

An aerial photograph of Pt Reyes Station, California. The image shows a large white building with a red roof, identified as the Dance Palace, surrounded by palm trees and other vegetation. In the background, the ocean is visible, along with a town built on a hillside. The sky is clear and blue.

***Gulf of the Farallones National Marine Sanctuary
Advisory Council (SAC)
Green Operations Working Group
Presentation***

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***Gulf of Farallones SAC Meeting
13 August 2009***

***Dance Palace
Pt Reyes Station, CA***

Working Group Members & Staff

Members

- Chris Powell, GFNMS Advisory Council (**Chair/Facilitator**)
- Laura Castelini, GGNRA Sustainability Coordinator
- Susan McComb, BAR Architects /LEED, Farallones Marine Sanctuary Association Board
- Rich Chien, SF Department of the Environment
- Aimee Vincent, Presidio Trust Sustainability Coordinator
- Brenda Donald, GFNMS Advisory Council member (**Chair - Meeting #2**)
- Bob Wilson, GFNMS Advisory Council member
- Kate Bimrose (USF Graduate Student)

Staff

- Brian Johnson, GFNMS Deputy Superintendent (**Co-Facilitator**)
- Kelley Higgason, GFNMS Adv. Council / Ocean Climate Initiative Coordinator

Working Group Recommendations

- Discuss & approve the Green Operations Chapter
- Forward the chapter to the sanctuary Superintendent for adoption
- Request that GFNMS send it to all sanctuaries in the National Marine Sanctuary System.
- Performance Measure - Request that GFNMS present an annual Emissions Inventory to the SAC (spring meeting)

Working Group Goal, Output & Tasks

- **Goal:** Improve the energy conservation and efficiency of the Gulf of the Farallones National Marine Sanctuary Crissy Field Headquarters
- **Output:** Green Operations chapter of the GFNMS Ocean Climate Initiative Action Plan (Action Plan)
- **Tasks:** Review partner action plans. Discuss greening issues such as transportation, water & waste management, education, etc. in order to develop recommendations for the operations chapter of the Action Plan. Present to SAC.

Working Group Meetings & Objectives

March 17, 2009: Reviewed Working Group goal, output, tasks, and schedule. Reviewed similar Green Action Plans (GGNRA & City of SF). Developed draft Chapter outline. Audits requested.

April 30, 2009: Reviewed draft plan/actions. Added new actions based on gaps. Reviewed draft graduate thesis recommendations.

July 9, 2009: Reviewed final draft of operations chapter. Developed targets. Discussed SAC meeting and next steps.

August 13, 2009: Present to SAC. Recommend to approve and forward chapter to site & national program for adoption.

Chapter Summary

- Over 130 actions to reduce the greenhouse gas emissions that result from GFNMS facilities and operations.
- Five categories: Transportation Management, Energy Efficiency, Waste Management, Water Management, and Education & Outreach.
- Each category has a measurable reduction target, specific actions, evaluation metrics, and potential partners.
- To complement this chapter, the sanctuary also completed energy, transportation, and waste audits.
- 2008 Emissions Inventory completed.

Targets & Example Actions by Category

Transportation Management - 24 Actions

Target - Reduce per capita greenhouse gas emissions generated from transportation 5% annually, or 25% by 2015 and 50% by 2020.

Example Action - TM8: Allow employees the option to telecommute at least one day per week.

Energy Efficiency - 40 Actions

Target - Reduce energy intensity (energy use per square foot of building space) 3% annually or 15% by 2015 and 30% by 2020.

Example Action - EE6: Rearrange workspace to take advantage of areas with natural light and design for increased natural lighting when remodeling.

Targets & Example Actions by Category

Waste Management - 41 Actions

Target - Divert 95% of generated waste by volume from landfill by 2015 and 100% by 2020.

Example Action - WM1: Implement a campus-wide composting program. Compost all organics including food and yard discards, soiled paper products, and compostable food containers.

Water Management - 20 Actions

Target - Reduce per capita water consumption 2% per year or 10% by 2015 and 20% by 2020.

Example Action - WRM15: Tie into Crissy field grey water system when available.

Education & Outreach - 8 Actions

Target - A measurable increase in environmental education and outreach specific to climate change.

