30 pm each night in Santa Barbara office. After 5:30 pm, lights are on 2-hour timer if needed.

- Installed motion sensor lights.
- Ensure all copiers, printers, etc. are turned off each night.
- Every employee has a recycle bin within his/her workspace and recycle bins are placed strategically throughout the office.
- Use shredding service at each facility for confidential document to facilitate recycling.
- Use recycled paper in all copy machines.

FIRE

NUMBER OF EMPLOYEES:
255

MISSION STATEMENT:
To serve and safeguard the community from the impacts of fires, medical emergencies, environmental emergencies, and natural disasters through leadership, planning, education, prevention, code enforcement, and all-hazard emergency response.

CONTRIBUTIONS:
- Installed energy efficient, high bay lights at Fire Warehouse.

- Installed exhaust recovery systems at all fire station.
- Implemented standard practices to have fireman turn off lights at stations when they are not at the stations.
- Replacing exterior lights with LED fixtures when conducting repairs to lights.
- Instruct firemen to conduct multiple inspections and eliminate multiple trips.
- Use recycled paper in all copy machines.

FIRST 5, CHILDREN & FAMILIES

NUMBER OF EMPLOYEES:
14

MISSION STATEMENT:
To help all children prepare for kindergarten by supporting families to be healthy and strong and by enhancing the availability of high quality childcare and preschool.

CONTRIBUTIONS:
- Move towards a paperless environment including:

  - Scanning documents as much as possible for data retention instead of using paper.
  - Building information into our website as much as possible, to reduce mailing of information in paper format.
  - When possible, using online forms format as opposed to hard copy to save paper, storage need, and time.
- Encourage carpooling and using video and/or telephonic system for meetings whenever possible to save gas, time and expense.

- Encourage recycling as much as possible by having numerous recycle bins located in our office.
- Use shredding service for confidential documents to facilitate recycling.
- Use recycled paper in all copy machines.

GENERAL SERVICES

NUMBER OF EMPLOYEES:
121

MISSION STATEMENT:
General Services provides a full range of services, guidance and expertise that enables County government to better serve the public and business community.

CONTRIBUTIONS:

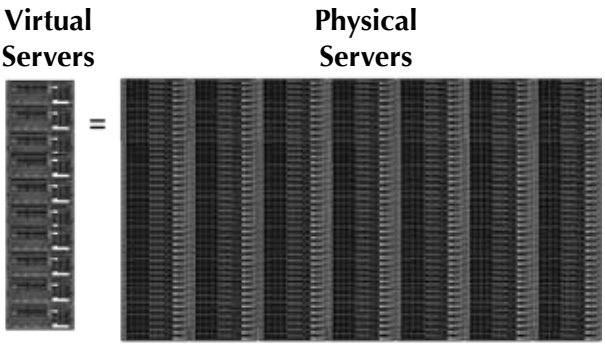
- Installed the Santa Barbara 1MW PV Solar Project presented in the 2010 Sustainability Progress Report. The array started generating electricity in April 2012.
  - Approximately 4,500 individual solar panels were installed on a portion of the hillside behind the existing County Jail. The system was expected to generate approximately 1.7 million kWh per year; the array currently generates 8% more power than expected. View how the system is performing at http://solrenview.com/cgi-bin/cgihandler.cgi?&sort=pvi_IDs&cond=site_ID=1368&min.
  - The project has generated over 2 million kWh to help power the County Jail, Sheriff Administration, 911 Call Center, Public Health Hospital, Public Health Administration, Mental Health Hospital, Mental Health Administration, Agriculture Commission, Environmental Health, Veteran Hospital, Elections Office, and Clerk Recorder Assessor.

- Installed solar panels on the new Emergency Operations Center generating an estimated additional 60,000 kWh.
- Installed Electric Vehicle Charging Stations at the following County facilities: 105 E. Anapamu Street, Santa Barbara; 511 E. Lakeside Parkway, Santa Maria; 260 N. San Antonio Road, Santa Barbara; 1109 West Chestnut Ave, Lompoc; 2297 Finney Road, Summerland (Lookout Beach Park); and, 101 Freeway, Bates Road, Carpinteria (Rincon Beach Park).
- Purchased 11 Honda Civic Hybrids vehicles for County vehicle pool.

