



U.S. ENVIRONMENTAL PROTECTION
AGENCY REGION 9: PACIFIC SOUTHWEST

CLEAN ENERGY AND CLIMATE CHANGE

**FINAL
2008-2009 OPERATING PLAN**

Table of Contents

1. Introduction.....	2
2. Goals, Objectives, and Tasks	3
3. Summary of Greenhouse Gas Emissions in Region 9.....	4
<i>Figure 1: California Greenhouse Gas Emissions in Region 9.....</i>	<i>4</i>
<i>Figure 2: CA v. National Average GHG Emissions.....</i>	<i>5</i>
4. Development of the Strategy	6
5. Roles and Responsibilities.....	7
<i>Coordination of Regional Energy and Climate Change Activities</i>	
<i>Team Members</i>	
<i>Clean Energy and Climate Change Team</i>	
6. Operating Activities	9
6.1 Divisions' Energy and Climate Change Lead.....	9
6.2 Energy and Climate Change 13 Initiatives.....	10
<i>Internal Capacity Building</i>	
<i>Outreach and Technical Assistance for External Partners</i>	
<i>Water Energy</i>	
<i>Clean Energy Projects</i>	
<i>Green Design</i>	
6.3 Continuing Partnership Efforts.....	40
6.4 Regulatory Efforts	41

1. INTRODUCTION

The 2008-2009 Operating Plan outlines how the *Regional Energy and Climate Change Strategy* has been implemented so far, and lists steps to be taken through FY09. EPA Region 9 finalized the first *Regional Energy and Climate Change Strategy* in December 2007. The strategy described new approaches the region would take to address energy and climate needs. Each Region 9 division: Air, Communities and Ecosystems, Management and Technical Services, Public Affairs, Regional Counsel, Superfund, Waste, and Water has lead roles in different portions of the strategy.

This Operating Plan outlines significant achievements since the strategy was completed in December, 2007. The plan describes further actions the divisions will take on strategy initiatives through FY09. In addition, the plan describes other, ongoing partnership and regulatory work in the region that relates to energy.

The motivation in developing this action plan was to create a document that would bring cohesion to Region 9 activities. Addressing Clean Energy and Climate Change goals requires close, cross-divisional coordination, and an ability to look beyond traditional approaches. Implementation and update of the Energy and Climate Change Strategy represents a significant and ongoing challenge, especially in a resource-limited environment. The region will continue to focus on initiatives where the agency can have the greatest value-added role while being as efficient as possible.

Given the heightened awareness of energy and climate change issues, regional employees are keenly interested and motivated to get involved and make a difference. The Operating Plan outlines work occurring throughout the region, describing where employees are getting engaged to provide much-needed assistance to partners throughout the region.

2. GOALS, OBJECTIVES, & TASKS

Each of EPA's strategic goals drives the agency to be more thoughtful in promoting clean energy practices. While Goal 1, Objective 1.5 explicitly drives the agency to reduce greenhouse gas emissions, many other objectives result in reductions as a co-benefit.

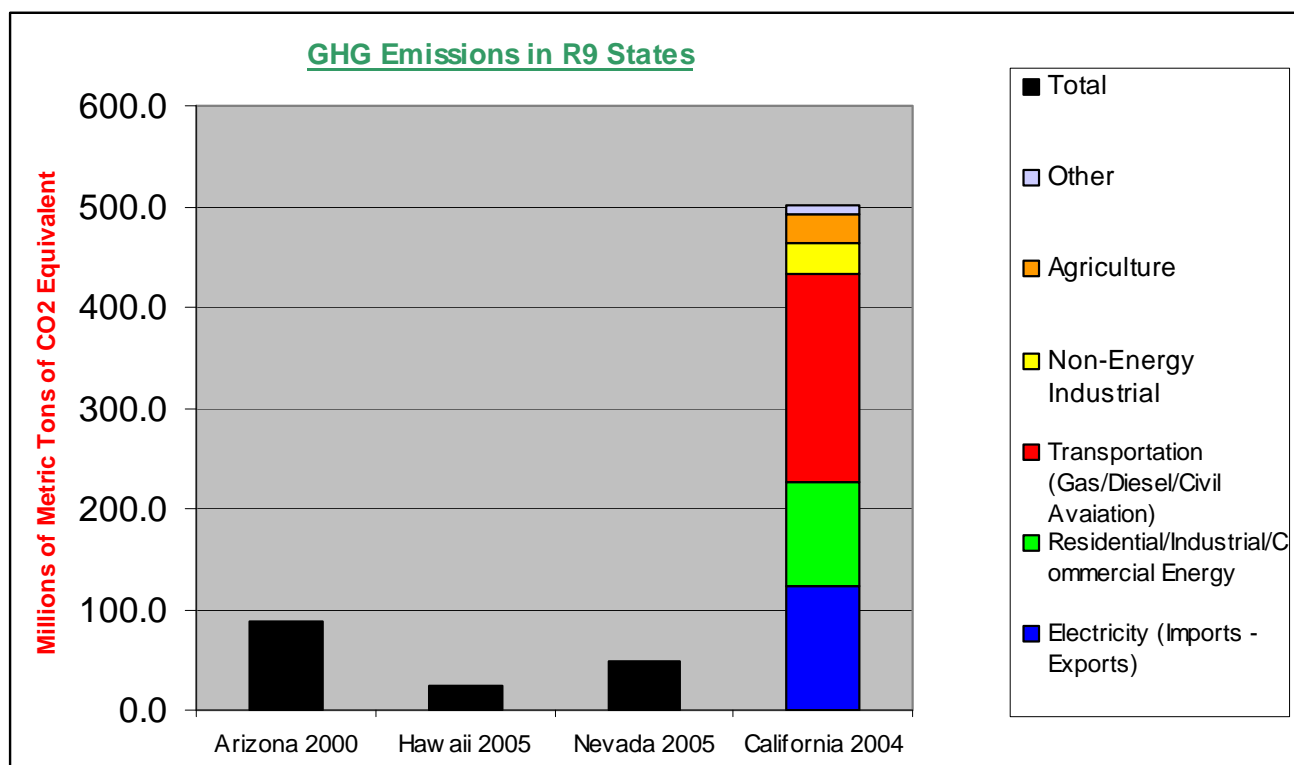
Reduce Environmental Impacts and Greenhouse Gas Emissions

EPA Goal 1, Objective 1.1	Healthier Outdoor AIR
EPA Goal 1, Objective 1.5	Reduce Greenhouse Gas Emissions
EPA Goal 2, Objective 2.2	Protect Water Quality (including sustainable infrastructure via energy efficiency)
EPA Goal 3, Objective 3.1	Preserve Land (increase energy recovery from wastes otherwise requiring disposal)
EPA Goal 4, Objective 4.2	Communities (Smart Growth, reuse of brownfields properties)
EPA Goal 5, Objective 5.2	Improve Environmental Performance through Pollution Prevention and Other Stewardship Practices (includes energy efficiency)

3. SUMMARY OF GREENHOUSE GAS EMISSIONS IN REGION 9

While approximately 15% of the national population resides in Region 9, regional emissions represent approximately only 9% of the total U.S. emissions. Figure 1 provides a rough comparison of emissions from Arizona, Hawaii, Nevada, and California¹.

Figure 1: Region 9 Greenhouse Gas Emissions (Million Metric Tons of CO₂ Equivalent Gases)



Emissions from California electricity, including imports and combined heat and power systems, surpass the total emissions from each of the other Region 9 states. Emissions from California's transportation sector are greater than the state's electricity emissions.

Figure 2: CA v. National Average GHG Emissions

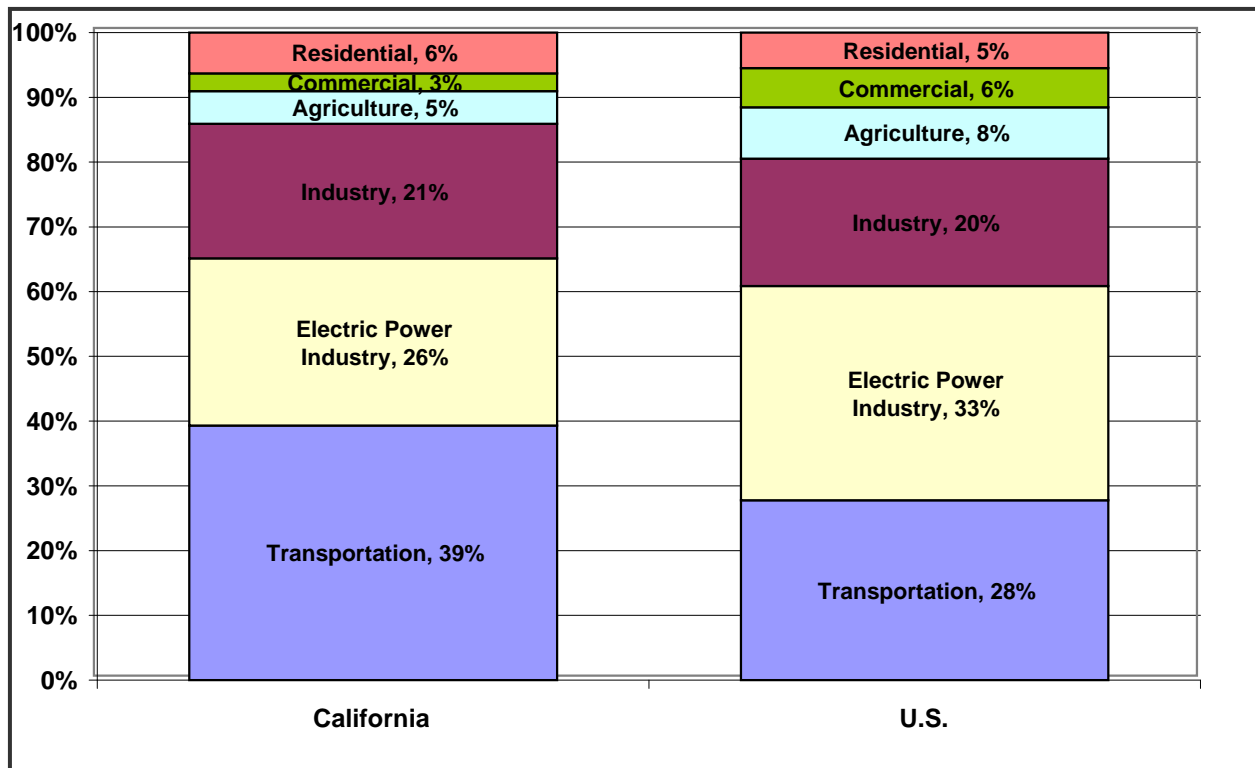


Figure 2 compares California's proportional greenhouse gas emissions with the national average². The figure illustrates two key differences between the state and the rest of the nation. First, California, as with other western states, has a greater challenge with the transportation sector than the rest of the country.

