



CITY OF SANTA BARBARA

COUNCIL AGENDA REPORT

AGENDA DATE: October 15, 2013
TO: Mayor and Councilmembers
FROM: City Administrator's Office
SUBJECT: Citywide Sustainability Achievements

RECOMMENDATION:

That Council receive a presentation on sustainability achievements, highlighting the City's recent accomplishments in environmental programs.

DISCUSSION:

Each year, lead environmental program staff develop annual plans and implement projects to achieve the City's environmental goals. The Sustainability Council Committee meets regularly to provide policy direction and receive updates on the City's sustainability efforts.

This presentation will provide an overview of the City's recent accomplishments related to environmental programs, projects, and policies from all departments. The report is divided into three focus areas, including Waste Prevention, Energy and Transportation, and Water Quality, Conservation, and Habitat Restoration.

For more information on citywide sustainability activities, visit the City's web site at www.SantaBarbaraCA.gov.

PREPARED BY: Nina Johnson, Assistant to the City Administrator
SUBMITTED BY: Jim Armstrong, City Administrator
APPROVED BY: City Administrator's Office



Sustainability Achievements

City Council

October 15, 2013



Presentation Overview

- ◆ Highlight recent achievements from the City's environmental programs
- ◆ Provide updates on annual energy use in City facilities and water conservation program for large commercial users
- ◆ Answer questions



Sustainability Program

- ◆ Sustainability Program formed in January 2006
- ◆ Sustainability Council Committee was formed to help guide the City's sustainability efforts
- ◆ Coordinate environmental programs in different departments and divisions



Special Thanks

- ◆ Environmental Program Staff
 - Water Resources
 - Facilities Management
 - Trash and Recycling
 - Creeks
 - Parks
 - Transportation
 - Airport/Waterfront





Visit City Website at SantaBarbaraCA.gov



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Sustainable Santa Barbara

City Offices: **OPEN** this Friday, October 18, 2013.

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SERVICES

GOVERNMENT

BUSINESS

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- Sustainability Home
- Best Practices Library
- Trash and Recycling
- Water Resources
- Energy Management
- Transportation
- Contact Us

Sustainability Achievement Report

Climate Action Plan

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Charge Your Electric Vehicle at City Parking Lots



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SUSTAINABLE CHOICES

Every day, the City makes policy and operational decisions that can lead to both cost savings and increased sustainable practices. We must be both fiscally sound and environmentally strong.



Overview of Highlights

- ◆ Greenhouse Gas Emissions
- ◆ Energy and Transportation
- ◆ Waste Reduction
- ◆ Water Quality, Conservation, and Habitat Restoration

Highlights

- ◆ 3 Beacon Awards from the Institute for Local Government
 - Agency Emissions
 - Electricity Use
 - Best Practices



Best Practices

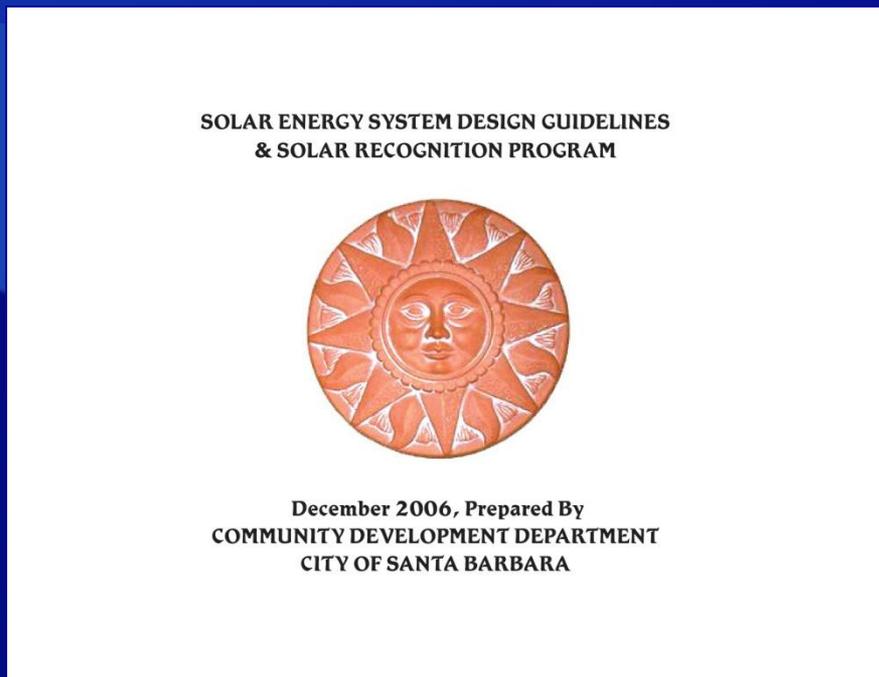




Greenhouse Gas Emissions

- ◆ City facility and fleet emissions 10% lower than 1990 emissions
- ◆ Adopted a Climate Action Plan
- ◆ Estimated community-wide emissions 2% lower than 1990 emissions

Energy and Transportation



- Awarded 225 solar design awards to residents and businesses for implementation of solar energy projects

Energy and Transportation



- ◆ Achieved LEED-Gold certification for the Airline Terminal

LEED Certified City Buildings



Lynn Houston © 2010 SBA

LEED:
Leadership in Energy and
Environmental Design



Energy and Transportation

- ◆ Energy retrofits completed in recent years result in annual savings of \$420,000
- ◆ Retrofits incorporated in planned building maintenance and renewal projects