- Purchased 4 electric vehicles
- Use recycled oil and hybrid and electric cars in County vehicle pool.
- Upgraded three County buildings with energy efficient windows, insulation, lighting, and appliances.
- Upgraded two elevators with efficient (Alternating Current) motors.
- Installed 4500 plug load occupancy sensor strips County-wide.
- Outfitted 18 vending machines with "Vending Machine Misers."
- Upgraded to more efficient lighting and replacement of partial lighting in Hall of Records, San Antonio Building, Fire Station, Aero Squadron (Santa Ynez), Election Division, Santa Barbara Veterans Memorial building, Santa Barbara mural room, and Building 3 on the Calle Real Campus.

- Implemented de-lamping program.
- Use recycling bins to reduce waste.
- Use recycled paper in all copy machines.

- Additional long-term projects:
  - Santa Barbara County Exterior Lighting Conversion Project to "Dark Sky," energy-efficient LED lights. **Dark Sky** lights will have a 100,000 hour rated life and will reduce the County's exterior lighting by 50%. The lights will be purchased using a government no fee 0% loan.
  - Phase 1 of the Santa Barbara Courthouse HVAC (Heating, Ventilation and Air Conditioning) equipment to be replaced and upgraded to efficient air handlers.
  - Completion of the analysis of County buildings, land, and parking lots for potential solar sites.
  - Continued active participation in the South Coast Energy Partnership with PG&E and Edison.
  - Collaboration with Tri-County agencies in implementing the strategic, electric vehicle, charging network.
  - Server virtualization of the IT Infrastructure servers is a computing methodology to allow for more than one server to operate on the same piece of hardware. Industry standard, specialized software is used to divide a physical server into multiple virtual servers as opposed to having one physical server for each application or task. Server virtualization, in our case, allows us to use three high-end servers to perform the work of 300 physical servers. This gives a number of benefits from different areas: a 25% reduction in acquisition cost; an 11% reduction in power and cooling costs; greatly increased reliability (a virtual server can be copied from one host to another in the event of a host failure); and, less space requirements.



PLANNING & DEVELOPMENT

NUMBER OF EMPLOYEES:
86

MISSION STATEMENT:
The mission of the Planning and Development Department is to plan for and promote reasonable, productive, safe, and sustainable use of land to foster economic, social, cultural, and environmental vitality across the County. The Department provides quality policy development, planning, permitting, and inspection services through a thoughtful, collaborative, and professional process under the policy direction of the Board of Supervisors and Planning Commissions.

CONTRIBUTIONS:

- Increased use of the department website to provide information instead of printing paper documents and notices.
- Allow for issuance of building permits through fax to decrease travel by applicants to pick up permits.
- Provide copies of documents on CDs instead of paper.
- Coordinate inspection schedules for site visits to decrease vehicle miles traveled.
- Use video conferencing between north and south planning offices to reduce travel.

- Provide video accessibility for the public to review and provide input at public hearings in order to reduce the need for travel.
- Encourage staff carpooling to attend meetings.
- Allow for opportunity to use a 9/80 work schedule and flexibility in assigned office work location (Santa Barbara and Santa Maria offices) to reduce commuting.
- Reliance on windows and fans rather than air conditioning.
- Use motion detectors at workstations to power off computer and lights when not in use.

- Decreased overhead lighting in areas unwanted by staff to reduce energy use.
- Use recycling bins to reduce waste.

PROBATION

NUMBER OF EMPLOYEES:
360

MISSION STATEMENT:
The mission of the Santa Barbara County Probation Department is to protect and serve the community by providing information and recommendations to the Courts; providing safe, secure, and effective juvenile detention and treatment programs; enforcing court orders and post release community supervision conditions, requiring offender responsibility/accountability, and supporting rehabilitation; and providing victim services that include facilitating reparation and restitution to victims.