Secondly, electricity generation, which is the largest contributor of greenhouse gas emissions nationwide, has less significance in California, even when emissions from out-of-state imports are considered. In comparison to the other states, California's electricity-related emissions are lower for several reasons: the state has a relatively mild climate, a large amount of hydroelectric and other renewable energy sources, and decades of investment in energy efficiency. Out-of-state imports make up more than half of California's electricity greenhouse gas emissions, but only one-third of the power.

4. DEVELOPMENT OF THE STRATEGY

In December 2007, Region 9 completed its first Energy and Climate Change Strategy. It identified the greatest opportunities to address energy and climate issues within the Region. The Regional Planning Council guided this effort and provided policy direction. In the strategy development process, regional staff offered more than 200 suggestions, most involved cross media activities. A team of representatives from each division analyzed and prioritized these activities. To understand co-benefits of energy practices, the team surveyed divisions on how various practices would further or undermine EPA's strategic goals.

The team also analyzed the potential magnitude of environmental benefits by evaluating the amount of greenhouse gas emission reductions (as an indicator of environmental benefits) potentially occurring through increased regional action.

Lastly, the team determined whether or not Region 9 could add to a particular energy and climate change activity. The team used a series of questions to determine whether the current tools and resources located within Region 9 could implement these suggested activities.

To conclude, regional management evaluated the highest priority projects and determined which divisions would take the lead for each project. These thirteen priorities are described in further detail below.

5. ROLES AND RESPONSIBILITIES

The Regional Planning Council opted to continue the cross-divisional Energy and Climate Change Team to coordinate strategy implementation. The planning council will retain its role in providing policy direction. The team coordinates multi-divisional energy and climate change projects, and serves as Region 9's central point of contact for energy and climate change information sharing.

5.1 Coordination of Regional Energy and Climate Change Activities

Through the cross-divisional energy and cooperation, EPA employees will coordinate projects under the Energy and Climate Strategy and ensure that the region continually looks for opportunities to meet agency strategic climate change and energy goals. As needed, the Clean Energy and Climate Change Office, housed in the Air Division will update the Region 9 Energy and Climate Change Strategy and annually prepare the Region's Energy and Climate Change Operating Plan. The Clean Energy and Climate Change Office will work with the Regional Planning Council to develop meaningful measurement and accountability systems.

5.2 Team Members (As of March 2009)

Regional Lead	<i>Ben Machol</i>
Air	<i>Asia Yeary, AIR-9 (see below)</i>
Community and Ecosystems Division (CED)	<i>Scott Stollman, Nancy Levin</i>
Management Technical Services (MTS)	<i>Matt Small</i>
Office of Public Affairs (OPA)	<i>Bill Glenn, Patricia Hudnall</i>
Office of Regional Counsel (ORC)	<i>Dan Reich</i>
Superfund	<i>Pankaj Arora, Harold Ball</i>
Waste	<i>Saskia vanGendt, Jeff Dhont</i>
Water	<i>Eric Byous, Cheryl McGovern, Charlotte Ely</i>
Regional Sustainability Team	<i>Laura Bloch</i>

5.3 Air Division - Clean Energy and Climate Change Organization

Amy Zimpfer, Associate Director, Management Lead for Energy and Climate Change

Clean Energy and Climate Change Office (AIR-9)

Ben Machol (Manager)

Grace Cheng

Francisco Donez

Trina Martynowicz

Sarah Rizk

Ray Saracino

Kristin Riha

Sylvia Wun

5.4 Acknowledgments

The following individuals contributed to the development and/or implementation of this plan. For a variety of reasons, including changes in job duties, they are no longer actively working on the team. We gratefully acknowledge the contributions made by:

Lynda Deschambault

Erich Eschmann

Nigel Fields

Jessica Kemler

Matt Klassen

Grady Mathai-Jackson

Cara Peck

6. OPERATING ACTIVITIES

6.1. MANAGEMENT AND LEAD ROLES

Divisions' Energy and Climate Change Lead

Goal: Ensure Division is most effective at implementing Clean Energy and Climate Change Projects. Make certain regional energy and climate initiatives leverage experience and abilities of division. Ensure division staff and management are aware of national and regional developments as needed.

Lead Division: AIR

Actions to Achieve Goals

Recent Milestones

- Completed regional Energy and Climate Change Strategy.
AIR, CED, MTS, OPA, ORC, Superfund, Waste, Water 1QFY08
- In each division: led effort to develop implementation plan for each division-lead activity presented in the Energy and Climate Change Strategy.
AIR, CED, MTS, OPA, ORC, Superfund, Waste, Water 2QFY08
- Drafted Energy Operating Plan.
AIR, CED, MTS, OPA, ORC, Superfund, Waste, Water 4QFY08
- Coordinated Inter- and Intra-Divisional Energy and Climate Change Work: Liaison to Region; Coordinator for Division; as needed, provide information to staff and management on national and regional energy and climate change developments.
AIR, CED, MTS, OPA, ORC, Superfund, Waste, Water continuous
- Established Clean Energy and Climate Change Office. Office combines the work of the regional energy advisor and the West Coast Collaborative. Focal point for regional energy and climate change initiatives. AIR continuous

Next Steps

- Coordinate Inter- and Intra-Divisional Energy and Climate Change Work: Liaison to Region; Coordinator for Division; and, as needed, provide information to staff and management on national and regional energy and climate change developments.
AIR, CED, MTS, OPA, ORC, Superfund, Waste, Water continuous
- Update Energy and Climate Change Strategy; Evaluate New Regional Investment Opportunities; Seek Staff/Management Input.
AIR, CED, MTS, OPA, ORC, Superfund, Waste, Water 2QFY09
- Evaluate Appropriate Measurements of Success; Develop Tracking System.
AIR, CED, MTS, OPA, ORC, Superfund, Waste, Water 2QFY09

6.2 ACTIVITIES IN THE ENERGY AND CLIMATE CHANGE STRATEGY

Internal Capacity Building - “Getting Our Own House in Order”

Activity 1: Expand Internal Knowledge of Energy and Climate Change Issues

Goal: *Increase employee understanding of existing energy and climate change mitigation opportunities, likely impacts, and potential adaptation techniques. Inform staff about existing programs, energy and climate change policy, science and research, and our own footprint.*

Lead Division: MTS

Actions to Achieve Goals

Climate Change 101 courses for EPA employees: A three and half hour Climate Change 101 class will initially be offered approximately every other month.

Recent Milestones

- The first course was offered July 1, 2008. Subsequent courses were offered August 27, 2008, October 7, 2008 and February 3, 2009. MTS, Air 4QFY08

Next Steps

- The class will be offered at least quarterly. MTS, Air, Waste 4Q FY08-4Q FY09

Climate Change Information Series: The Regional Science Council will host a number of lecture series consisting climate and energy experts to educate and keep employees current with Climate Change issues. The Regional Science Council will identify, prioritize, and lead other events such as trainings, workshops, and/or conferences. Seminars are made available to Region 9 field offices, other regions, and headquarters via conference call.

Recent Milestones

- The climate change informational series kicked off on June 9, 2008 with guest speaker, Art Rosenfeld, the “founding father of energy efficiency.” Daniel Kammen, Director of Renewable and Appropriate Energy Lab at UC-Berkeley spoke on July 16, 2008 and Brian McLean, director of the Office of Atmospheric Programs at EPA's Office of Air and Radiation spoke August 18, 2008. Hunter Lovins, Founder and President of National Capitalism Solutions spoke on October 9, 2008. Tian Feng, Chief Architect, BART discussed Greener Mobility “Vision for a 21st Century American Public Transport” on December 9, 2008. MTS, Air, CED, Waste, Water 4Q FY08-4Q FY09

Next Steps

- Robert Marcial, Director PG&E Energy Center will discuss practical solutions to reduce your energy consumption at home and work on March 16, 2009. MTS, Air, CED, Waste, Water 4Q FY08-4Q FY09

Internal Capacity Building for Region 9 employees: The Regional Energy and Climate Change team will share information such as conferences, webinars, meetings, and reports that are of interest to Region 9 employees through email and Quick Place.

Next Steps

- Brownbag meetings will be scheduled for employees to learn about EPA's national voluntary climate change and energy programs. Air, ORC, OPA 1Q-4Q FY09
- Educational efforts by Region 9 include disseminating information about EPA Programs and initiatives to address the environmental program as well as promote the mission of the EPA within the Region. Air, OPA, ORC 1Q-4Q FY09

Improve and Share information about EMS: The Regional Environmental Management System Team is achieving EMS goals (reducing air emissions, paper use, and energy use; and improving recycling and composting).