Example Action - EO4: Provide tours of facility to highlight green operations. Educate visitors on the benefits of energy, water, and waste reduction. Include information on green operations in an audio tour of the campus.

Milestones

Transportation Audit, *Feb 2009 Survey (GFNMS)*

Employee Green Team Recommendations, *Mar 2009 (GFNMS)*

Utilities Assessment, *Apr 2009 (GGNRA/Trust/PG&E)*

Graduate Thesis / GFNMS Operations, *May 2009 (Bimrose)*

Energy Audit, *May 2009 (SF Dept of Env)*

Waste Audit/Composting Workshop, *Jun 2009 (SF Dept of Env)*

Utilities Plan/Upgrade, *ongoing, part of Master Plan (GFNMS)*

CLIP Tool / Emissions Baseline, *Jul 2009 (GGNRA)*

Emissions Inventory, *Jul 2009 (GFNMS)*

Green Operations Chapter, *Aug 2009 (SAC) **First in Program!***

2008 Sanctuary Emissions Inventory

- Partnered with Park to complete 2008 baseline inventory of Greenhouse Gas (GHG) emissions.
- Examined stationary combustion (natural gas for heating), purchased electricity, mobile combustion (auto, boat, public, & air), wastewater, and solid waste
- Used the Climate Leadership in Parks (CLIP) Tool; free for parks and partners; transferable to other sanctuaries.

2008 Sanctuary Emissions Inventory

- Examined facility use, operations, and transportation activities of internal staff at Crissy Field headquarters, not visitor use.
- Data from utility statements, internal records, and an employee transportation survey.
- Per capita estimate derived for tracking and reporting purposes.

Definition

Carbon Dioxide Equivalent (CO₂e):

The universal metric unit of measurement used to indicate the global warming potential of each of the six greenhouse gases. Carbon dioxide, a naturally occurring gas that is a byproduct of burning fossil fuels and biomass as well as land-use changes and other industrial processes, is the reference gas against which the other greenhouse gases are measured.

2008 Emissions Inventory Results

Metric Tons Carbon Dioxide Equivalent (MTCO₂E)

| | Stationary Combustion | Purchased Electricity | Mobile Combustion | Wastewater Treatment | Solid Waste | Gross Emissions |
|----------------------|-----------------------|-----------------------|-------------------|----------------------|-------------|-----------------|
| Sanctuary Operations | 20 | 18 | 164 | 1 | 0 | 203 |

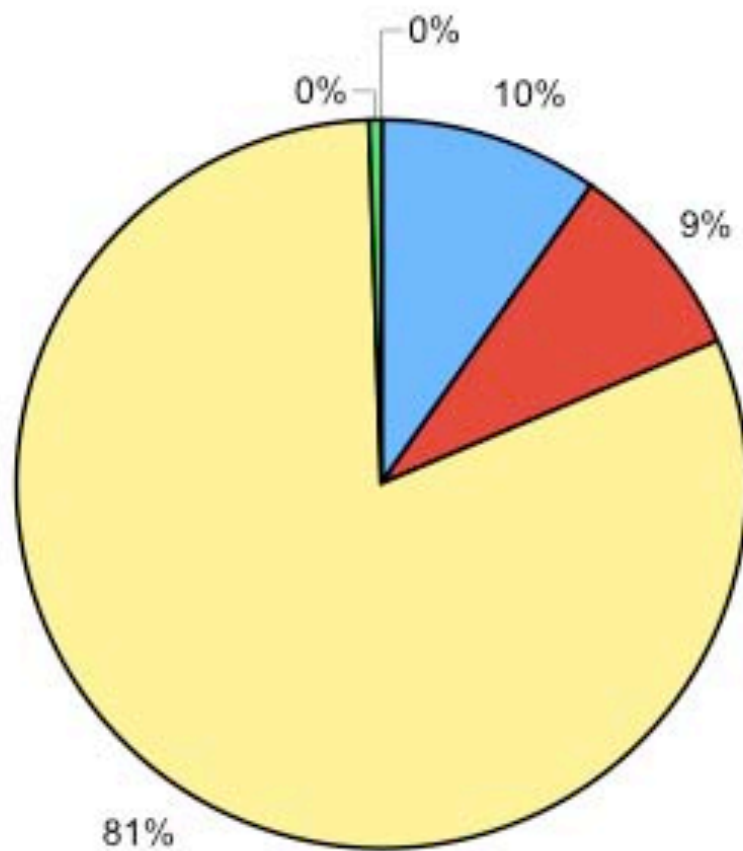
Per Capita Emissions

- 203 metric tons / 23 staff = 8.826 MTCO₂E
(per staff person equivalent in 2008)