CONTRIBUTIONS:

- Installed self-service kiosk stations at each office to facilitate filing clients' monthly status reports. Kiosk stations allow for client reports to be directly imported into a client's case management record as opposed to the previous method of filling out the report, manually scanning the report, and recording the report into each case file. This has eliminated paper in the files and manually scanning papers into case files.

- Use video conferencing/Polycom for interviews with officers and Inmates at the jail.
- Use video conferencing/Polycom for visitation between parents and attorneys at both Santa Barbara Juvenile Services and Santa Maria Juvenile Hall.
- Allow telecommuting for employees at Santa Barbara and Santa Maria offices.
- Encourage staff carpooling to attend meetings.
- Use motion detectors at workstations to power off computer and lights when not in use.
- Increased use of the department website to provide information instead of paper documents and notices.
- "De-lamping" or removal of excess lighting in areas where bright lighting is not required. At the Betteravia building, de-lamping saves $2,550 in electricity per year.

- Recycling of toner cartridges and receipt of store credit for office supplies.
- Installed energy efficient electrical devices on vending machines.
- Installed motion sensors in Santa Maria training room and closets.
- Use recycling bins to reduce waste.

PUBLIC DEFENDER

NUMBER OF EMPLOYEES:
62

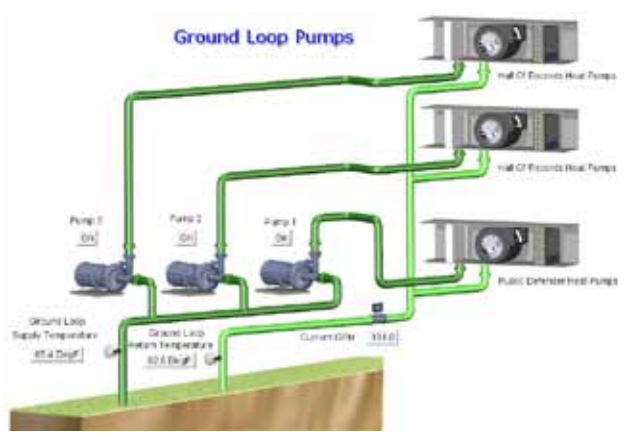
MISSION STATEMENT:
To provide professional legal representation of the highest quality to all clients and to create an environment that motivates and enables all employees to share this mission.

CONTRIBUTIONS:

- Reduce, Reuse, Recycle:
  - Judiciously determine our office needs to reduce our consumption to essential items only.
  - Purchase energy-saving models of office equipment such as Energy Star-approved computers, LCD monitors, printers, and photocopiers.
  - Reuse items on hand wherever possible, adapting them as necessary.
  - Encourage double-sided printing where practical.
  - Utilize a shredding service for confidential documents to facilitate recycling.

  - Encourage recycling by strategically locating numerous recycle bins throughout our office and placing individual recycling bins in each workspace.
  - Use recycled paper in our copy and fax machines, as well as in all printers.
- Continuing to move to a paperless environment including:
  - Receiving most legal discovery electronically from the District Attorney.
  - Sharing data electronically with the Probation Department.
  - Scanning documents as much as possible for data retention instead of printing on paper.
  - Moving legal research online, resulting in fewer paper publications.
  - Use of iPads by attorneys in court to reduce the need for printing of paper documents.
  - Upgrade software programs/ updates online wherever possible, as opposed to using a hard copy.