Recent Milestones

- Preliminary assessment of Region 9 internal greenhouse gas emissions from travel, cleanup, commute activities (w/EMS team) MTS, Air 4Q FY08
- ISO 14001 recertification of the Environmental Management System. MTS 3Q FY08

Next Steps

- Complete a Region 9 internal greenhouse gas emissions inventory. MTS, Air 2-3Q FY09
- Develop ways to obtain data for direct and indirect activities to better quantify GHG emitted within Region 9. Ensure staff collects data when available. MTS, Air 1-4QFY09
- Develop recommendations for reducing GHG Emissions in Direct and Indirect activities (w/EMS team). MTS, Air, Waste 3-4Q FY09
- Provide support for negotiating a "green" lease. MTS FY09

Program Enhancement to Encourage Clean Energy

Activity 2: Develop Language and Guidance to Promote Clean Energy Practices through Existing EPA Activities

Goal: *Conduct an assessment of EPA's authority to require or promote clean energy practices through existing EPA mechanisms*

Lead Division: *Office of Regional Council*

Actions to Achieve Goals

The Office of Regional Council initially divided into cross-divisional teams to explore the following areas: Environmental Reviews; Grants, Interagency Agreements, and Cooperative Agreements; Inspector Guidance; Supplemental Environmental Project Guidance; Permitting Requirements; and Air Planning. ORC's implementation plan envisioned three distinct phases for each team to follow: brainstorming ideas; (2) assessing viability and legal authority for carrying out ideas; and (3) identifying potential pilot projects for the highest priority ideas. The first phase, brainstorming ideas, is now complete, and each team produced an "outcome document" that explains methodology used to assess the relative viability of ideas.

Following completion of the first phase of the activity, ORC management suggested that the second and third steps of the implementation plan be reversed to allow for legal analysis of concrete issues currently before the Region. Additionally, management asked staff to focus for the remainder of FY08 on the three most viable areas originally explored: Grants; Environmental Reviews; and Air Planning.

Recent Milestone:

- Phase 1 of the implementation plan has been completed.
[ORC, Air, Water, Waste, Superfund, CED] [2 Q FY08]
- ORC and supporting Divisions are devoting resources to the 3 most viable components: Grants and Cooperative Agreements; Environmental Reviews; and Air Planning.
[ORC, Air, Water, Waste, CED, Superfund] [2Q FY08-4Q FY08]
- The Environmental Reviews team worked with EPA Headquarters and the Air Division to gain approval for language regarding GHG emissions to be included in Region 9's comments on a proposed fossil fuel-fired electric generating plant. That language has become a model for other regions. [ORC, CED] [1Q FY08]
- The Air Planning team has created a draft scope of work for the most viable idea identified by the team, which involves providing credit in State Implementation Plans for the co-benefits of clean energy practices designed to reduce GHG emissions. The team has identified several measures included in California Air quality plans that are candidates as pilot projects.
[ORC, Air] [4Q FY08]

Final 4/13/2009

- The Air Division convened a climate change workgroup to assess needs across the division to implement climate change measures into existing programs. Air 2Q FY08

Next Steps:

Air Planning Component: Once the Air Planning team has a final draft scope of work, it will brief both ORC and Air managers to determine whether both divisions agree that: Air Division can dedicate resources to support the priorities; (2) the ideas are concrete enough to be subjected to useful legal analysis; and (3) the ideas would remain viable even if national energy and climate policy evolves significantly in the future. If both Divisions agree to pursue the project, the team intends to use one or two measures developed by California Air districts as pilot projects to support the development of co-benefit measures. ORC, Air 4Q FY08-4Q FY09

Environmental Reviews Component: Continue to work on permitting of coal fired power plans. AIR, ORC, CED 4Q FY08-4Q FY09

Activity 3: Clean Energy and Climate Change Grants

Goal: *Direct additional federal grant funds towards clean energy and climate change work, and leverage existing funding to maximize benefits.*

Lead Division: Air

Actions to Achieve Goal

Representatives from every division are part of the “green grants” team, lead by ORC. This group will determine what sustainable practices and/or measures, if any, Region 9 might encourage and/or mandate in its various grant programs. The measures include, but are not limited to, adding appropriate ranking/evaluation criteria to grant solicitations, developing guidance, drafting “green” terms and conditions, and including tasks and activities in grant workplans which involve green practices and sustainability measures.

Recent Milestones

- The “green grants” team has developed a matrix that synthesizes feedback from all divisions regarding the number of grant programs each division has in which the division believes clean energy practices and other “green”/ sustainability requirements could be incorporated into either grant solicitations, criteria, guidance, terms and conditions, or workplan tasks. The team is planning on using this chart to seek management approval to pursue pilot projects to insert standard language into the grant programs identified.
ORC, Water, Air, Superfund, Waste, CED 4Q FY08
- Basic Climate Change language was inserted into West Coast Collaborative and Tribal Air Grant Request for Proposals. All West Coast Collaborative and Diesel Emissions Reductions Act (DERA) grants now require greenhouse gas emissions reductions reporting. Furthermore, all DERA grants will include terms and conditions regarding environmentally preferable purchasing, reuse and appropriate disposal of equipment. Air, ORC 4Q FY08
- The Air Division has developed a database to track greenhouse gas emissions for Region 9 grants and cooperative agreements. This database will be operative in FY09. AIR 2Q FY08

Next Steps

- The “green grants” team will propose a discrete number of pilot projects. These pilot project may include competitive grant programs, ARRA stimulus grants, and non-competed grant programs. Each pilot will incorporate sustainability principles most appropriate for that particular grant program. Non-competitive grant program project officers and program managers will discuss “green” grant options and negotiate with the State or Tribe what is most appropriate for that particular grant program.
ORC, Air, Superfund, Waste, Water Divisions 3QFY09-4QFY09
- Presentations and written descriptions of the language used in pilot solicitations, ranking criteria, grant agreements, terms and conditions, guidance documents and/or workplans will be

Final 4/13/2009

delivered to appropriate Region 9 employees and other regional employees interested in adopting a similar “green” grants approach. ORC, Air 1QFY09

- In the later part of FY2009, the grants team will begin to work with Region 9 Project Officers and grantees on workplan negotiations and reporting requirements for sustainability and green house gas emissions reductions activities. ORC, Air 3Q-4Q Y09
- The Air Division will continue to research what federal grant funds can be used toward clean energy and climate activities. The group will explore how grantees can leverage existing funds (including stimulus funds) to maximize benefits. AIR 1Q-4Q FY09
- A list of priority clean energy and climate change projects will be compiled to include specific benefits and clear alignment to the Agency’s and offices strategic goals and objectives. AIR 2Q-4Q FY09
- Research other opportunities to leverage grant money for Clean Energy and Climate Change projects from Region 9, Headquarters, and/or other federal agencies (i.e. Department of Energy) will be explored. AIR 1Q-4Q FY09

Outreach and Technical Assistance for External Partners

Activity 4: Establish a One-Stop Shop: Assemble all EPA climate change and energy information in one place.

Goal: Assemble all EPA climate change and energy information. Expand website to include links to available clean energy and climate change information.

Lead Division: Office of Public Affairs

Action Items to Achieve Goals

Create a Regional Clean Energy and Climate Change Web Portal. Use the portal to highlight progress in the Pacific Southwest and provide a targeted collection of resources that are of use to a range of audiences and geographic areas.

Recent Milestone

- OPA has posted online the R9 publication 'Programs, Tools and Resources to Assist Local Governments in Implementing Climate Change Action Plans.' An area on the Region 9 Web site has also been identified for additional resources of interest in the Pacific Southwest. This will include links to both regional and national information. OPA, Waste 4Q FY08

Next Steps

- OPA will develop a Clean Energy and Climate Change Web portal to highlight regional progress and provide resources for individual and institutional customers. The information will include state-specific resources that would be of interest to EPA's state and local government counterparts. OPA, multiple divisions 2Q FY09
- OPA will work with Headquarters to identify and fill any gaps where information is not reaching both national and Region 9 stakeholders. OPA, HQ 1-4Q FY09

Provide a One-Stop Database via EPA Web Site. Work with managers of EPA's Climate Change and Energy Web portals to expand current information into a "one-stop" database of energy/climate change-related resources for a national audience.

Recent Milestone

- OPA has discussed our vision with OAR Communications Coordinator Jonathan Lubetsky, who will be including us in a workgroup being formed to develop a publicly collaborative online clearinghouse. OPA, HQ 4Q FY08

Next Steps

- OPA will work with the Office of Air and Radiation and the Office of Policy, Economics and Innovation to make EPA a primary clearinghouse for accessing programs, identifying partners, sharing best practices and funding resources to help reduce greenhouse gas emissions. OPA, HQ OAR, OPEI

Activity 5: Capacity Building for External Stakeholders

Goal: *Provide targeted outreach. Tailor efforts based on geographic needs. Support efforts to develop energy and climate change-related strategies for the following external stakeholders:*

A. State Partners: *Support state efforts to develop energy and climate change-related strategies. Lead Division: Air*

B. Local Partners: *Focus outreach and distribution of material to the leaders of active local governments. Lead Division: Waste*

C. Industrial Partners: *Provide outreach to the highest priority industrial users (in R9 includes Refineries, Oil & Gas Exploration, Cement Manufacturers), and focus on clean energy opportunities Lead Division: Air*

D. Mexican Border, Pacific Island, and Tribal Communities: *Begin process of assessing unique needs of each community. Lead Division: CED*

A. State Partners

The amount and type of energy and climate change support needed by states greatly varies within the Region. Since the needs of the state are so diverse, the Region will assess each on an individual basis, creating outreach strategies and operating plans for each state. Such will include tailored toolkits and select recommendations to create stronger partnerships with EPA's voluntary programs. In addition, the Region can serve as a vehicle to share state best practices and lessons learned with one another.

