



***Status of Green Operations Action Plan
&
2010 Emissions Inventory***

***Gulf of the Farallones National Marine Sanctuary
Sanctuary Advisory Council (SAC) Meeting***

***Pedro Point Firehouse, Pacifica, CA
11 August 2011***

Background

- **Goal:** Improve the energy conservation and efficiency of the Gulf of the Farallones National Marine Sanctuary (GFNMS) Crissy Field Headquarters
- **By implementing:** Green Operations chapter of the GFNMS Ocean Climate Initiative Action Plan
- **Recommendations from Aug 09 SAC Meeting:**
 - Adopt and implement Action Plan at GFNMS
 - Distribute plan to all sanctuaries
 - Present status of Green Operations Plan each year
 - Conduct & present emissions inventory each year

Green Operations Plan

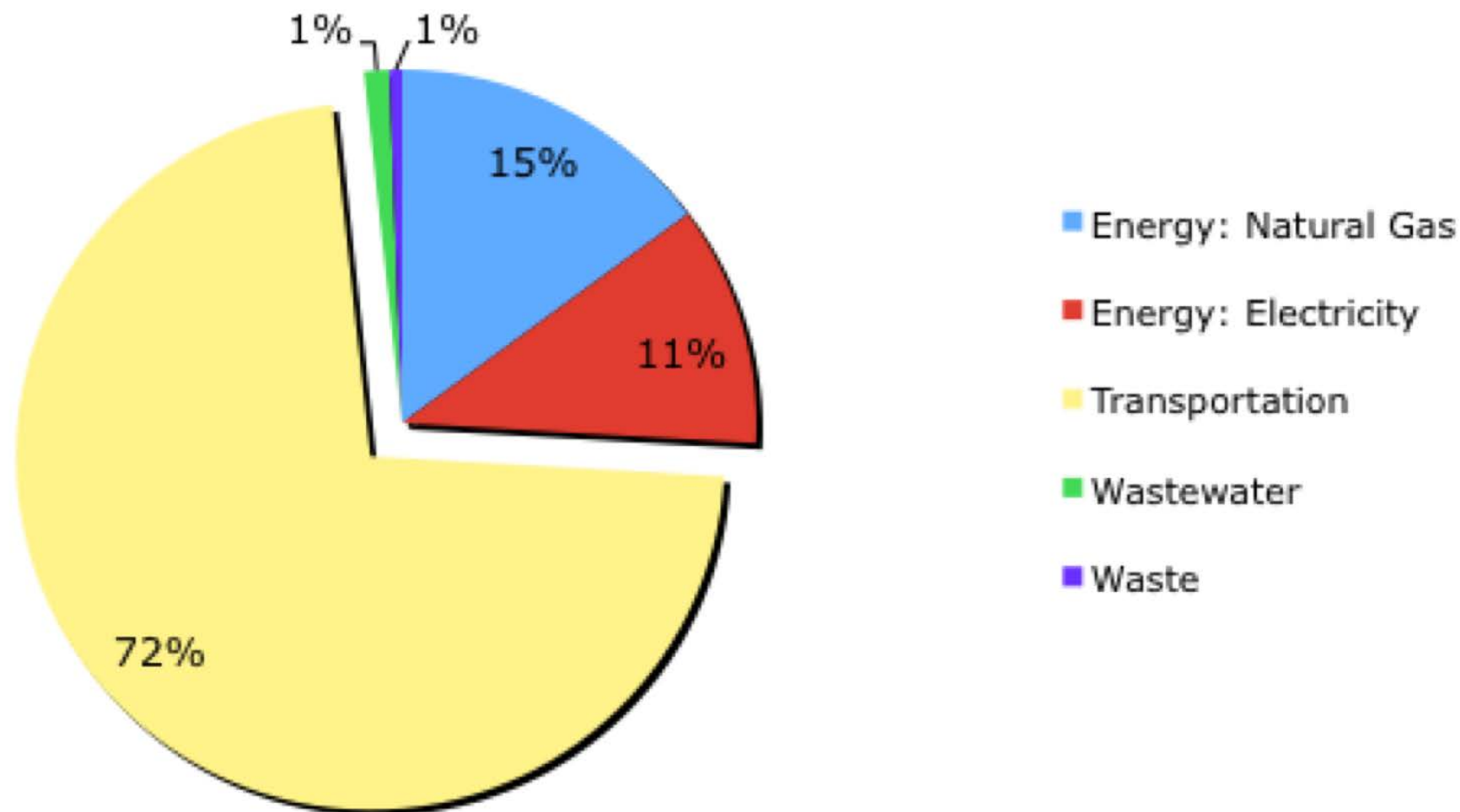
- Tracked status of all 136 actions
- Five categories: Energy, Transportation, Water, Waste, and Education & Outreach.
- Each category has specific actions, a measurable reduction target, evaluation metrics, and potential partners.
- Used emissions inventory to determine if reduction targets were met.