Energy and Transportation



- ◆ Installed solar thermal water heating systems in all Harbor restrooms

Energy and Transportation



- ◆ Los Banos pool boiler replacement

Energy and Transportation



- Pool Car Program



Energy and Transportation

- 1/3 of the City's vehicle fleet running on alternative fuels or technology



Energy and Transportation



- ◆ 8 Electric Vehicle Charging Stations in City parking lots

Waste Reduction



New trash hauling contract negotiated with Marborg improving trash and recycling services

Waste Reduction



- ◆ Santa Barbara School Districts diverting 60% of school waste

Waste Reduction

- ◆ Sansum Medical Clinic diverting 66% of its waste



Waste Reduction



- ◆ Over 155 businesses compost foodscrap including Santa Barbara School District, Santa Barbara City College, Cottage Hospital, hotels, and restaurants.

Waste Reduction

- ◆ Collected 369,000 pounds of electronic devices through community events
- ◆ Collected 310,000 pounds of hazardous materials

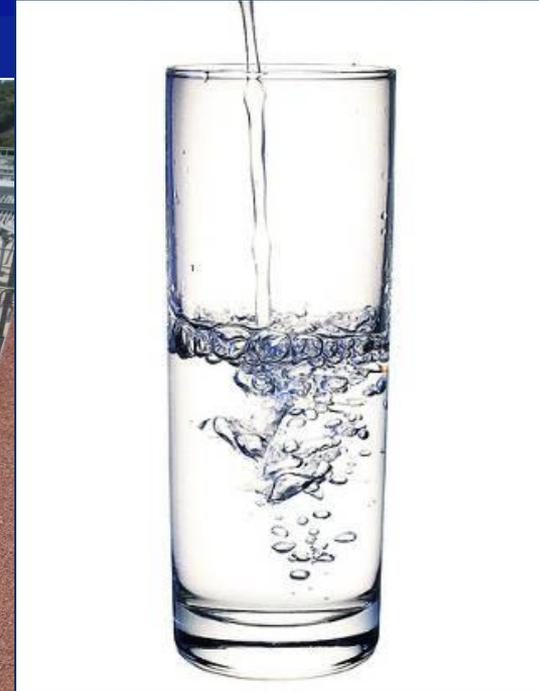


Waste Reduction



- ◆ Single Use Bag Ordinance to encourage the use of reusable bags when making purchases

Water Quality, Conservation, and Habitat Restoration



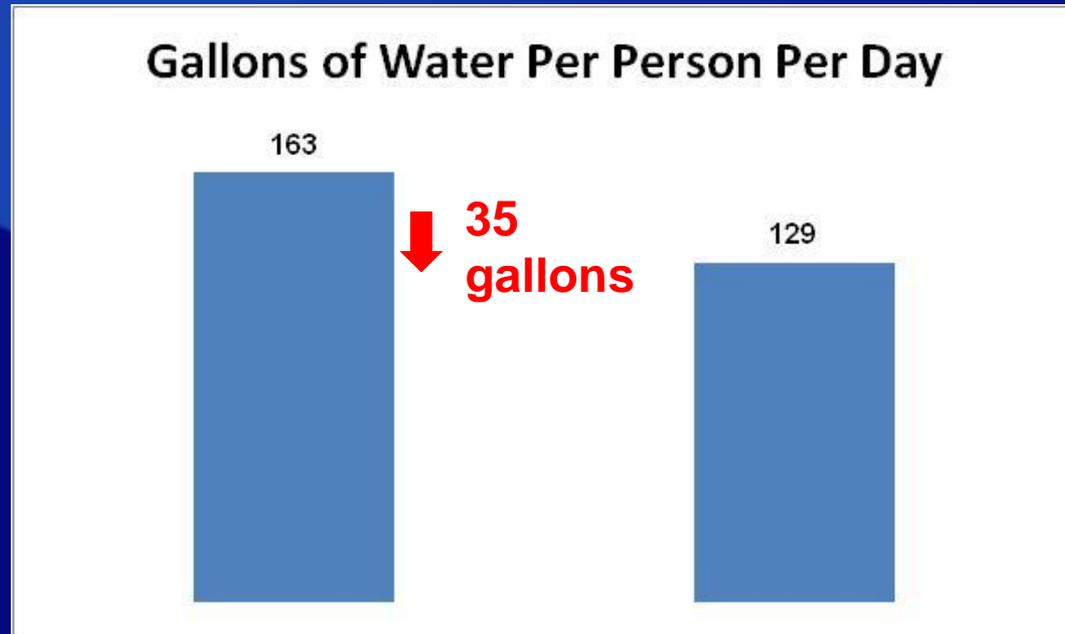
- ◆ Advanced Water Treatment Project

Water Quality, Conservation, and Habitat Restoration



- ◆ Completed 550 check-ups for efficient irrigation equipment, water-wise plants, and mulch through the Smart Landscape Rebate Program

Water Quality, Conservation, and Habitat Restoration



- ◆ Community reduced water consumption by 15-20% since the mid-80s

Water Quality, Conservation, and Habitat Restoration



- ◆ Water conservation survey and incentive program implemented for large commercial users

Water Quality, Conservation, and Habitat Restoration



- ◆ Maintained Clean Marina certification at the Harbor

Water Quality, Conservation, and Habitat Restoration



- ◆ Installed permeable pavers at MacKenzie Park, Stevens Park, and Oak Park and the Westside Neighborhood Center