  - Use a shared server as opposed to a dedicated server.
- Our newly-designed Santa Barbara office contains a number of state-of-the-art features to reduce our carbon footprint:
  - The heating and cooling system taps into the geothermal resources beneath our building, thus reducing electricity usage.
  - Motion sensors in the offices and hallways automatically switch off lights after a pre-determined period of inactivity.
  - Energy-efficient lighting systems minimize electricity consumption.
  - Request shutting down of computers at the end of the day to reduce electricity consumption.
  - Encourage carpooling and ride-sharing as well as alternative work schedules where practical.
  - Video-conference management and staff meetings between our offices in Santa Barbara, Santa Maria and Lompoc in order to reduce the use of County vehicles.
  - Utilize online training seminars for our attorneys wherever possible, thus reducing travel costs and emissions.
  - Respond to unsolicited marketing mail by asking sender to remove our office from their mailing list.



PUBLIC HEALTH

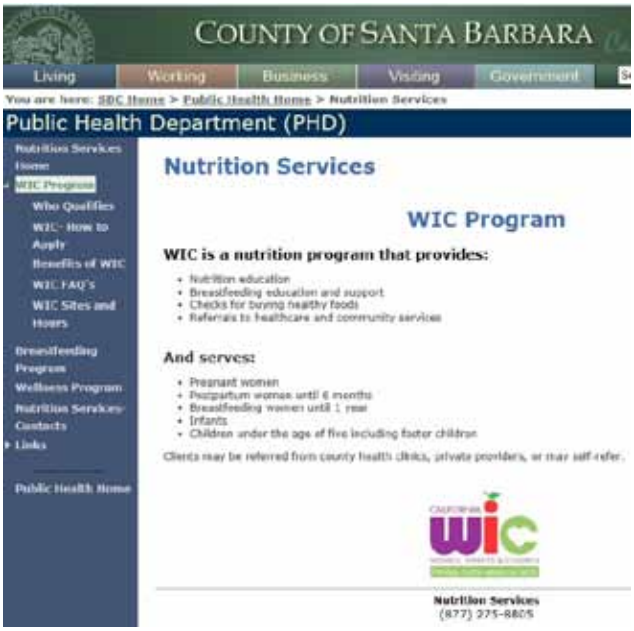
NUMBER OF EMPLOYEES:
499

MISSION STATEMENT:
To improve the health of our communities by preventing disease, promoting wellness, and ensuring access to needed health care.

CONTRIBUTIONS:

- One-third of the electrical energy for Public Health facilities on the Calle Real Campus now comes from the solar array.
- Installed isolated, energy-efficient HVAC system in Santa Barbara pharmacy to maintain 24/7 environmental control.
- Replaced failing HVAC unit with energy-efficient unit. Additional energy savings achieved by recalibration of system.
- Replaced gas-fired absorption chiller with an energy efficient electric model. Five major components were eliminated by using the electric chiller and resulted in utility savings.
- Use video conferencing between north and south offices to reduce travel.

- Post weekly green tips on Department's intranet.
- Provide online education for Women, Infants, and Children (WIC) clients to reduce the need for clients to travel to WIC sites.
- Implemented Electronic Health Record project that has resulted in a decrease in paper medical charts.
- Provide electronic mortality and morbidity reports from medical providers to decrease the use of paper.
- Provide online staff training in safety, privacy, and security to reduce intra-County travel.
- Negotiated in-County training for more than 100 County and community staff members to become Certified Enrollment Counselors in preparation of Health Care Reform. This reduced out-of-County travel to other training locations.
- Advocate energy efficient vending machines that sell healthy products.
- Use motion detectors at workstations to power off computer and lights when not in use.



PUBLIC WORKS

NUMBER OF EMPLOYEES:
281

MISSION STATEMENT:
To efficiently provide, operate and maintain Public Works infrastructure, facilities, and services to make everyday life as safe and convenient as possible for the public we serve.