2010 Emissions Inventory

- Measured energy (natural gas and electricity), transportation, wastewater, and solid waste
- Park Service CLIP Tool
- Derived per capita estimate



2010 Emissions by Category Gulf of the Farallones National Marine Sanctuary



Energy Efficiency

39 Actions

Challenges- Historic building codes, renewable energy, new building

Successes- Greening IT, replacing light fixtures, motion sensors

Completed	6	15%
Ongoing	13	33%
In Progress	12	32%
No Action	6	15%
Unable	2	5%



TARGET: ↓ 3% annually or 30% by 2020.

RESULTS: ↑ 30% since 2008 (26% of total emissions in 2010)

Transportation Management

26 Actions

Challenges- Presidio Shuttle, Muni, Closing HMB office

Successes- Flexible schedules, telecommuting, bike-friendly

Completed	6	24%
Ongoing	8	32%
In Progress	10	38%
No Action	1	3%
Unable	1	3%



TARGET: ↓ 5% annually or 50% by 2020

RESULTS: ↓ 15% since 2008 (72% of emissions in 2010)

Car/Boat - 0% Plane - down 40% Bus- down 50%

Water Management

21 Actions

Challenges- Sprinklers, recycled water source

Successes- High-efficiency toilets, utilities work moving forward

Completed	3	15%
Ongoing	8	40%
In Progress	4	20%
No Action	6	25%
Unable	0	0%



TARGET: ↓ 2% per yr or 20% by 2020.

RESULT: ↑ 20% since 2008 with new building, better records
(1% of emissions)

Waste Management

41 Actions

Challenges- Required GSA vendors & shipping

Successes- Reusable meeting supplies, composting, junk mail

Completed	10	25%
Ongoing	25	61%
In Progress	3	7%
No Action	1	2%
Unable	2	5%



TARGET: ↓ 95% by 2015 and 100% by 2020.

RESULT: ↓ 50% since 2008 (1% of emissions)

Education & Outreach

9 Actions

Challenges- Defining our audience

Successes- Signage. Increased awareness of Green Operations

Completed	1	11%
Ongoing	5	56%
In Progress	2	22%
No Action	1	11%
Unable	0	0%



TARGET: A measurable increase in environmental education and outreach specific to climate change.