Water Quality, Conservation, and Habitat Restoration



- ◆ Completed the upper channel portion of the Mission Creek Fish Passage project

Water Quality, Conservation, and Habitat Restoration

- Completed a comprehensive tree canopy study



Collaborative Efforts



- ◆ Partner in Green Business Program that has certified 32 businesses in the City



Questions



CII Water Wise Survey & Incentive Program

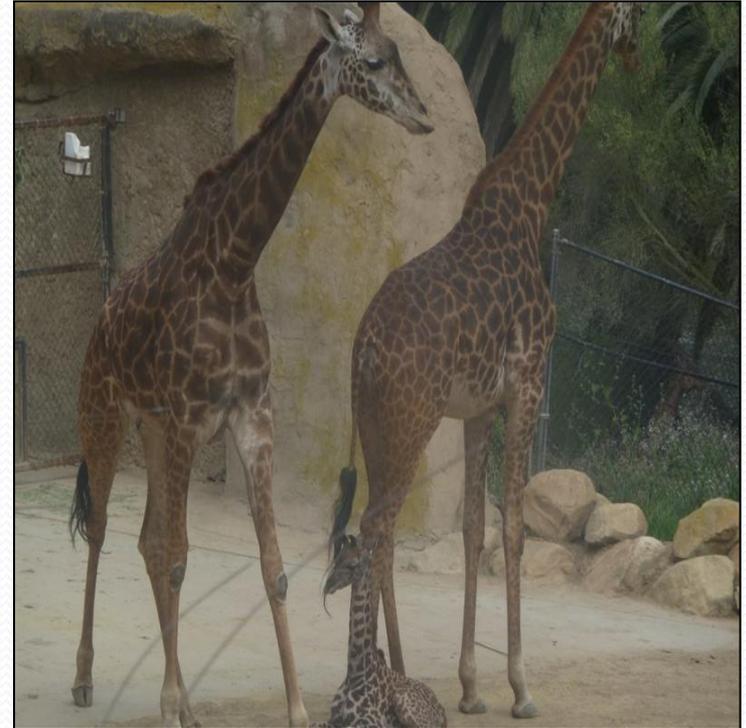
Alison Jordan, Water Conservation Supervisor

City Council

October 15, 2013

Program Overview

- Goal is to reduce potable water usage for City's highest CII water customers
- Began in early 2013
- Target to complete 19 surveys per FY
- Completed 7 to date



Program Objectives

1. Perform a water use survey for each site
2. Provide a report with recommended cost-effective conservation projects
3. Meet with site management to present water conservation projects, costs, payback period, & water savings
4. Offer incentives for recommended projects



Targeting Highest CII Water Users

- Sites range \$70,000 to \$220,000 annually on water & sewer
 - ~ 1,000-2,000 hcf per month
- Positive response - first 7 sites - 100% response to calls to schedule surveys.
- Sites recognize benefits of:
 - improving efficiency
 - costs savings
 - being sustainable



First 7 Survey Sites

- Samarkand Retirement Community
- Santa Barbara City College
- Santa Barbara Zoo
- Fess Parker Double Tree Hotel
- Mission Linen Supply
- Santa Barbara Waterfront
- Valle Verde Retirement Community



Surveys

- City staff trained by Maddaus Water Management
- Conducted 7 site surveys in May 2013
- Evaluated water use:
 - Appliances
 - Plumbing fixtures
 - Cleaning/maintenance
 - Behavior



Surveys - The Usual Suspects

- **Toilets-** many were found to be out of adjustment & flushing more gpf than designed. Often, flappers are the wrong size.
- **Washing machines-** older top-loading models. Old, inefficient commercial size laundry machines.
- **Ice machines** – air cooled vs. water cooled
- **Kitchens** – steamers, spray valves, aerators



Plus Some Unusual Suspects

- Giant Dishwashers
- Giant Clothes washers
- 10 ton Ice House



Results of SBCC Survey

	Annual Water, Energy & Sewer Bill Savings, (\$/year)	Total Estimated Water Savings (gal/day)	Total Cost of Project	Payback (months)
1. Install Spray Valve in EBS 223	\$1,061	211 gpd	\$125	1.4
2. Replace 25 Faucet Aerators in Physics Labs	\$2,909	578 gpd	\$750	3.1
3. Replace Ice Machine in 2nd floor Physics	\$2,136	542 gpd	\$2,200	12.4
4. Replace Clothes Washer Machine in Physics	Not recommended as payback too long to be cost effective			
5. Replace Toilets in Student Center	\$458	116 gpd	\$1,700	44.5
6. Replace Hand Wash Sink Aerators Admin + Health	\$206	41 gpd	\$210	12.2
7. Install Spray Valve in Student Pastry Kitchen Pot Washing Station	\$321	64 gpd	\$125	4.7
8. Install Spray Valve in Cafeteria Kitchen	\$1,415	281 gpd	\$125	1.1
9. Add Faucet Aerators in Kitchen Sinks Used for Hand Washing	\$326	65 gpd	\$90	3.3
10. Fix Leaking Valve on Dishwasher in Cafeteria Kitchen	\$67	13 gpd	\$250	44.8
11. Fix Leaking Faucets in Teaching Kitchen 108 & JSB Café	\$134	27 gpd	\$500	44.8
12. Replace Showerheads in Men's and Women's Locker Rooms	\$12,262	3,114 gpd	\$10,120	9.9
13. Add Spray Valve in JSB Café	\$2,849	566 gpd	\$125	0.5
14. Replace Faucet Aerators in Women's Locker Room	\$3,770	749 gpd	\$60	0.2
15. Fix Handheld Shower Nozzle in Women's Locker Room	\$121	31 gpd	\$110	10.9
16. Replace Clothes Washer Machine in Athletics	\$853	170 gpd	\$1,100	15.5
17. Replace Nozzles on Dishwasher in Cafeteria Kitchen	\$2,968	589 gpd	\$900	3.6
18. Adjust all restroom toilets to actually flush at the designed 1.6 gpf.	\$86	22 gpd	\$100	14.0
Total	\$31,944	7,178 gpd	\$18,590	