CONTRIBUTIONS:

- Earned "Green Business" building certification of building at 130 East Victoria Street, Santa Barbara, under the Green Business Program of Santa Barbara County (GBPSBC). Required implementation of measures in the areas of solid waste reduction and recycling, environmentally preferable purchasing, water conservation, energy conservation, and pollution prevention.
- Used green building materials at 130 East Victoria Street, Santa Barbara.
- Encourage staff carpooling to attend meetings.
- Opportunity to use a 9/80 work schedule and flexibility in assigned office work location to reduce commuting.
- Installed programmable thermostats and weather stripping around doors and windows.
- Use automatic power-down systems on computers.
- Use timers to turn-off office equipment after business hours.
- Installed efficient fluorescent lighting, solar tubes, LED lighting for the exit signs, and motion sensors for lighting in rooms.
- General Outreach Efforts to Promote "Reduce, Reuse, and Recycle" Philosophy: The Resource Recovery & Waste Management Division (RRWMD) continues to publish the Recycling Resource Guide for Santa Barbara County (Guide) each year. The Guide is published in English and Spanish in alternating years and is also made available on the County's website that provides information on waste reduction, reuse, and recycling, www.LessIsMore.org.
- RRWMD is undertaking a large scale habitat restoration project on the Baron Ranch to compensate for impacts associated with operation of the neighboring Tajiguas Landfill.

- RRWMD continues to offer free indoor recycling containers to County departments upon request.
- Publicize the acceptance of empty aseptic containers (e.g. soy milk and soup containers, milk cartons) for recycling, the RRWMD has printed new stickers, posters, and magnets Recycle paper, bottles and cans, hard plastic, paperboard and cardboard, household batteries, printer cartridges, electronic equipment, CDs, and DVDs.
- RRWMD in conjunction with the cities of Santa Barbara, Goleta, Solvang, and Buellton, is working to develop a Resource Recovery Project, which will process the municipal solid waste (MSW) from these jurisdictions that is currently disposed at the Tajiguas Landfill (landfill). In this project, two facilities will be sited to achieve the following:
  - Materials Recovery Facility: Approximately 200,000 tons of MSW will be processed annually into three streams: recyclables to be separated, baled, and sold for reuse; organics to be recovered for processing in the Anaerobic Digestion Facility; and residue which are the remaining materials to be landfilled - it is estimated that this amount will comprise less than 40 percent of the total.
  - Anaerobic Digestion Facility: This facility will convert all organics recovered from the MSW into compost, soil amendment, and biogas. Compost and soil amendment products will be marketed and used locally and the biogas will be converted at a power plant into electricity.
- Employed a falconer to keep birds, particularly gulls, from congregating at the Tajiguas Landfill (landfill). Prior to the use of falcons, thousands of gulls visited the landfill daily and subsequently polluted the nearby beaches and creeks with deposits of their waste.

- The County uses mulch produced by processing green waste from South Coast residents, on various sites to help reduce erosion and allow newly planted seeds to become established. The mulch is provided to County departments for various projects, as well as individuals, nonprofit agencies, schools, and businesses.
- The Laguna County Sanitation District has a co-generation system comprised of micro turbines that are powered by methane from the plant's digester and natural gas. Electricity is generated and used in the plant, and the digester is heated from the heat generated by the system.
- The Laguna County Sanitation District installed a one megawatt photovoltaic solar power system, which was commissioned in March 2012. This photovoltaic system reduces the District's power demand by 65 percent and the corresponding energy costs by approximately 70 percent. The system sits on approximately 4 acres and consists of 4,032 panels. The majority of the power generated is used in the treatment plant. The anticipated useful life of the system is 30 years, and the expected period of return on investment is expected to be 16 years.

SHERIFF

NUMBER OF EMPLOYEES:
641

MISSION STATEMENT:
We, the members of your Sheriff's Office, are responsible for enforcing the laws, upholding the Constitutions, and providing custody and court services. We are committed to enhancing the quality of life through effective partnerships, protecting persons and property while serving as role models to our community.

CONTRIBUTIONS:

- One-third of the electrical energy for Sheriff facilities on the Calle Real Campus now comes from the solar array.
- Utilized inmate labor to build the Calle Real Solar array.
- Installed new energy-efficient induction lighting on the one section of the fence line.

