



Sustainability & Conservation

A Strategic Plan to reach the sustainability & conservation goals for Santa

Barbara County Government of Operations.



Overview

- The Sustainability and Conservation Team (SCT) was organized following direction from the Board of Supervisors on December 16, 2008.
- The Board directed General Services on September 2009 to generate the Sustainability Action Plan for County Operations.
- Energy Manager resigned from the County last October.
- On February 8, 2010 Roy Hapeman appointed new Energy Manager.

The Vision is Unchanged

- Reduced Utility & Operating Costs
- Cost-Effective Implementation
- A complete plan that addresses emission baseline, timelines & milestones
- Reduced Greenhouse Gas Emissions over time
- Provide Community Leadership

Agenda

*Introductions & Overview * Vision * Team * **Areas of Sustainability** * Example Projects * Components of Action Plan*

The Sustainability Plan is “Managing Resources Today for Tomorrow”

- Energy Efficiency & Renewable Power
- Vehicle Operations & Fuel Use
- Water Conservation
- Solid Waste & Recycling
- Landfill Management
- Printing & Reprographics



Recent Projects

- Energy Audit at the SB Veterans Memorial Building
 - Replace old T12 fluorescent lighting with energy efficient T8 lighting
 - Replace old incandescent lighting with energy efficient compact fluorescent lights
 - Replace exit signs with LED signs
 - These replacements will save approximately 28,000 kwh/year 20.1 tons COe
- Energy Audit at the McDonald Building in Santa Barbara
 - Replaced T12 with new T8's that are 28 watt and instant on fluorescents saving 150 kwh/year 1.3 metric tons COe
- Betteravia Buildings A,B & D
 - Replaced the air conditioner units in 3 buildings with modern units with economizers and Variable Frequency Drives (VFD)
- Energy Audit was done on the Betteravia Campus.
Determined we will save 504,777 kwh/year, \$69,985 in utility costs per year, 363 metric tons of COe per year for a one time cost of \$196,159.



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Recent Projects

- Department 5 Remodel
 - Replaced older T8 lights with the new generation instant on T8s
- Courthouse Cooling Tower
 - Variable Frequency Drive (VFD) for optimized operation
- HVAC in the Admin Building
 - Replaced with high efficiency Boilers and Chillers
- Lompoc Administration Building
 - Replaced with high efficiency heating units
- Lighting Policy Change as lights burn out
 - Replace all 32 watt bulbs with 28 watt bulbs. This will result in a 12% energy savings for each affected fixture.



Energy Efficiency Facilities Training Program

(Subsidized by the Partnership with Southern California Edison)

Building Operator Certification (BOC)

- Nationally recognized training and certification program for building operators

- Teaches how to make facilities more energy-efficient

- Heating and cooling systems,

- Enabling operators to be proactive in compliance with environmental regulations



Energy Efficiency Partnership Programs

- **Santa Barbara Energy Efficiency Partnership Program**

- The partners include: the County of Santa Barbara and the cities of Santa Barbara, Goleta, and Carpinteria.

- Provides outreach to Santa Barbara businesses
- Lighting retrofits
- Holiday Light Exchange,
- Refrigerator and Freezer Pickup,
- Lamp Exchange and
- Compact Fluorescent Giveaways.



- **North County Energy Watch Partnership Program**

- The partners are the County of Santa Barbara the cities of Santa Maria, Buellton, and Guadalupe and the Santa Maria Valley Chamber of Commerce

- Provides outreach to Santa Barbara businesses
- Lighting retrofits
- Compact Fluorescent Giveaways



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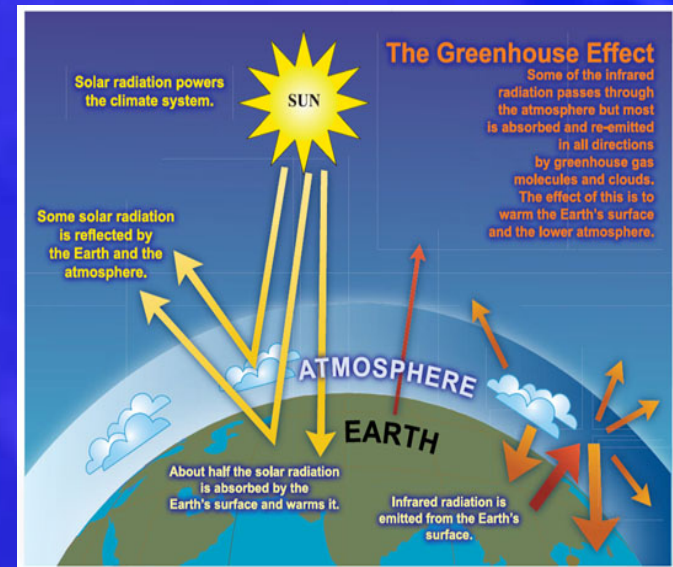
*Introductions & Overview * Vision * Team * Areas of Sustainability * Example Projects * **Components of Action Plan***