Results

- Fess Parker- Water savings: 6%, Annual Savings: \$23,066
- Mission Linen- Water savings: 5%, Annual Savings: \$12,901
- Samarkand- Water savings: 12%, Annual Savings: \$24,636
- Zoo- Water savings: 1%, Annual Savings: \$846
- SBCC- Water savings: 29%, Annual Savings: \$35,346
- Valle Verde- Water savings: 10%, Annual Savings: \$12,136
- Waterfront- Water savings: 31%, Annual Savings: \$46,635

Incentives

- Incentive amounts are calculated for each proposed project based on:
 1. Estimated water savings
 2. City's Avoided Cost of Water = \$1.40 per hcf (\$600/acre foot)
 3. Estimated project life expectancy
 4. Maximum 50% of equipment cost
 5. Maximum total incentives per site is \$15,000

Next Steps

- Work with first 7 sites to facilitate projects
- Process incentives to sites
- Complete 12 more surveys this FY
- Estimated project water savings is 19 acre feet per year (AFY)



Questions?

www.SantaBarbaraCA.gov/WaterWise

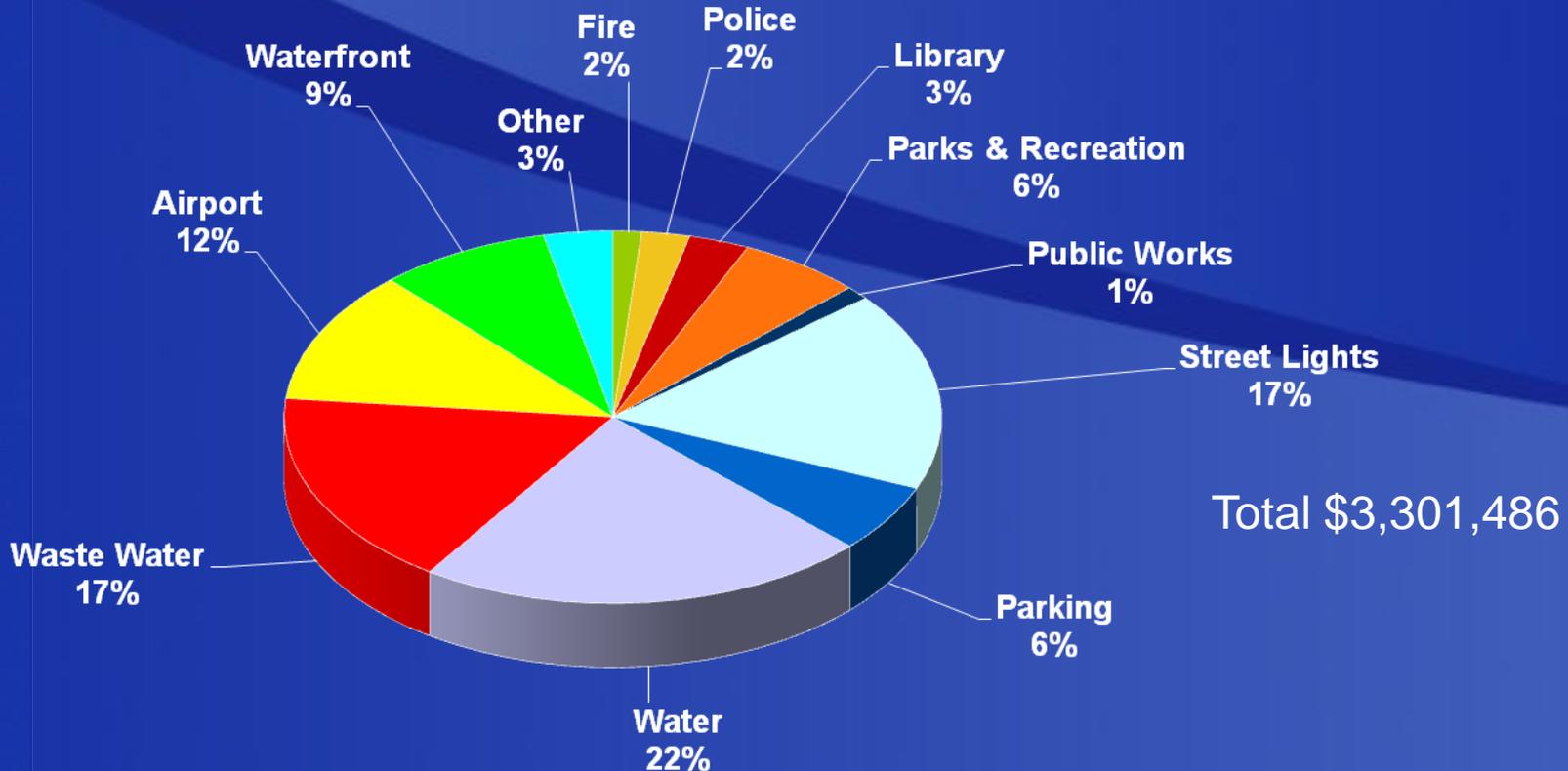


Electricity



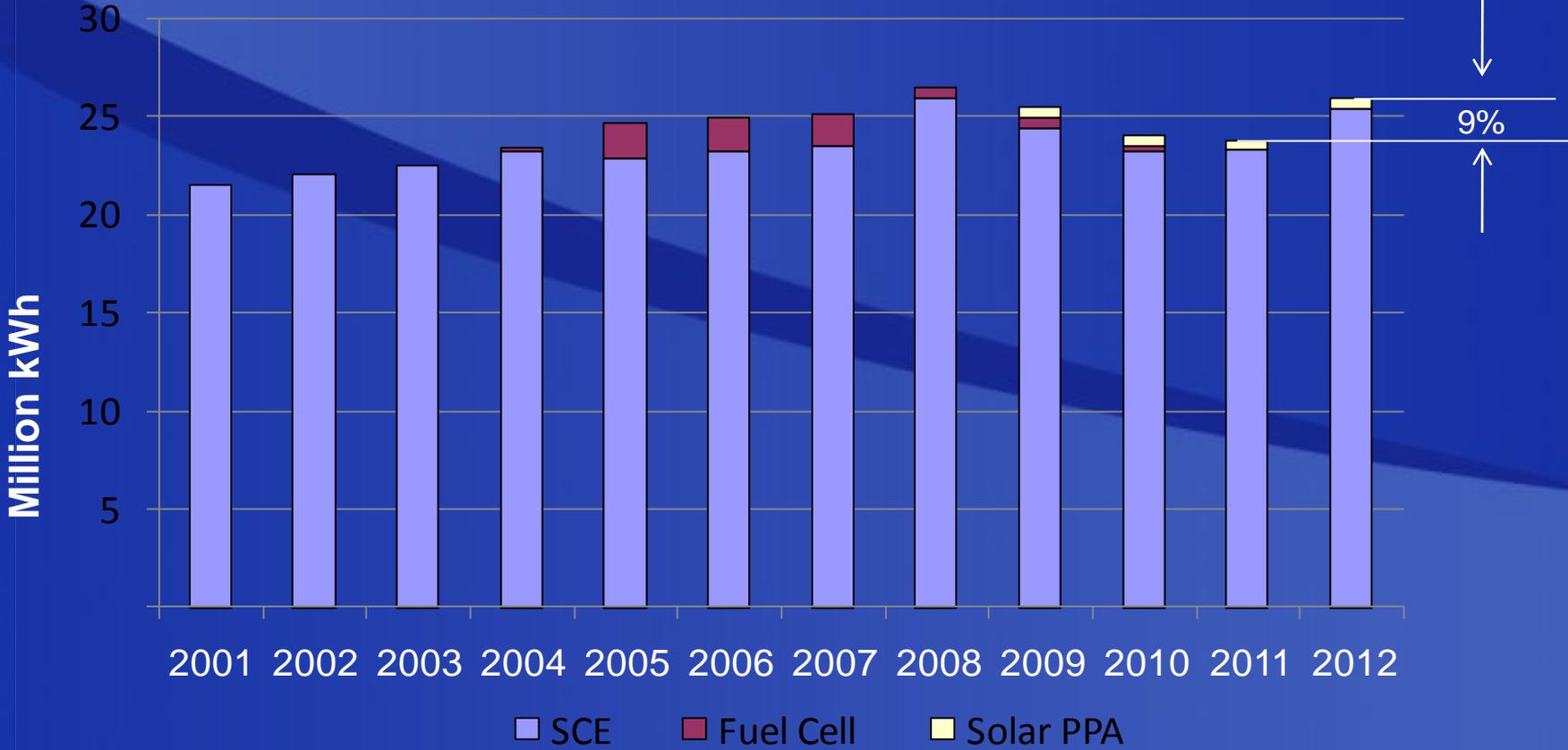
FY 2012 Electricity Expense

Electricity cost by percentage of total FY 2012 expenditures for City departments or major use areas