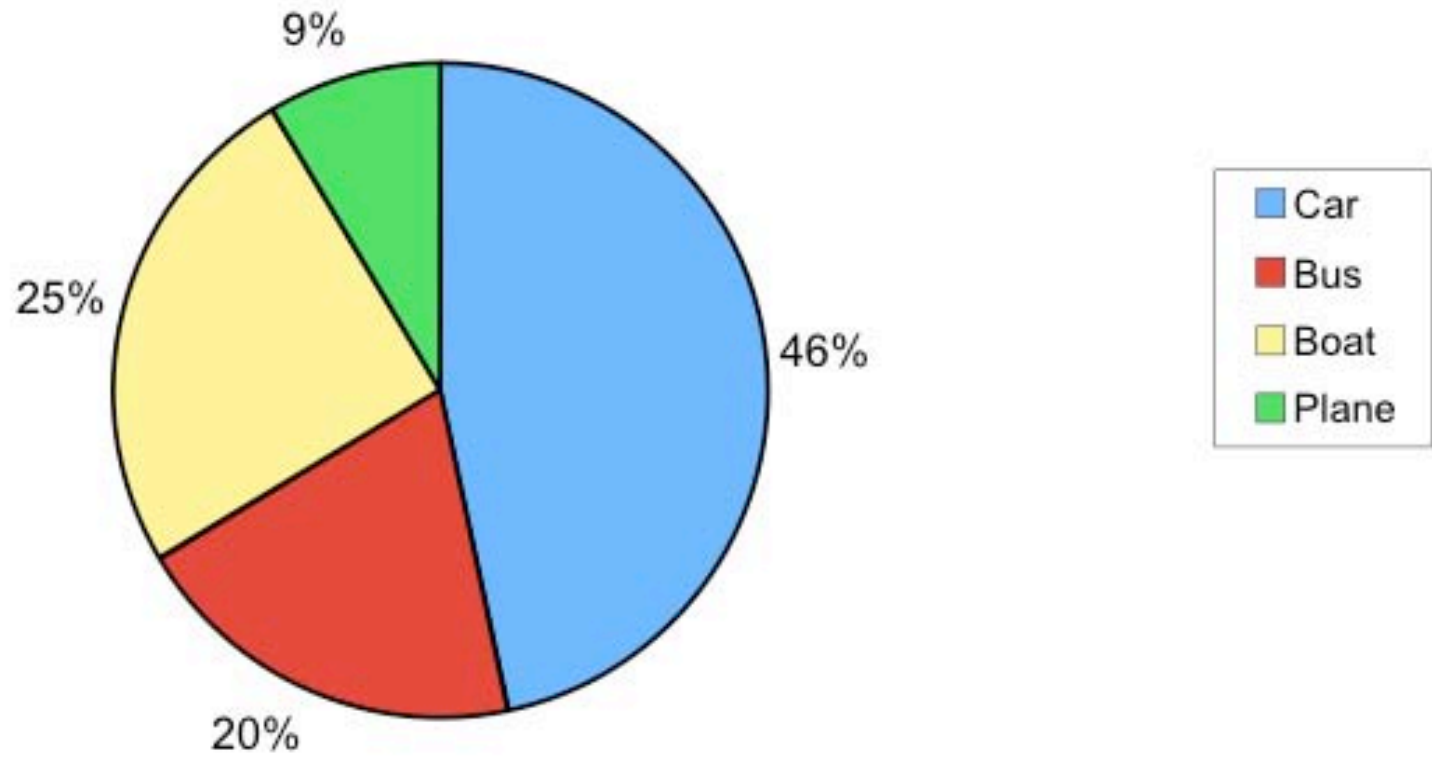
By comparison: 32.8 MTCO₂E (2006) per capita U.S.

Source: Department of Energy's Carbon Dioxide Information Analysis Center

**2008 Gross Emissions
Gulf of the Farallones National Marine Sanctuary**



Mobile Combustion: Breakdown of Emissions



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More Information

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