Actions to Achieve Goals

Recent Milestones

- The Air, Waste, and CED Divisions met with California's Energy Commission's Energy Efficiency, Renewable Energy, Fuels, and Research group. The Air and Waste Divisions will follow up with the group to share information pertaining to emerging, clean Air technologies. In addition, the Air Division will continue to determine how best to partner with the Energy Commission under AB 118, which directs and administers grant funding for new vehicles and fuel technologies and research to reduce greenhouse gases within California.

Air, MTS, Waste, CED 3QFY08- 4QFY09

- On June 13, 2008, the Air, CED, Waste, and Water Divisions met with the CA Public Utilities Commission to discuss energy efficiency, renewable energy, sustainable water infrastructure, environmental review, and projects that involve Tribes along the border. The agencies agreed to collaborate on future outreach efforts, particularly with tribes.

Air, MTS, CED, Water 3QFY08- 3QFY08

- The Air Division met with Hawaii's Department of Business, Economic Development, and Tourism, the coordinating state agency for energy and climate change issues in Hawaii, in June 2008 and will follow up on the grant negotiation meetings. Air 3QFY08- 3QFY08

- The Air team developed a summary of climate change issues and recommendations for the Nevada Air Division. This supported the Governor of Nevada's Climate Change Advisory Committee Report issued in July. Region 9 is providing technical support to NDEP as the state develops a greenhouse gas emission inventory and a mandatory monitoring program consistent with 2007 state legislation. In addition, AIR will continue to provide support as the 2009 legislative session begins.

Air

3QFY08- 3QFY08

Next Steps

- The Air Division staff will support state efforts to develop energy and climate change related strategies. The team will create a template for all Region 9 state programs to use to assess their climate change and clean energy activity. For each state, targeted outreach will occur to meet local needs, building on existing work and encouraging appropriate EPA voluntary programs to state and local governments. Once the state strategy and outreach plan template is created, California [1Q FY09] and Hawaii [3Q FY09] will be targeted as the first states. Once complete, the strategies for Nevada [3Q FY09] and Arizona [4Q FY09] will be created.

Air

4QFY08- 4QFY09

B. Local Partners

Actions to Achieve Goals

Resource Guide: The guide provides a list and explanation of more than 60 EPA programs and voluntary activities for local government officials to reduce greenhouse gas emissions. This will be a one stop shop for regional Local Government officials to get information pertaining to their areas of interest.

Recent Milestones

The Waste Division completed a resource directory (EPA 909-K-08-001) of all EPA programs to assist sustainable cities in implementing their climate action plans. As well as a guide on using EMS to implement and ensure success.

Waste, CED

1Q FY08

Next Steps

- The Waste Division is attending conferences, workshops and working with EPA Headquarters and ICLEI to disseminate the guide book.

Waste

1-4 Q FY09

Identified Key Partnerships: Identified more than 200 potential sustainable city partners in Region 9; these cities are completing measurable GHG inventories and making commitments to reduce GHG emissions.

Recent Milestones

- The team is working with ICLEI and other key cities for potential pilot projects and partnership agreements; some of the key cities include: Berkeley, San Francisco, San Diego, San Mateo, Buckeye, Palm Desert, Las Vegas and more.

Waste

1-4Q FY09

Next Steps

- The Waste Division is identifying a short list of key programs and also identifying “bundles of bundles” to promote to potential local government partners at key conferences and workshops. i.e. EcoCity and ICLEI workshops. Waste FY09
- Obtain management support; identify management and staff roles, develop an outreach and communication strategy. Waste 2Q FY09
- Create a Region 9 energy and climate website and related brochures that specify each city liaisons and provides resources and tools to the essential stakeholders. Waste 2Q FY09

Sustainable Cities Network Team: The Waste Division is developing a Sustainable Cities networking team and a database to track and coordinate our existing and planned cross divisional efforts with local governments.

Recent Milestones

- Identified and developed an internal contact list that provides a lead contact liaison for each division, and identified key personnel for each program to assist city officials. Waste, Air FY08
- Identified and developed a database of cities who are already partnering in various EPA programs. Waste, Air 4Q FY08

Next Steps

- The team is seeking to leverage our existing city partnership opportunities. Working with cities who have signed up with some EPA programs will encourage them to join all of the short list of key EPA programs we have identified. For example, if locality is already an ENERGY STAR Partner, they may want to consider WaterSense and GPP as well. All Divisions 3-4 Q FY09

Pilot Programs/California 10 Cities: The team will identify cities to pilot the Sustainable City initiatives, specifically 10 cities in California.

Recent Milestones

- Several meetings with potential city partners have taken place, including discussions with the then [10] Green California cities program. Berkeley is working on an EMS pilot, San Francisco is considering ENERGY STAR Benchmarking of programs, and Buckeye is reviewing ENERGY STAR and water sense. Waste 2-4Q FY08

Next Steps

- Brief management in efforts to better identify resources, obtain FTE support (for a short list of key programs), and support a pilot project to create a Memorandums’ of Understanding between EPA Region 9 and city that participates and adopts EPA Voluntary Programs. In addition to an MOU, Region 9 would provide technical assistance to this city, and request information and measurement reports to assess and evaluate progress using EPA’s tools and resources. Waste, Air FY09

- Outreach through ICLEI to local city organizations will continue to take place. The team will explore opportunities to support and provide recognition and/or awards to cities who participate in EPA programs. **Waste** **FY09**

C. Industrial Partners

Actions to Achieve Goals

Provide outreach to the highest priority industrial users—refineries, oil and gas exploration, and cement manufacturers—and focus on clean energy opportunities.

Recent Milestones

- Region 9 joined two California workgroups that want to reduce greenhouse gas from the oil and gas production sector and petroleum refineries. In addition, the Air Division met with EPA Headquarters staff to learn more about existing EPA voluntary partnership programs with most interest to industry, including Climate Leaders, Green Power Partnership, and SmartWay. **AIR** **3-4Q FY08**
- The Air Division hired a new Industry Clean Energy Lead, Ray Saracino. Ray joined AIR-9 in September 2008 and is reaching out to industrial partners (Refineries, Oil & Gas Exploration, and Cement Manufacturers). **AIR** **4Q FY08**
- Our Industry lead has met with many regional and HQs staff to determine how the region can provide greater value to industry while we seek partnerships to reduce GHG emissions. **Air** **1-2Q FY09**
- Amy Zimpfer, Ben Machol and Ray Saracino met with the Western States Petroleum Association (WSPA) on February 23, 2009 to explain our partnership opportunities. Member companies present at the meeting included Oil & Gas production companies and 11 of the 12 largest refiners in the region. **Air** **2Q FY09**

Next Steps

- We are actively promoting ENERGY STAR for industry, the Combined Heat and Power Partnership, Climate Leaders and Natural Gas STAR when we reach out to potential industrial partners. To further enhance our ability to attract industrial partners we are communicating a willingness to work one-on-one as a region to provide positive visibility to companies willing to commit to actions which lower their GHG emissions. In addition, the team will support CED's work to encourage Performance Track partners to accept energy-related goals. **Air, CED, HQs** **1-4Q FY09**
- Our Industry Clean Energy Lead and Water's Sustainable Infrastructure team have collaborated on our communications to refineries about the benefits of conserving both water and energy. **Air, Water** **1-4Q FY09**
- We recently began exploring a collaboration between Air's Clean Energy Lead and Waste's Industrial Material Recovery lead to proactively address mercury in fly ash from coal fired power plants. The presence of mercury in fly ash could effect the beneficial reuse of this material as a substitute to cement. **Air, Waste** **2-4Q FY09**

D. Mexican Border, Pacific Island, and Tribal Communities

Actions to Achieve Goals

US-Mexican Border: Border 2012 mid-course refinements placed increased importance on climate change through the addition of a Green House Gas (GHG) Objective. The EPA will work with the Border Environment Cooperation Commission (BECC) and North America Development (NaD) Bank to support their increased investment in clean energy.

Recent Milestones

- The Region 9 Border 2012 RFP encouraged Energy/Climate Change proposals to be submitted. Selection decisions will be made in coordination with the BECC. CED, Q4 FY08
- A US-Mexico Border GHG conference/stakeholder meeting is being organized for March 2009. CED Q2 FY09
- Baja California and Sonora draft greenhouse gas inventories are completed. The inventories will assist the Border 2012 program to determine priorities/projects for future funding. CED Q4 FY09

Next Steps

- FY08 is being used primarily to assess programmatic needs and develop quantitative measures. The addition of the Border 2012 GHG objective will help support development of projects in FY09. CED Q4 FY09

Pacific Islands: The Pacific Island project will consist primarily of targeted technical assistance for energy issues.