Purchased Electricity

Annual Purchased Electricity Use



Biggest Electricity Users

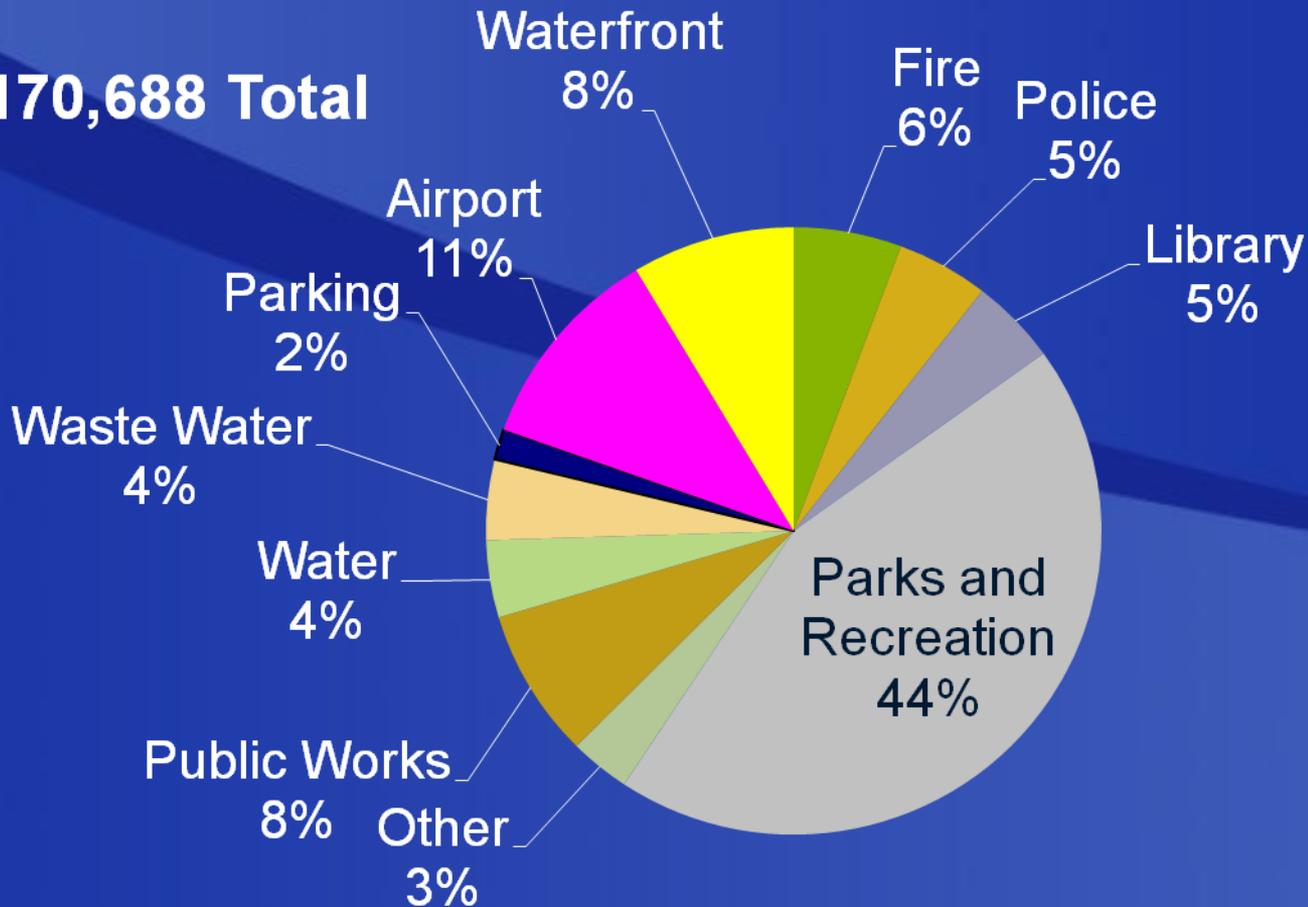
SCE Account	Annual kWh
El Estero Wastewater Treatment Plant	7,055,712
Cater Water Treatment Plant	2,449,070
Airport	1,779,094
Marina 1	934,878
Ornamental Street Lighting – Downtown	855,626
Police Department	642,143