Sustainability Action Plan

1. Executive Summary
2. Introduction
 - 2.1 Purpose of Inventory
 - 2.2 Climate Change Background
 - 2.3 Climate Change Mitigation Activities by Santa Barbara County Government
 - 2.4 Santa Barbara County Climate and Energy Partnerships
3. Methodology
 - 3.1 Analysis Parameters
 - 3.2 Quantifying Emissions
4. Government Operations Inventory
 - 4.1 Government Operations Inventory Summary
 - 4.2 Government Operations Inventory by Sector
5. Conclusion & Recommendations
6. Appendices
 - Appendix A: County Operations GHG Emissions Report

Items included in the Sustainability Action Plan

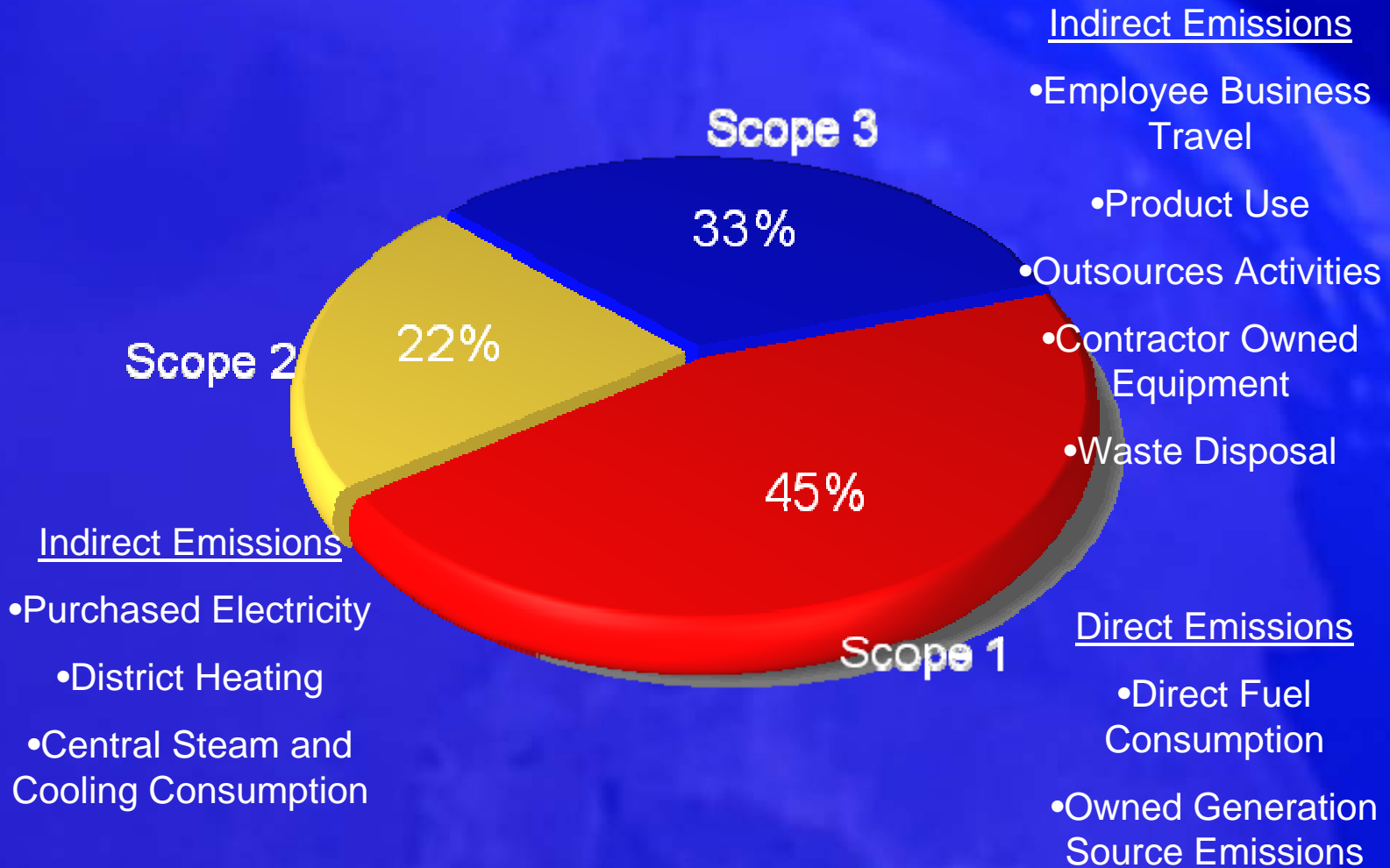
- 2008 Baseline Year
 - Court facilities are excluded
 - Data is available & defensible
- Carbon-Dioxide Levels and other Greenhouse gases
- Utilities Costs



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Santa Barbara County Emission Data