Recent Milestones

- Progress has been made by working with Commonwealth of the Northern Mariana Islands (CNMI) to demonstrate how a more sustainable energy approach would prevent a worsening of its energy crisis. As a result, the CNMI Energy Office and the Commonwealth Utilities Corporation are working in collaboration to develop a territory energy plan that will be supported by Department of Interior grant funding. CED Q3-4 FY08
- EPA Region 9's Environmental Review Office has commented on the Department of Defense's Draft Environmental Impact Statement for the Guam military buildup and intends to work with DOD to incorporate sustainability aspects, such as renewable fuels and green buildings, into their plans. During FY08, quantitative measures and targets are will be defined and projects that will achieve measurable results will also be identified CED Q3-4 FY08
- Energy was an emergent theme at the June 2008 Pacific Islands Environmental Directors meeting. Region 9 energy specialist Ben Machol attended the meeting and led several discussion groups. CED, AIR 3Q FY08

Next Steps

- A model revolving loan program to finance such energy efficiency measures, such as appliance upgrades is being explored. CED Q4 FY09
- Creative financing to support the installation of residential solar panels is being researched. CED Q4 FY09
- Several islands are participating in the development and implementation of Hawaii-led Tropical Energy Building Codes, which require green and energy efficient building design. CED Q4 FY09

Tribes: CED's Tribal Program Office continues to assess energy and climate change opportunities that would involve tribes.

Recent Milestones

- There was a climate change track that included speakers from tribes and agencies discussing the impacts of climate change and how tribes might focus their efforts at the Tribal-EPA Conference. Q1 FY08
- The RTOC Tribal Science Council held a session where EPA's Matt Small presented an overview of some available resources and tools for tribes to use to measure their environmental footprint. CED, MTS
- The Hualapai and Pyramid Lake tribes presented at the National Tribal Conference on Environmental Management in June 2008 on their climate change-related work. 3Q FY08
- A RTOC Tribal Science Council workgroup submitted comments to EPA's draft 2009-2014 Strategic Plan that focused on climate change program implementation in Indian Country. Specifically the comments addressed the generation of baseline data and the development of adaptation strategies. 3Q FY08

Next Steps

- Assessing the potential for alternative energy on tribal lands, learning how tribes reduce climate change impacts, and continuing to identify adaptation strategies that tribes could implement. Provide an opportunity for CA PUC to reach out to tribes. CED Q4 FY09

Activity 6: Fuel Efficient Vehicles Outreach

Goal: *Actively promote improved fuel efficiency in on-highway vehicles; work with existing partnerships to augment public and private efforts.*

Lead Division: Air

Actions to Achieve Goals

Green Fleets: Region 9 is addressing fuel efficiency in public and private fleets by working in collaboration with municipalities and other groups who are engaged or interested in green fleet design. Leveraging resources to promote fuel-efficient vehicles is the key to the success of this program. By actively engaging partners in the public and private sectors – especially fleet managers and associations – we can achieve significant results.

Recent Milestones

- Air Division (West Coast Collaborative) staff have been participating in a project of the Puget Sound Clean Cities Coalition to develop a “green fleets” guide and ranking system. This system rewards “green fleet” designations (similar to the LEED designations for buildings) by 20 participating public fleets. The project includes an online tool to help fleets calculate the CO₂ savings from their efforts. The Collaborative has been exploring ways to implement a pilot of a similar ranking system with municipal partners in Region 9. Air 3Q FY08
- A vehicle and transportation policy for Region 9 has been developed and is currently under review. The policy addresses the Region’s implementation of Executive Order 13423 and can be used as a model for other federal agencies. Air, MTS, CED 3Q FY08
- EPA has an extensive, interactive Green Vehicle Guide on its Web site, and the state of California recently introduced DriveClean.ca.gov as part of its efforts to make consumers aware of the environmental performance of vehicles. Air Division staff will continue to actively promote these resources through the West Coast Collaborative and Region 9 Web sites. Air 4Q FY08

Next Steps

- The Air Division is drafting an MOA between EPA, CARB, CEC, and the South Coast and San Joaquin Valley Air districts to advance research on hydraulic hybrid technologies in California. Air 1Q FY09
- The Air Division is exploring joining the Federal Green Challenge developed by Region 10. The Challenge includes a transportation component that goes above and beyond the requirements of EO 13423. Air, CED 1Q FY09
- The Air Division is developing a proposal to initiate a Green Fleets Challenge, possibly in conjunction with the West Coast Collaborative and nonprofit partners. The challenge will build upon the efforts of the Puget Sound Green Fleets ranking system and will provide a

Final 4/13/2009

mechanism for sharing information and generating interest from fleets to promote their green/sustainable efforts. Air 4Q FY09

SmartWay Transport Partnership: SmartWay is an EPA program run by the Office of Transportation and Air Quality. SmartWay focuses on improving the efficiency of goods movement while reducing Air emissions. The program has a large marketing component and conducts extensive outreach. It also promotes fuel-saving technologies and strategies for the goods movement sector, largely focused on long-haul trucks.

Recent Milestones

- EPA's SmartWay Program personnel came to Region 9 from Headquarters to explain the SmartWay program to regional staff. Air 2Q FY08
- SmartWay unveiled its new Web site providing easier access to information on its range of programs, including the Green Vehicle Guide. In May, SmartWay launched the SmartWay Finance Center, a Web site that helps fleets and owner/operators secure low-cost financing for upgrades to improve the fuel efficiency of their long-haul trucks. Air 3Q FY08
- Mexico is launching Transport Limpio in November 2008. Region 9 provided technical assistance and helped organize a technology transfer session in Monterrey. Air 3Q FY08

Next Steps

- Air Division staff will continue to promote SmartWay programs and explore joint marketing opportunities in West Coast states to leverage SmartWay resources. Air 1Q FY09

West Coast Collaborative: The West Coast Collaborative works across EPA Regions 9 and 10 and has an extensive network of partners in the public and private sectors. The Collaborative actively promotes fuel efficiency through its diesel emissions reduction activities, including strategies and technologies for reducing unnecessary engine idling. The Collaborative administers grant funding for diesel emissions reductions that can be used to improve fuel efficiency while reducing emissions.

Recent Milestones

- In April 2008, the Collaborative released a \$5.1 million request for proposals under the Diesel Emissions Reduction Subtitle of the Energy Policy Act of 2005 (the subtitle is referred to as DERA). Funds under this program can be used for idle reduction technologies and other strategies that improve fuel efficiency, such as engine and vehicle replacements Air 3Q FY08
- The Collaborative's Public Fleets sector actively promotes green fleets' activities and strategies on the Collaborative Web site and on sector teleconferences. Air 2Q FY08
- The Collaborative recently funded a project using EPA's patented hydraulic hybrid technology for two class 6 delivery trucks in the San Joaquin Valley. Air 3Q FY08
- The Collaborative, through the Clean School Bus USA program, has funded two projects for plug-in hybrid school buses. Air 2Q FY08

Final 4/13/2009

Next Steps

- The Collaborative's Public Fleets sector will dedicate an increasing amount of its efforts to green fleets issues, including developing new resources for the Collaborative Web site. Air
1Q FY09
- Air Division staff are exploring the possibility of leveraging the Collaborative's extensive partner networks to develop and/or promote the Federal Green Challenge and the Green Fleets Challenge. Air 1Q FY09
- In promoting the results of its grants and programs, the Collaborative regularly conducts media events and will work to incorporate fuel efficiency messages into these efforts. Air 1Q FY09

Activity 7: Develop Approach for Disseminating Information about Energy and Climate Change Grant

Goal: Information would be for both internal use and public access and would consider grants from other federal agencies and Region 9 states

Activity 7 is being combined with Activity 4- Establish a One-Stop Shop: Collaborate all EPA climate change and energy information

Water Energy

Activity 8: Promote Energy Efficiency and Water Conservation

Goal: *Promote Sustainable Infrastructure and reduce greenhouse gas emissions by increasing water and energy efficiency in water, wastewater, and Stormwater infrastructure throughout Region 9.*

Lead Division: *Water*

Actions to Achieve Goals

Sustainable Infrastructure (SI) Team: The Water Division reorganized to form the Infrastructure Office. Within the Office is the SI team which focuses on implementing climate change adaptation and mitigation opportunities into wastewater and water utility funding provided by EPA Region 9 (largely from the State Revolving Fund, U.S./Mexico Border, and Earmark programs).

Upgrade Existing Infrastructure: The Water Division has developed a process to implement energy efficiency programs at water and wastewater utilities using a Three Step Program – which we will assist, interested utilities in completing.

- Step 1: ENERGY STAR benchmarking tool and the new EMS program for water and wastewater utilities.
- Step 2: Complete energy audit from power companies, State Energy Department, DOE, or contractor.
- Step 3: Securing a finance plan and implementing the audit recommendations.

Recent Milestones

- We are committed to a project with the Hawaii's Department of Health strategy that will implement energy efficiency and other aspects of Sustainable Infrastructure in Hawaii's water and wastewater utilities. Water FY08-FY09
- The Spanish Springs in Washoe County, Nevada and Clark County Water Reclamation District, two earmark recipients, committed to working with power utility to conduct energy audits/explore the energy efficiency potential of their projects. Water 1Q FY09
- We are continuing efforts to recruit more earmark recipients who are committed to working with power utility to conduct energy audits/explore the energy efficiency at water and waste water facilities. Water FY08-FY09
- We have identified a handful of large wastewater facilities in Region 9 that qualify for the Department of Energy's comprehensive, free, three day energy audit and educated the facilities about this opportunity. The County Sanitation Districts of Los Angeles are going to schedule a DOE energy audit. Water 1Q FY09

Final 4/13/2009

Construction of new infrastructure: The Water Division trained project officers on sustainable infrastructure (SI) tools, water, and wastewater tools for a pilot project. We are working to identify pilot projects to reduce energy and water consumption.

Recent Milestone

- The Water Division trained State Revolving Fund program managers on sustainable infrastructure tools.
- SI staff demonstrated the ENERGY STAR Portfolio Manager to the California SWRCB/RWQCB NPDES Roundtable using the green meeting WebEx format.