Natural Gas



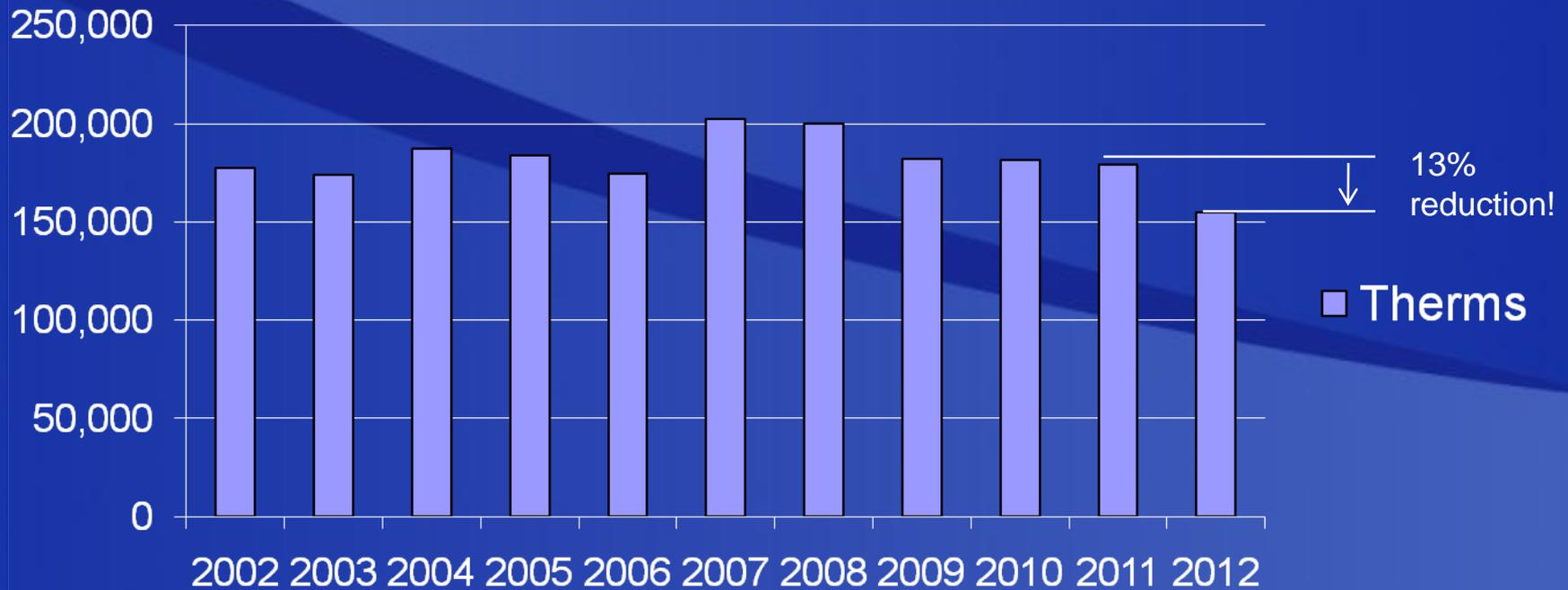
FY 2012 Natural Gas Expenditures

\$170,688 Total



Natural Gas Use by Year

Therms

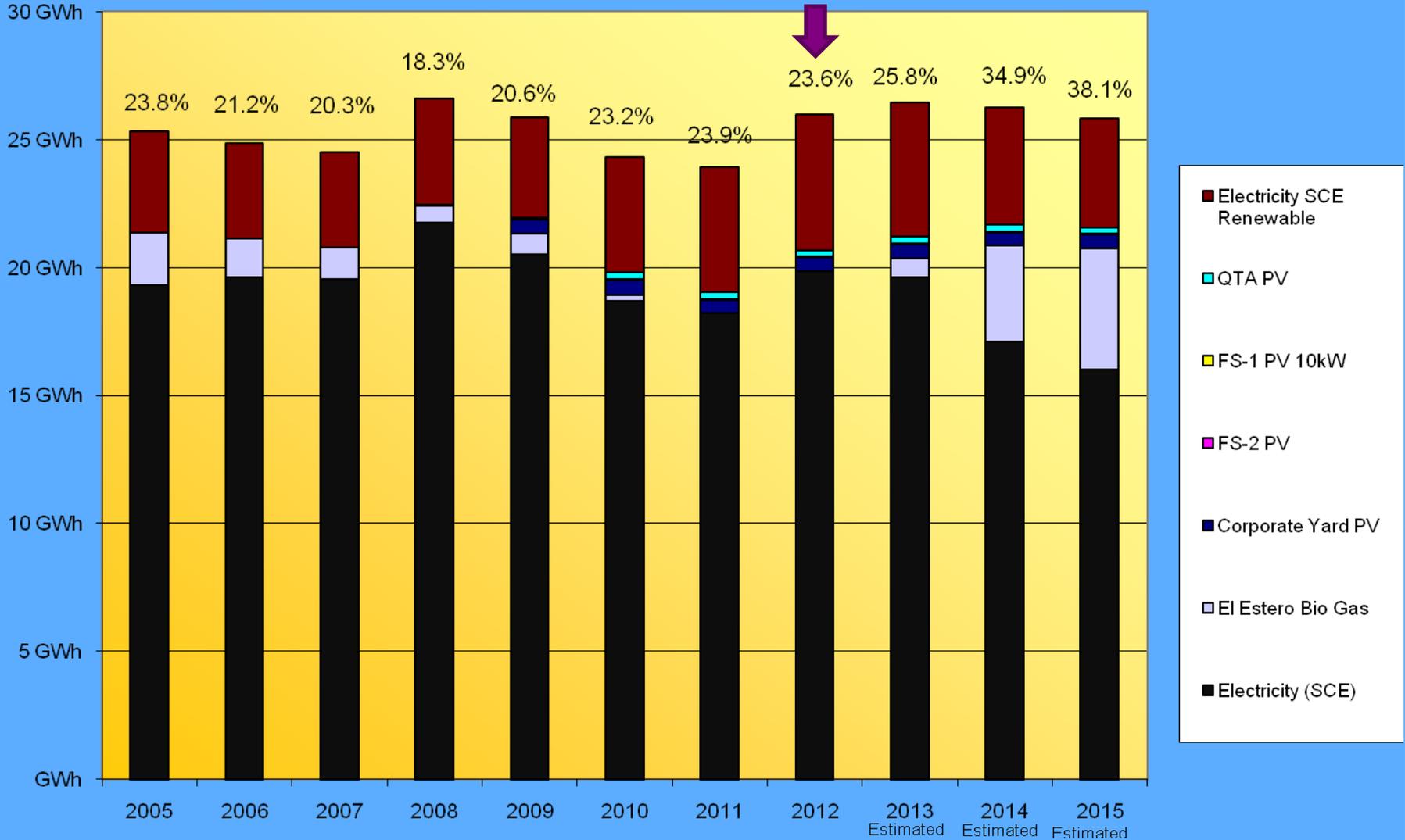


Renewable Energy



Renewable Percentage of Electricity City Operations

Electricity Use
Showing Renewable Energy Component Percentage
 Non Renewables in Black



Solar Photovoltaic Projects

847,000 kWh-enough energy to power 150 local area homes.