- Installed push-button water valves to eliminate amount of time inmates can take a shower.
- Installed Ozone system on laundry facility eliminating 1/3 of the soap, and all the hot water used to clean cloths.
- Use Central mail to transport office documents, eliminating two weekly car trips to the North County.
- Purchase recycled bags that contain 90% recycled material.
- Implemented recycle program to recycle cardboard and steel cans, eliminating 600 pounds of steel and 1000 pounds of cardboard monthly from entering the landfill.

- Move to paperless environment including scanning documents to eliminate many paper forms.
- Use shredding service for confidential documents to facilitate recycling.

SOCIAL SERVICES

NUMBER OF EMPLOYEES:
677

MISSION STATEMENT:
The mission of the Department of Social Services is to provide protective services, employment services, and financial assistance that support the residents of Santa Barbara County to become productive and self-sufficient contributors to the community.

CONTRIBUTIONS:

- Reconfigured space to maximize number of workstations rather than acquiring new space.
- Implemented teleworking program that reduces carbon footprint by having 100 workers decrease trips into the office.
- Plan to increase the number of staff in the teleworking program to reduce the need for additional space.
- Use Remote Distance Learning & Video Conferencing, significantly decreasing the need to travel between sites for meetings and training.
- Purchased a hybrid vehicle for travel between North and South County, lowering the carbon footprint of the travel and reducing fuel costs.
- Plan for future replacement of vehicles with over 120k miles with hybrid vehicles when possible.
- Installed motion timers on most office lights to reduce energy costs.
- Installed motion detectors on all computers to power off monitors when no motion is detected after ten minutes.
- Implemented department-wide document imaging to decrease use of paper and scanning and recycling of old paper case files. Document imaging has resulted in the removal of many file cabinets and allows us to maximize the utilization of our space.
- Replaced the HVAC units on the DSS buildings at the Betteravia and Calle Real Campuses with energy-saving units.
- Repainted the roof to a light color to reduce energy absorption at the Camino del Remedio facility reducing sun absorption and lowering energy costs.
- Assigned iPads and mobile devices to staff to reduce worker trips in and out of the office when working in the field.

TREASURER-TAX COLLECTOR-PUBLIC ADMINISTRATOR–PUBLIC GUARDIAN

NUMBER OF EMPLOYEES:
42

MISSION STATEMENT:
Bill and collect all property taxation, process all payments, provide banking services, invest revenue received by the County, Special Districts and Schools, administer the County's debt program, deferred compensation plan, decedents' estates, public conservatorships, and veterans' services.

CONTRIBUTIONS:

- Encourage staff carpooling to attend meetings.
- Use shredding service for confidential documents to facilitate recycling.
- Move towards a paperless environment including scanning documents as much as possible for data retention and using online forms to limit paper publications.
- Use shared file server as opposed to a dedicated server.
- Use Energy Star compliant computers, printers, and monitors.
- Request shutting down of computers nightly.
- Use recycling bins to reduce waste.
- Use recycled paper in all copy machines.

APPENDIX A

Additional State Sustainability Policies

- The Electronic Waste Recycling Act (SB 20) went into effect in 2003. Key elements include reduction in hazardous substances used in certain electronic products, collection of an electronic waste recycling fee at the point of sale of certain products, distribution of recovery and recycling payments to qualified entities covering the cost of electronic waste collection and recycling.

- The Rechargeable Battery Recycling Act (AB 1125), which went into effect July 1, 2006, requires retailers that sell rechargeable batteries to take back and recycle them.

- The California Integrated Waste Management Act of 1989 (AB 939) mandates local jurisdictions to meet solid waste diversion goals of 25 percent by 1995 and 50 percent by 2000.

- SB 97 (Dutton), adopted in 2007, directs the Governor's Office of Planning and Research (OPR) to develop recommended changes to the State's CEQA guidelines to address greenhouse gas emissions.

- California Senate Bill 375 (SB 375), the Sustainable Communities and Climate Protection Act of 2008, incorporates planning activities into GHG emissions reduction goals in order to develop sustainable communities statewide. As the metropolitan planning organization representing the County of Santa Barbara, the Santa Barbara County Association of Governments (SBCAG) must develop a strategy of sustainable communities that integrates transportation, land-use, and housing policies as a means of achieving GHG emissions targets and energy usage reductions.