Next Steps

- Forming a workgroup with State Revolving Fund (SRF) programs from each state to expand use of the SRF for energy and water conservation.
- Investigate energy efficiency opportunities at the International Wastewater Treatment Facility.

Promoting to the States, Local Governments, and Communities: WTR is working with Hawaii's Department of Health and participating in California Water Climate Action Team (WET CAT) to promote energy and water conservation in water and wastewater utilities. We are also participating in the Green Grants Workgroup to identify the most significant green topic areas to incorporate into grant programs. We are contributing in the Strategy project led by Waste.

Recent Milestone

- Region 9 representatives attended the Ecocities Summit by providing outreach materials on WaterSense and educating cities about EPA's programs.
- The grant program is reviewing seven green topic areas document that was created by the Water Division.
- Attended several WET CAT meetings in Sacramento and are now part of the workgroup

Next Steps

- After reviewing the Seven Green Topic Areas document management will provide recommendations for how recipients of EPA grants can conserve water, be more energy efficient, and have low impact on development.
- Continue to work with California and Hawaii

Adaptation and Mitigation Opportunities

Recent Milestones

- The Water division is coordinating with PG&E to pilot a project for Publicly Owned Treatment Works and water facilities to attend the ENERGY STAR for Wastewater and Water Utilities Portfolio Manager training. Facilities received a benchmark rating for energy consumption compared against similar facilities across the country and a PG&E energy audit follow-up contact. The Water division will expand the training to other wastewater treatment facilities

Final 4/13/2009

located in power company service areas such as Southern California Edison, Sierra Pacific Power, and throughout Region 9. Water 2Q FY09

Next Steps

- The SI Staff will coordinate between Regional programs to add value to existing activities (e.g., ENERGY STAR, EMS Workbook for Water Utilities, carbon sequestration, green infrastructure, water reuse, low impact development, permitting, grants, enforcement and compliance assistance where possible, Guam military build-up, etc.) that play a role in mitigating greenhouse gas emissions, improving water quality, and adapting to the impacts of climate change. (A baseline and develop metrics during FY08-FY09 will be established). Water, All Divisions 3Q FY09

- Another ENERGY STAR Benchmarking Class is scheduled for March 19, 2009 and another Innovative Energy Management Workshop in Southern California for wastewater treatment facilities that includes a benchmarking session.

Developing Outreach and Marketing Strategy

Recent Milestones

- The Water Division presented at the American Water Works Association annual meeting, the 16th Annual Water Law Conference, and Earth Day with Sonoma Vintners. In addition, the team developed a Question and Answer internet educational piece for the PBS Jim Lehrer News Hour. This is now available online on the Water Recycling website. The website was recently updated with a link to the new Water Reuse Association National Database of Water Reuse Facilities in the U.S. Anyone can now access the database through our website and identify all facilities that are recycling water and gather useful information about the facilities and use of the recycled water. Water 3Q FY08
- ■ The Water Division hosted an Energy Management Workshop on December 16, 2008 in Sacramento, CA. In collaboration with external sponsors, Region 9 provided useful energy management tools to over 100 wastewater and water utilities.
- The Water Division developed a Sustainable Infrastructure website which will serve as a portal of energy and water conservation funding and technical assistance information. Water, OPA 1Q FY09
- ■ The Water Division spoke recently about WaterSense at a meeting of home builders.

Next Steps

- The Water Division has secured funding from Headquarters to conduct 5 or 6 Sustainable Infrastructure/energy efficiency trainings to rural (including tribal) water/wastewater utilities throughout CA. Water 1Q FY09
- The Water Division is developing a workgroup with State Revolving Fund (SRF) coordinators to increase use of SRF program to fund Sustainable Infrastructure projects in Region 9's water and wastewater infrastructure. Water 1Q FY09

Final 4/13/2009

- The Water is planning another Innovative Energy Management Workshop in southern California either June 23 or 24, 2009 that will include ENERGY STAR Benchmarking of wastewater treatment facilities.
- The Water Division will speak at the annual California Water Environment Association Meeting at the end of April/May 1, 2009 and at other engagements on WaterSense and other SI topics.

Clean Energy Projects

Activity 9: Promote Renewable Energy Production on Contaminated Sites: NPL, Brownfields, and RCRA

Goal: *Work with owners of contaminated sites and with utilities to encourage the incorporation of production/use of renewable energy into revitalized lands*

Lead Division: *Superfund*

Actions to Achieve Goals

The Cleanup Clean Air (CCA) Initiative promotes the use of renewable energy, energy efficiency, and reduction of Greenhouse Gas and Diesel emissions at Superfund and RCRA Sites. The Cleanup/Clean Air team (CCA) serves as co-chair, and have direct involvement with, the national *Climate Change and Contaminated Lands Workgroup* under OSWER's Center for Program Analysis. In addition this team is the Co-Lead for the Administrators Clean Energy and Climate Change Workgroup.

The Cleanup Clean Air Initiative expanded into the operations of the Waste Division. The goal is to explore ways of coordinating between the divisions and to brainstorm clean energy, energy efficiency, green building, waste reduction, and diesel reduction technologies, corrective action and permitting, as well as enforcement, underground storage tanks, resource conservation, solid waste, pollution prevention, and other programs.

Provide Alternative Energy options to Remediation Sites: Identify and develop sites within Region 9 that are most-suited to use renewable energy and seek to advance the development of demonstration and operations-scale projects

Recent Milestones

- Camp Pendleton Marine Corps Base is now using clean diesel technology to excavate 120,000 cubic yards of contaminated soil, giving them an estimated cost savings of \$27M. This project reduced diesel emissions through the use of biodiesel blends and retrofits on six pieces of equipment and two diesel particulate filter fueled pieces of equipment, resulting in an 85% reduction of particulate matter, reducing total PM10 emissions by more than 27%. In addition, they are now excavating soil to landfills by train, keeping 6,250 trucks off Southern California highways. Superfund, Waste 3Q FY08
- The Romic Facility is now using clean diesel technologies, clean fuels and/or clean construction practices on diesel powered engines greater than 25 horsepower. Mitigation requirements now include an anti-idling policy, tuning engines to manufacturers' specifications, developing a plan to limit transportation through the community, and using ultra low sulfur diesel or another clean fuel. Waste, Superfund FY08
- A new solar photovoltaic system is being employed to power a warehouse building associated with cleanup activities at the Frontier Site. Superfund, Waste FY08

Final 4/13/2009

- The possibility of using a Biodigester near the Hassayampa Landfill Superfund Site in Arizona is being explored. By using the manure from a near by chicken farm as a digester the Superfund site and/or serve other power needs in the area can be met. It could also serve as a means to redevelop contaminated land. Superfund, Waste 1Q FY08

Continuing Projects from FY07 Superfund

- The Operating Industries, Inc. Superfund Site continues to use landfill gas for 80% of its remediation power needs;
- The Lawrence National Lab Site 300 and Apache Powder Superfund sites use solar-powered low-flow pumps
- The Selma Pressure Treating Site has replaced an energy-intensive and long-term groundwater pump and treat system with a bioremediation in which molasses is injected into the ground. In FY2008, the groundwater pump and treat system was turned off completely.
- The Pemaco Chemical Superfund Site continues to use solar energy to operate equipment associated with its electrical resistance heating remedy. The solar panels have generated about 5700 kwh of electricity.
- Biodiesel blended fuel is being used to power construction equipment at the AMCO Superfund site.

Next Steps

- Evaluate a possible retrofit for equipment at the Hunters Point Naval Shipyard site. Superfund 3Q FY08 – 2 Q FY09
- Evaluate using biodiesel or a biodiesel blend for construction equipment at the Rio Tinto Mine site. Superfund 3Q FY08 – 2 Q FY09
- Create focus groups in the Superfund Program, bringing together project managers working on sites that are potentially amenable to the use of the same green technologies. The focus groups will discuss possible obstacles to the use of these technologies and develop ways to overcome them. Superfund 3Q FY08 – 2 Q FY09
- Conduct a research effort matching various characteristics pertinent to the use of renewable energies (e.g. average and peak insulations with respect to solar, or wind velocity at a particular location with respect to wind energy) with all the Superfund sites in the Region, to take a more active role in identifying the particular sites that will provide the most benefit from application of renewable technologies. Superfund 3Q FY08 – 2 Q FY09

Incorporate Language into Superfund Remediation Grants, Permits, and Contracts:

Assess how and where remediation green can be written into Superfund and RCRA contracts.

Recent Milestones

- Incorporated language on diesel emission reductions into contracts and grants in the program. Superfund 4Q FY07

Final 4/13/2009

- The Response Action Contracts require contractors, when directed by EPA, to use cleaner engines and fuel, and cleaner diesel control technology on diesel powered equipment and evaluate all reasonably feasible renewable energy sources. Superfund 4Q FY07
- Incorporated diesel emission reduction practices as a ranking criterion for their FY09 Cleanup Grant Brownfields FY08

Next Steps

- Incorporate language on diesel emission reductions and renewable energy sources into contracts, grants and closure/post closure permits Waste
- Define legal questions and issues and possible approaches to where and how green remediation could be addressed within the Superfund process Superfund, ORC

Internal and External Capacity Building: Educate and provide resources to project managers and wider regional or national audiences regarding renewable energy technologies and other green remediation approaches with the aim of raising awareness and ultimately promoting their use.