Project	Year Installed	kW (size)	Annual kWh
PW Corporate Yard PV	2008	302	565,584
Airport QTA PV	2010	190	229,494
Fire Station 2 PV	2007	15	28,000
Fire Station 1 PV	2009	10.2	24,000

Energy Conservation



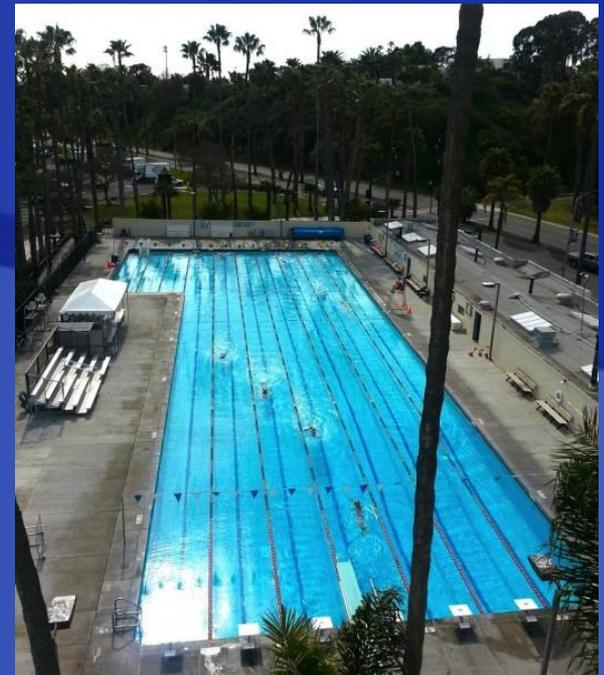
Success Story: PD Annex

- ◆ T-12 Fluorescent to T-8
- ◆ Savings:
 - 53,909 kWh per year
 - \$7,547 annually.
- ◆ Received \$4,047 in incentive funds



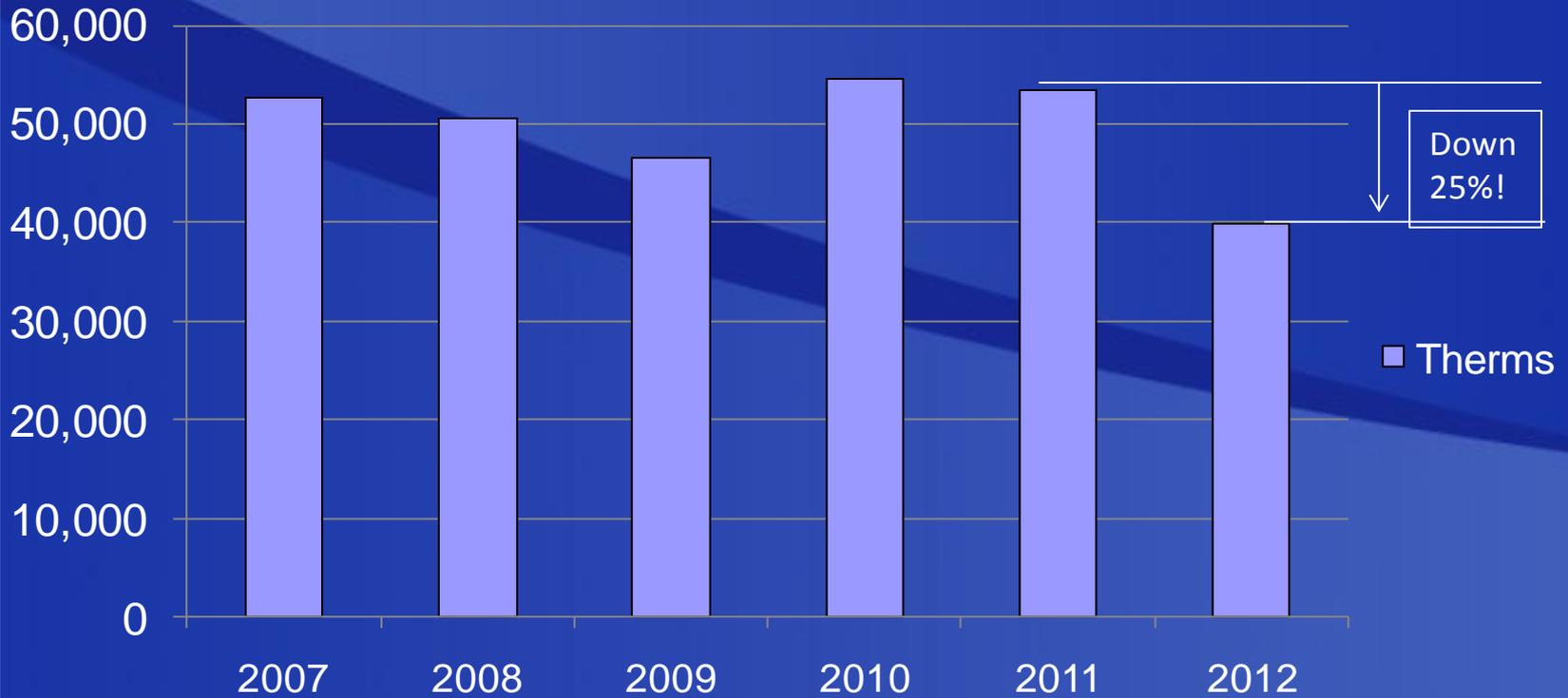
Success Story: Los Baños

- ◆ Replaced 30-year old boilers with condensing boilers
- ◆ Savings:
 - >10,000 therms per year
 - >\$10,000 per year
- ◆ In 2012 the pool used 25% less natural gas – largely due to the replacement of the boilers!



Los Baños del Mar Pool

Annual Therms



Energy Team Savings

One Time Savings 2012

- ◆ Rebates – \$ 10,652
- ◆ Grants - \$ 25,000

Ongoing Annual Savings*

- ◆ Annual Conservation Savings – \$ 308,154
- ◆ Annual Electrical Rate Savings – \$ 120,700

Total- \$ 428,854

* From actions taken 2008 through 2012