- California Assembly Bill 1103 (AB 1103), the Nonresidential Building Use Disclosure Program, was originally adopted in 2007 with concessions to allow the Energy Commission to implement the requirements of the bill in stages. Effective July 1, 2013, AB 1103 requires any owner of a nonresidential building within California, in advance of the sale, lease, and or financing of the building, to benchmark the building's energy use using the federal ENERGY STAR Portfolio Manager®[1] and to disclose a statement of the building's energy usage to potential buyers, lessees, and lenders.

- Title 24 of the California Code of Regulations reflects a mandatory standard set forth by the State of California, which calls for effective energy efficiency monitoring for buildings that have been newly constructed or altered since 1978. The regulations within Title 24 cover structural, electrical, mechanical, and plumbing systems in an effort to reduce the state's overall energy consumption. Utility rebates and incentives are often based on the amount of energy saved above Title 24 baseline consumption.

- The California Green Building Standards Code (referred to as CALGreen) provides minimum standards in green building construction. It also calls for practices that decrease waste, reduce energy usage, and conserve resources for projects in the state. At a minimum, CALGreen requires that all new buildings reduce water consumption, divert construction waste from landfills, and utilize low-emitting materials; all new buildings over 10,000 square feet must also be adequately commissioned. CALGreen standards are mandatory for most of new construction projects in the state, and use Title 24 as a guideline for determining energy efficiency requirements.

- The California Long-Term Energy Efficiency Strategic Plan (CEESP) is a joint effort between the California Public Utilities Commission (CPUC) and its regulated utilities statewide to fund activities that lead to long-term sustainable changes in energy efficiency. As of 2004, investor-owned utilities such as Southern California Edison and the Southern California Gas Company must use funding generated through a public goods charge imposed on ratepayers to support programs for energy efficiency, low-income services, renewable energy, and public interest research and development. Programs such as the Southern California Edison Strategic Plan Strategies Program are ratepayer-funded, and provide guidelines for electricity efficiency using near-term, mid-term, and long-term strategies.

1 The EPA's Portfolio Manager is an online tool used to measure and track energy and water consumption and GHG emissions. http://www.energystar.gov/buildings/facility-owners-and-managers/existing-buildings/use-portfolio-manager/new-energy-star-portfolio-manager

APPENDIX B

Federal ZNE Goals

EXECUTIVE ORDER 13514 (PARTIAL)

- 30% reduction in vehicle fleet petroleum use by 2020;
- 26% improvement in water efficiency by 2020;
- 50% recycling and waste diversion by 2015;
- 95% of all applicable contracts will meet sustainability requirements;
- Implementation of the storm water provisions of the Energy Independence and Security Act of 2007, Section 438, and;
- Guideline sustainable federal building locations that are in alignment with the Livability Principles put forth by the Department of Housing and Urban Development, the Department of Transportation, and the Environmental Protection Agency.[2]

ENERGY REDUCTION GOALS FOR FEDERAL BUILDINGS

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA 2007) was signed into law. In addition to establishing energy management goals and requirements, it also amended portions of the National Energy Conservation Policy Act (NECPA).

Section 433 of EISA 2007 directed the Department of Energy to issue revised federal building energy efficiency performance standards. The revised standards specify that "the buildings shall be designed so that the fossil fuel-generated energy consumption of the buildings is reduced, as compared with such energy consumption by a similar building in fiscal year 2003 (as measured by Commercial Buildings Energy Consumption Survey or Residential Energy Consumption Survey data from the Energy Information Agency), by the percentage specified in the following table:

YEAR	PERCENTAGE
2010	55%
2015	65%
2020	80%
2025	90%
2030	100%

2 Partnership for Sustainable Communities, U.S. Department of Housing, Urban Development, U.S. Department of Transportation, and the U.S. Environmental Protection Agency; June 16, 2009

WATER INTENSITY REDUCTION GOALS FOR FEDERAL BUILDINGS

Section 523 of EISA 2007 requires 30% of the demand for hot water in new or significantly renovated federal buildings to be met with solar hot water equipment, provided it is life-cycle cost-effective.