Recent Milestones

- Published the Smart Energy Resources Guide (SERG) that identifies and discusses the different renewable energy technologies that can be applied at contaminated sites, and includes examples of technology application at real sites. The SERG includes a substantial list of calculators, tools, and funding sources related to green remediation. The guide has been made available at both the regional and national level. Superfund, ORD 3Q FY08
- CCA team hosted a workshop for the Arizona Department of Agriculture, local regulators, and renewable technology vendors in order to further relations with stakeholders and learn if renewable energy options are feasible and economical to sites. Superfund 1Q FY
- CCA developed a webpage and Quickplace site to disseminate tools and resources and showcase project development. Superfund, Waste 3QFY08

Next Steps

- Conduct a survey of Superfund project managers, to identify opportunities for not only use of renewable energy technologies, but also diesel emission reductions, energy efficiency, water use and recycling. Superfund, Waste 3Q FY08-2Q FY09
- Create focus groups in the Superfund Program, bringing together project managers working on sites that are potentially amenable to the use of the same green technologies. The focus groups will discuss possible obstacles to the use of these technologies and develop ways to overcome them. Superfund, Waste 3Q FY08-2Q FY09
- Continue to develop and expand the CCAI Web page on the Quickplace site. Superfund,
Waste 3Q FY08-2Q FY09
- Create an Annual Report summarizing all work, findings, and developments in the Initiative. Superfund, Waste 3Q FY08-2Q FY09

Activity 10: Biogas Energy Production

Goal: *Collaborate with wastewater treatment facilities, farmers, municipalities, other EPA regions and landfills to better understand and utilize existing and new biogas sources*

Lead Division: *Waste*

Actions to Achieve Goals

East Bay Municipal Utility District (EBMUD) Grant calculated the methane gas generated from anaerobically digesting Bay Area restaurant food waste.

Recent Milestones

The study calculated the quantities of methane gas generated from Bay Area restaurant food waste digested by an EBMUD anaerobic digester. EBMUD will use this information to scale up the food waste presently being anaerobically digested from 40 to 200 tons per day. The captured methane is used to generate electric power.

- During the course of the grant, studies determined that one ton of food waste produces 367 cubic meters of methane. Anaerobically digesting 100 tons of food waste 5 days per week for one year produces 9,542,000 cubic meters of methane. This is (120,000 metric tons CO₂ equivalent) enough to power 800-1,400 homes for one year.

Next Steps

- The grant to EBMUD ended in 2008, and EPA Region 9 will continue to disseminate and leverage the results to other utility districts, local, state, and national forums to promote the adoption of food waste collection programs and anaerobic digestion nationwide.
- To expand results from EBMUD's report, the Waste Division will be funding an economic analysis determining payback periods for different types of feedstocks and scenarios.

City of Santa Monica Grant: The pilot will monitor implementation anaerobic digestion of food waste from publicly collected food streams. The project demonstrates how communities can develop organic recycling programs that include anaerobic digestion with methane gas for energy recovery. The Santa Monica grant will also investigate how biodegradable plastics affect the organics waste stream including whether biodegradable plastics will decompose in an anaerobic digester. Methane emissions captured during the project will be converted to greenhouse gas equivalencies using conversion calculators.

Recent Milestones

- Researching biogas applications from landfills and dairies identified several key barriers to widespread implementation, including resistance from energy providers and public apprehension about potential pathogens in the biogas stream.

Final 4/13/2009

Next Steps

- The Waste and Air Divisions will work to address barriers preventing the use of biogas from dairies and anaerobic digestors. The Air Division will work with landfills to increase methane capture, including leveraging Early Action leadership by California's Air Resources Board that targets methane collection at smaller landfills. OSWER's Climate Change Strategy estimates that if methane were captured and recovered at all U.S. landfills, it would reduce GHG emissions by 67 MMTCO₂E per year.

Activity 11: Build on Existing EPA Partnerships

Goal: *Become more active in developing ripe opportunities. Several EPA offices are working on projects in Region 9 states and could be more successful with regional participation. Programs of particular interest: Green Power Partnership (increase renewable energy usage), Combined Heat and Power Partnership, Landfill Methane Outreach Program, ENERGY STAR for Industry, Natural Gas STAR, AGStar, SmartWay, and Climate Leaders.*

Lead Division: Air

Actions to Achieve Goals

Recent Milestones

- The Air Division developed an inventory of partnership program activities in Region 9. The activities will be shared with Region employees to increase their understanding of existing programs and encourage external education, ultimately leading to increased participation of such programs by outside entities. [Air] [1FY08- 4QFY09]
- EPA Headquarters Methane Programs (working with landfills, agriculture, etc.) spoke to regional representatives about methane sites and barriers to biogas applications. They also spoke about other landfill concerns including the lack of regulation about installing methane capture systems. [Air, Superfund, Waste, CED, and ORC]
- Air Division continues to provide outreach and assistance to partners through the ENERGY STAR Program and special initiatives (e.g., Change-A-Light). [Air]
[1FY08- 4QFY09]
- Region 9 joined the Federal Green Challenge and has committed to reducing the waste and water use in the 75 Hawthorne Street building by at least 5% over the next year.
[Air, CED] [4Q FY08]

Next Steps

- The Air division will evaluate and promote existing EPA partnerships, national programs, and activities to external stakeholders by disseminating information pertaining to these programs and encourage stakeholders to partner with the EPA programs. Outreach activities, include, but are not limited to meetings and conferences with public and private sectors. Intended programs to promote include: Green Power Partnership which is designed to increase renewable energy usage, Combined Heat and Power Partnership, Landfill Methane Outreach Program, ENERGY STAR for Industry, AgStar, SmartWay, and Climate Leaders. [Air, Waste] [1-4Q FY9]
- [] The Air Division will continue to support ENERGY STAR, by working in collaboration with the Waste Division to ensure a commitment to Headquarters is met. These commitments include, benchmarking buildings and/or recruiting new partners, participating in energy fairs, conferences and helping develop media announcements. [Air] [1-4Q FY9]

- Regional Sustainability Team (formerly known as the EMS Team) will lead in our waste and water reduction activities associated with the Federal Green Challenge. CED 1-4Q FY9
- The Waste Division will lead the general management and development of the Region 9 Federal Green Challenge. They will clearly identify our participation and outreach goals, roles and responsibilities. The Air Division will lead in outreach and reporting for Hawaii Federal Facilities. Waste 1-4Q FY9
- The Air Division will work with landfills to increase methane capture, including leveraging Early Action leadership by California's Air Resources Board that targets methane collection at smaller landfills. OSWER's Climate Change Strategy estimates that if methane were captured and recovered at all U.S. landfills, it would reduce GHG emissions by 67 MMTCO₂E per year. Waste, AIR 1-4Q FY09

Building Design

Activity 12: Actively Promote Greening of New Development. Work with Federal Partners, Builders, Local and State Government

Goal: *Focus on ENERGY STAR's Indoor Air Package for Homes, HUD affordable/green homes partnership opportunities. Push for energy efficient appliances in all new homes built.*

Lead Division: *Waste*

Current Activities

Pilot Home Projects: Last year, large production home builders constructed 215 pilot homes to test the feasibility of the draft LEED for Homes standard with the new EPA indoor Air package.

Recent Milestones

- The project has thus far conserved 6.9 billion BTUs of energy. Waste 1-4Q FY08

Next Steps

- Final emission reductions will be calculated using calculators to convert energy saved into greenhouse gas reductions. The Waste Division is using the results from this pilot to better refine EPA's Indoor Air Package standards for homes to include California's stringent no-formaldehyde standards. Grants and partnerships with Davis Energy Group and Build It Green will accelerate local implementation of LEED-H and Green Point Rated programs.

City of Fresno: The City of Fresno/HUD was awarded a grant in 2005 for a green affordable housing project that will result in six homes with energy-efficient insulation, pervious concrete, PV panels, cool roofing, and passive solar and high-efficiency windows. Waste 1-4Q FY08

Next Steps:

- The Waste Division will work with The City of Fresno and their local HUD office to incorporate green building into future housing developments. Emission reductions will be calculated using calculators to convert energy saved and construction waste reductions into total greenhouse gas emissions prevented. Waste FY08-FY09

Grants: From 2008 until 2010, the EPA will extend grants to the Davis Energy Group, Build-it-Green, and University of Nevada-Reno (UNR) to assist in building 5,000 new, green homes and a large-scale commercial construction project. A grant to UNR will incorporate green construction practices into the largest new development in Las Vegas, The CityCenter project, a 16 million square feet mixed-use complex. Waste 1Q -4Q FY09

Waste 1Q FY08-4Q FY09

Smart Growth

Activity 13: Evaluate Opportunities to Integrate Smarter Regional Planning Concepts into Federal Projects

Goal: *Look for options to promote Smart Growth through the NEPA review process.*

Lead Division: *Environmental Review Office*

Actions to Achieve Goals

Smart Growth Language in NEPA Documents

Recent Milestones

- Environmental Review Office (ERO) has developed standard smart growth comment language. Region 9 CED staff has shared that language with the Headquarters Smart Growth Office. The Smart Growth Office has reviewed that language and will work with Environmental Review Office to refine standard comment language. In addition, the CED staff has shared this work with National Environmental Policy Act review offices and the Office of Federal Activities (OFA) with EPA. CED 1Q -4Q FY08

High Priority Energy Projects: The Administrator's Office has identified both liquefied natural gas (LNG) and projects with "greenhouse gas and climate change issues" as priorities for the Administrator's Office review. The Western Region has been involved with several large energy projects, including proposals to construct four large coal-fired power plants and license two Deepwater Port LNG facilities. In 2009, two large coal-fired power plants, Ely Energy Center (2,500 MW) and White Pine Energy Station (1,590 MW) were postponed. The two remaining proposed coal-fired power plants are the Toquop Energy Project (750 MW) in Nevada and the Desert Rock Energy Project (1,500 MW) in New Mexico.