RESULT: 8 of 9 actions addressed

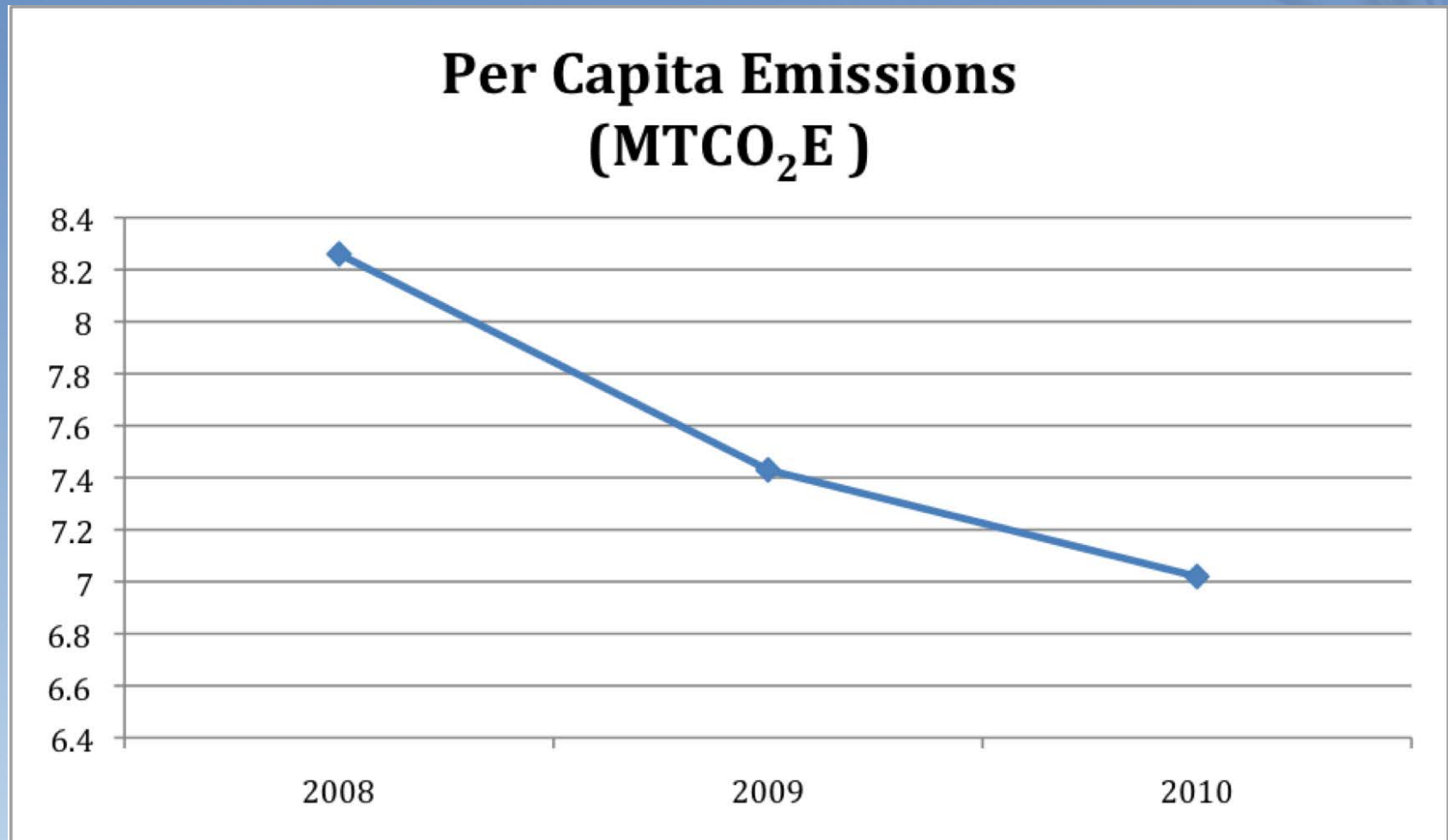
Action Plan Summary Results

Total - 136 Actions

	2009	2010	%
Completed	13	26	19
Ongoing	61	59	43
In Progress	31	31	23
No Action	25	15	11
Unable	6	5	4

Made progress on 85% of actions!

Per Capita Metric Tons Carbon Dioxide Equivalent



REDUCED 1.24 (MTCO₂E) per capita

Final Thoughts

- Staff increased from 23 to 24.8
- Meeting transportation and waste targets
- Water and natural gas use increased with new building
- Electricity use stayed the same
- Challenging to correlate individual actions to reduction targets
- Per Capita is good metric for dynamic campus

More Information

J. Brian Johnson, Deputy Superintendent
Taylor Nairn, Green Team Leader

Gulf of the Farallones National Marine Sanctuary
991 Marine Drive, The Presidio
San Francisco, CA 94129
(415) 561-6622

Brian.Johnson@noaa.gov
Taylor.Nairn@noaa.gov

GFNMS Crissy Field Campus Update

FY10

- Occupied Ocean Climate Center (Residence) in Oct 2010

FY11

- Funded Utilities upgrade / agreement
- 100% design ongoing - Lifeboat Station, Shop/Garage, Exhibits and Landscape
- Renew ONMS occupancy agreement with NPS

FY12

- Complete Utilities upgrade

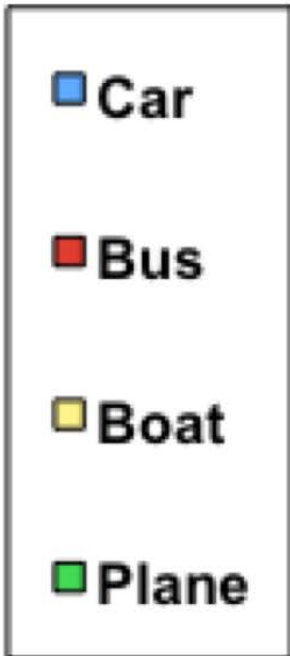
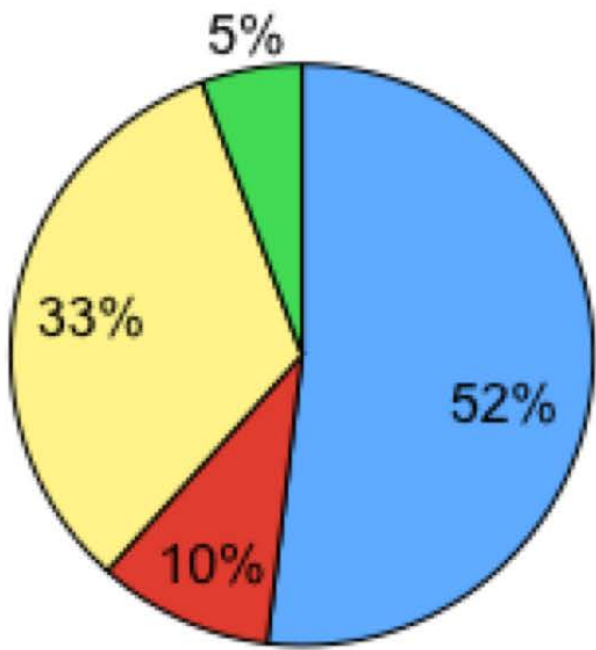
Definition of Carbon Dioxide Equivalent

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.

Transportation: Breakdown of Emissions (2010)

Chart Area



Highlights

- ✓ Working Group formed to draft Green Operations Plan
- ✓ SAC approved plan and requested that it be adopted by site, and forwarded to all sanctuaries
- ✓ Site adopted Green Operations Plan & distributed nationally
- ✓ Stellwagen Bank completes emissions audit.
- ✓ Monterey, Thunder and Fagatele Bay inquire about plan
- ✓ West Coast Region Ocean Acidification Team adopts strategies
- ✓ 2008-10 Emissions Inventories completed