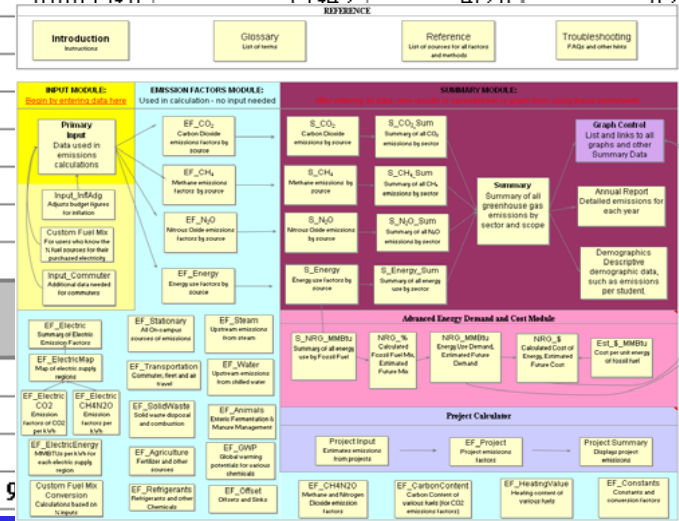


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Initial Excel Emission Modeler

WORKSHEET	Overview of Annual Emissions					
Organization	County of Santa Barbara					
Reporting Year	2008	Energy Consumption	CO ₂	CH ₄	N ₂ O	eCO ₂
		MMBtu	kg	kg	kg	Metric Tonnes
Scope 1	Co-gen Electricity	-	-	-	-	-
	Co-gen Steam	-	-	-	-	-
	Facility Natural Gas	922,103.0	48,646,227.0	4,864.1	97.3	48,786.9
	Transportation (Vehicle Operations)	167,691.6	11,607,792.0	1,641.7	602.3	11,823.8
	Refrigerants & Chemicals	-	-	-	-	-
	Agriculture	-	-	-	-	-
Scope 2	Purchased Electricity	362,796.5	29,428,882.6	144.7	79.9	29,455.9
	Purchased Steam / Chilled Water	-	-	-	-	-
Scope 3						
	Staff Commuting	86,587.5	6,076,150.6	1,194.2	412.0	6,225.6
	Staff Business Travel (Air)	-	-	-	-	-
	Staff Business Travel (Ground)	-	-	-	-	-
	Abroad Air Travel	-	-	-	-	-
	Solid Waste (Landfill Operations)	-	-	-	-	-
	Wastewater (Laguna Sanitation)	-	-	-	-	-
	Paper (Recycled)	-	-	-	-	-
	Scope 2 T&D Losses	35,881.0	-	-	-	-
Offsets	Additional					
	Non-Additional					
Totals	Scope 1	1,089,794.6				
	Scope 2	362,796.5				
	Scope 3	122,468.5				
	All Scopes	1,575,059.6				



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Data Modeling Application

The screenshot displays the 'Clean Air and Climate Protection 2009 Software' interface, Version 2.2, January 2010. The main window is titled 'Government Analysis for Year 2008' and features a menu bar with 'File', 'Year', 'Record', 'Report', 'Assistants', 'Settings', and 'Help'. The interface is divided into several sections:

- Navigation Tabs:** 'Community Analysis', 'Community Measures', 'Government Analysis' (selected), and 'Government Measures'.
- Facility Selection:** A row of tabs for 'Buildings and Facilities', 'Streetlights & Traffic Signals', 'Port Facilities', 'Airport Facilities', 'Water Delivery Facilities', 'Wastewater Facilities', and 'Solid Waste F'.
- Name of Building or Facilities Group:** A text input field.
- Record Controls:** Buttons for 'Insert', 'Select', and 'Delete', along with navigation arrows.
- Report:** A button with a printer icon.
- Assistants:** A section with tabs for 'Categories', 'Indicators', and 'Coefficients', and a 'Forecast Builder' button.
- Energy Data Table:** A table with columns 'Type', 'Units', 'Quantity', and 'Energy Cost (\$)'. It lists various energy sources and their consumption data.
- Summary Fields:** 'Energy Consumption' (MMBtu) and 'Equivalent CO₂ Production' (tons), both showing a value of 0.
- Notes Section:** A text area for 'Notes Regarding Buildings and Other Facilities Data'.

An inset window titled 'CACP 2009 Clean Air & Climate Protection Software' is also visible, featuring a city skyline graphic and logos for ICLEI (Local Governments for Sustainability USA) and NACAA. It includes the text: 'A Greenhouse Gas Accounting System to Support the Local Government Operations Protocol' and '© 2009 ICLEI USA, Inc. All rights reserved.'

Type	Units	Quantity	Energy Cost (\$)
Electricity (Grid Average)	(kWh)	0	0
Commercial Coal	(tons)	0	0
Fuel Oil (#1 2 4)	(US gal)	0	0
Kerosene	(US gal)	0	0
Landfill Gas or biogas	(MMBtu)	0	0
Natural Gas	(therms)	0	0
Propane	(US gal)		
Stationary Gasoline	(US gal)		
Stationary LPG	(US gal)		
Wood 12 pct moisture	(tons)		

Thank You!

**Sustainability & Conservation
is our common goal**