EISA also adopted the energy intensity reduction goals of EO 13423[3] which mandates that federal agencies reduce water intensity (gallons per square foot) by 2% each year through Fiscal Year 2015 for a total of 16%, based on water consumption in FY 2007.

YEAR	PERCENTAGE REDUCTION
2008	2%
2009	4%
2010	6%
2011	8%
2012	10%
2013	12%
2014	14%
2015	16%

ELECTRONIC PRODUCTS AND SERVICES GOALS FOR FEDERAL AGENCIES

Further directives of EO 13514 include product efficiency and stewardship. In addition to other mandates, EO 13514 directed federal agencies to ensure that 95% of new contract actions including task and delivery orders, for products and services with the exception of weapon systems, are energy efficient (ENERGY STAR® or Federal Energy Management (FEMP) designated), water-efficient, biobased, environmentally preferable (e.g., Electronic Product Environmental Assessment Tool (EPEAT) certified), non-ozone depleting, contain recycled content, or are non-toxic or less-toxic alternatives, where such products and services meet agency performance requirements.

In his 2011 State of the Union address, President Obama called for putting one million electric vehicles on the road by 2015 affirming and highlighting a goal aimed at building U.S. leadership in technologies that reduce our dependence on oil.[4]

3 EO 13423 Strengthening Federal Environmental, Energy, and Transportation Management, was signed on January 24, 2007,

4 First announced by Barack Obama as a candidate speech in Lansing, Michigan on August 4, 2008. The goal was reiterated as President in a speech in Pomona, California on March 19, 2009

APPENDIX C

State ZNE Goals

THE 2013 CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 24 STANDARDS

The California Energy Commission (CEC) is moving toward encouraging the transition to ZNE buildings. The 2013 California Code of Regulations (CCR), Title 24 Standards offer a credit for photovoltaic systems for certain climate regions and are estimated to reduce energy consumption of commercial buildings by 30% compared to the 2008 Title 24 (CCR) Standards.[5]

EXECUTIVE ORDER B-18-12 (PARTIAL)

WHEREAS green building practices use energy, water, and materials efficiently throughout the building life cycle, enhance indoor and outdoor air quality, improve the health, productivity, and working lives of state employees, incorporate environmentally preferable products, and substantially reduce the costs and environmental impacts associated with operating State buildings; and

WHEREAS energy and water efficiency improvements in State buildings and operations save the State money and boost California's economy by investing in green technology companies and green jobs; and

WHEREAS the California Global Warming Solutions Act of 2006 requires the State to reduce greenhouse gas emissions to 1990 levels by 2020 and beyond, and the energy used in buildings accounts for the second largest contribution to California s greenhouse gas emissions.

IT IS FURTHER ORDERED that State agencies reduce overall water use at the facilities they operate by 10% by 2015 and by 20% by 2020, as measured against a 2010 baseline.

IT IS FURTHER ORDERED that State agencies measure, monitor, report, and oversee progress on measures in this Order.

EXECUTIVE ORDER 3-23-2012 (PARTIAL)

This Order to help bring 1.5 million Zero-Emission Vehicles on to California's roads. By 2020, the state will have established adequate infrastructure to support 1 million Zero-Emission Vehicles in California;

IT IS FURTHER ORDERED that California's state vehicle fleet increase the number of its Zero-Emission Vehicles through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles be zero-emission by 2015 and at least 25 percent of fleet purchases of light-duty vehicles be zero-emission by 2020.

5 Title 24 standards, http://newbuildings.org/sites/default/files/PGE_CA_ZNE_CostStudy_121912 .pdf

COUNTY OF SANTA BARBARA
CALIFORNIA