Recent Milestones

- In coordination with the Air Division, CED is working as a Cooperating Agency on three energy projects: OceanWay LNG, Clearwater LNG, and Desert Rock Energy Project. In all, as of May 2008, 37 specific Energy-related EIS projects are in various stages of development in Region 9. CED, AIR 1Q -4Q FY08
- Using the National Environmental Policy Act, Region 9, CED staff has been able to push for further disclosure on purpose and need, alternatives, greenhouse gases, and climate change and this has resulted in exciting opportunities and partnerships. CED staff continually pushed for agencies to consider other alternatives besides coal-fired generation. These efforts resulted in the postponement of two coal-fired power plants and the anticipation of many more alternative energy projects in the future. While commenting on the Toquop Energy Project, CED staff crafted language that now serves as guidance on greenhouse gases emissions from power generating plants across the United States. CED, AIR 1Q -4Q FY08

Next Steps

- As a Cooperating Agency, CED staff members are working closely with the Bureau of Land Management to develop a comprehensive strategy to address greenhouse gas emissions and climate change for each of the proposed coal-fired power plants. In addition, CED continues to push for greater disclosure of impacts, in-depth discussion of carbon sequestration, and the implementation of voluntary measures to reduce and offset greenhouse gas emissions.

CED 1Q -4Q FY09

Partnering with External Agencies on Land Use and Transportation

Recent Milestones

- ERO has hired a Caltrans-funded employee (Maggie Witt) to focus on outreach to Metropolitan Planning Organizations to build smart growth concepts into regional transportation planning. The position is funded for two years.

Next Steps

- One focus areas will be working with Caltrans and other CA state agencies on the CA Blueprint Program, which seeks to better integrate land-use and transportation planning into the regional planning process, which ultimately guides federally-funded highway and transit projects. CED 1Q -4Q FY09

EPA Guidance on Caltrans Smart Mobility Tool

Recent Milestones

- Caltrans received one of six EPA technical assistance awards under the Smart Growth Implementation Assistance (SGIA) program. The SGIA program (<http://www.epa.gov/dced/sgia.htm>) is an annual, competitive award process to incorporate smart growth techniques into future development. The assistance provided to Caltrans is supporting development of a "smart mobility" screening tool that will evaluate transportation options and provide input to local and regional land use plans to assess whether communities are being designed in a way that provides transportation choices and supports smart growth principles.
- A workshop was held September 16-18, 2008 in Sacramento where staff of Caltrans, as well as other local, state, and federal partners will discuss the proposed tool and how it can best be used. Promoting smart growth is a goal of the Region 9 Energy and Climate Change Strategy.

CED 1Q -4Q FY08

Next steps

- ERO (Carolyn Mulvihill) is coordinating with the EPA Headquarters Smart Growth Office to provide guidance to the State of California Department of Transportation (Caltrans) in developing smart growth principles for transportation and land-use choices.

CED 1Q -4Q FY09

6.3 CONTINUING PARTNERSHIP EFFORTS

Geologic Carbon Sequestration Research: The Water Division will coordinate with agencies, researchers, and industry to support pilot projects for geologic carbon sequestration designed to explore the feasibility and geochemical ramifications of underground injection of carbon dioxide.

Performance Track and Environmental Management Systems: The Environmental Stewardship Team (EST) will target Performance Track recruitment to public and private sectors with potential for reducing energy use and greenhouse gas emissions. Existing Performance Track members will be challenged to make commitments to reduce energy use and greenhouse gas emissions. EST will work with the PEER Center to provide EMS training to cities with climate action plans

Waste Grease to Biodiesel: The Waste Division will work with the EPA biofuel Work Group to include a preference for sustainable biodiesel in EPA's biofuels strategy. EPA Region 9 will partner with other Regions, Headquarters and the Office of Research and Development on a life cycle analysis of waste grease derived biodiesel as an effort to promote this renewable fuel feedstock.

With the assistance of the Environmental Finance Center (EPA Grantee), Region 9 hosted the Bay Area roundtable discussion on recycling waste restaurant oil and grease into biodiesel. Representatives from the City of San Francisco, non-profits, national biofuel experts and biodiesel manufacturers identified ways to streamline the process and increase the amount of recycled grease. (Waste Activity)

West Coast Collaborative: The West Coast Collaborative is a public private partnership covering EPA Region 9 and 10 focused on creating, supporting, and implementing diesel emissions reduction projects. To accomplish this goal, the Collaborative: The West Coast Collaborative is a public-private partnership covering EPA Regions 9 and 10 focused on creating, supporting, and implementing diesel emissions reductions projects. To accomplish this goal, the Collaborative:

- Raises awareness of the need for emissions reductions and the many highly successful state, tribal, local, and regional efforts that promote and support voluntary projects;
- Creates a forum for information sharing through sector calls, conferences, workshops, and a regularly updated Web site among diesel emissions reductions advocates;
- Implements projects that are regional in scope, leverages funds from new sources, achieves measurable emissions reductions, and creates momentum for future emissions mitigation efforts;
- Supports energy security and greenhouse gas reductions by encouraging sustainably produced renewable and cleaner fuels, utilizing SmartWay and other programs to reduce unnecessary engine idling, and facilitating the development of renewable/alternative fuels and fuel efficiency strategies. (Air Lead)

Cleanup-Clean Air (CCA) Initiative: The goal of Cleanup Clean Air is to encourage, facilitate, and support diesel emissions and greenhouse gas reductions technologies and practices at Superfund cleanup and redevelopment sites.

6.4 REGULATORY EFFORTS

Inspections and Enforcement: Power Plants, Refineries, Fuel Terminals, Fuel Storage Tanks, Oil and Gas Extraction (Air, Waste, Water)

Permitting: Liquefied natural gas (including Clearwater Port offshore Ventura and Woodside's OceanWay Secure Energy in Santa Monica Bay), power plants (including Desert Rock and Morro Bay), oil refineries, oil and gas extraction, and ethanol plants: (Air, Water, and Waste)

PSD Delegation Agreements: An effort is underway in the Permits Office to delegate the authority to administer the Prevention of Significant Deterioration program to other permitting authorities for areas in which EPA is the permitting authority. There are two primary benefits to such delegations: 1) they streamline the permitting process for owners of stationary sources, and 2) they prevent the Regional office from having to directly administer the program and instead allow us to oversee its implementation, which reduces workload for staff. In FY 07-08, PSD delegation was given to the Bay Area Air Quality Management District and the Washoe County District Health Department. Together, these two delegation agreements cover 24 existing PSD facilities. As a result of these delegation agreements, owners of stationary sources will experience a more efficient regulatory process.

Minimization of Environmental Impacts: During the public comment period for the Desert Rock PSD permit EPA received several comments stating that the BACT emission limits for NO_x should be lower than those proposed in the permit. Based on these comments and additional research conducted by regional staff, the Permits Office in Region 9 worked with the applicant to develop a control technology optimization process which will eventually reduce the estimated annual average NO_x emissions by 1020 tons per year. This represents a reduction of 30% compared to the emission rate in the proposed permit. Region 9 has incorporated into the PSD permit mitigation measures for emissions of SO₂. The final draft of the Desert Rock permit with the revised limits is expected to be complete by July 2008.

Region 9 is continuing to work on PSD delegation agreements for additional permitting authorities including the San Joaquin Valley APCD, San Diego County APCD, and Shasta County APCD. Successful delegation of the PSD program to the SJVAPCD alone will relieve EPA of direct permitting responsibility for approximately 92 facilities.

Issues related to greenhouse gases have been raised in comments on several of EPA permits. Regional staff members are working closely with the Office the General Council and the Office of Air and Radiation to harmonize permitting actions with the development of the Agency's overall greenhouse gas strategy. In the meantime, the applicants are addressing greenhouse gas emissions as a result of state requirements in their proposals. For example, pursuant to the California Environmental Quality Act and AB32, Big West of California, LLC will quantify its greenhouse gas emissions and implement mitigation measures.

These measures include preventing greenhouse gas emissions through efficient project design, reducing emissions elsewhere in the refinery by shutting down other units and enhancing combustion controls, conducting a refinery energy audit, planting trees, and contributing \$100,000 per year for 10 years toward community greenhouse gas reduction projects. In addition, the applicants for the OceanWay Secure Energy and Clearwater Port LNG projects are

conducting greenhouse gas lifecycle analyses of the complete LNG production process. They will also implement GHG mitigation measures pursuant to state requirements. EPA staff is continuing to monitor these developments.

Permits with greenhouse gas issues, which are expected to be issued before December 2008 includes those for the following facilities. In general, the public comments for these facilities state that EPA should consider CO₂ emissions in the BACT analysis. Annual CO₂ emissions are provided where available.

- Desert Rock Energy Facility (12,700,000 tons per year)
- Big West refinery Clean Fuels Project (801,160 tons per year)
- Morrow Bay Power Plant (emission estimate not available)

¹ Arizona 2000 Emissions: <http://www.azclimatechange.gov/download/O40F9293.pdf>
California 2004 Emissions (includes interstate civil aviation): <http://www.arb.ca.gov/cc/inventory/data/data.htm>
Hawaii 2005 Preliminary Estimate: <http://hawaii.gov/dbedt/info/energy/publications/ghg07ppt.pdf>
Nevada 2005 Emissions:
http://www.wrapair.org/WRAP/ClimateChange/NV_GHG_I&F_Report_WRAP_08-20-07.pdf

² Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005,
<http://www.epa.gov/climatechange/emissions/usinventoryreport.html>