



WEST COAST COLLABORATIVE

A public-private partnership to reduce diesel emissions

The goal of the Collaborative is to leverage significant federal funds to reduce emissions from the most polluting diesel sources in the most affected communities. The Collaborative seeks to significantly improve air quality and public health by targeting the highest polluting engines with the most cost effective control strategies.

West Coast Collaborative

The West Coast Collaborative aims to leverage federal funds to strategically reduce emissions from the most polluting diesel sources in impacted communities and to significantly improve air quality and public health. By targeting the highest polluting engines with the most cost effective strategies, the benefits from the Collaborative are estimated to significantly outweigh the costs.

What is the Collaborative?

- A partnership among leaders from federal, state and local government, the private sector, and environmental groups along the West Coast.
- An integral part of EPA's National Clean Diesel Campaign.
- A forum for information sharing and diesel emission reduction strategies in six sector workgroups—Rail, Trucking, Construction, Agriculture, Marine, and Public Fleets.
- Coordinator of regional efforts for cleaner fuels, such as biodiesel, and the Clean School Bus USA program.

How has the Collaborative succeeded?

Since June 2004, the Collaborative has granted over \$12 million in EPA funds leveraging more than \$30 million from Collaborative partners to implement 50 projects along the West Coast. These projects will have immediate and significant benefits for public health, and will help to advance new technologies and approaches for the future.

The Collaborative has brought together over 900 partners, and reached out across international borders into Canada and Mexico, to discuss, raise attention, and address the public health concern of reducing diesel emissions.

How is the Collaborative reducing diesel emissions?

Currently, the Collaborative partners are implementing specific proposals for large-scale, regional diesel emissions reduction efforts including:

- truck idle reduction projects such as Cascade Sierra Solutions along the West Coast Interstate Corridors,

- locomotive idle reduction projects at major switcher yards in the West,
- port shoreside engine retrofits, demonstrating new ship based reduction technologies and a comprehensive strategy to implement onshore power (cold-ironing) at major ports along the West Coast,
- cleaner fueling infrastructure along major Western transportation
- corridors supporting biofuels production and use along with clean agricultural practices and technologies, and
- construction equipment retrofits and cleaner fuel use for large scale highway construction projects partnering with the Federal Highway Congestion Mitigation Air Quality program.

It is estimated that the health benefits from diesel emissions reductions outweigh the costs by a ratio of 13-to-1. In addition, for every federal dollar the Collaborative spends on diesel emission reductions, Collaborative partners have contributed one to ten times that amount. For example, a \$25 million federal investment would leverage at least \$25 million in matching funds from Collaborative partners, and would likely achieve an estimated \$650 million in health benefits for the public at large.

Not only will investments in diesel emission mitigation lead to health benefits; investments in new diesel emission reduction technologies will also lead to economic development opportunities.

Why is it important to reduce diesel emissions?

Emissions from diesel engines contribute to unhealthy levels of fine particles and ozone (or "smog") and air toxics. Fine particles have been associated with an increased risk of premature death, hospital admissions for heart and lung disease, increased adverse respiratory symptoms such as asthma, and other adverse health effects. Long-term exposure to diesel exhaust may pose a lung cancer hazard to humans.

Many of the Western states have made reducing emissions from diesel engines a priority because diesel emissions have serious impacts on childhood asthma. Children are more susceptible to air pollution than healthy adults because their respiratory systems are still developing and they have a faster breathing rate. Recurrent childhood respiratory illness is a risk factor for increased susceptibility to lung disease later in life.

How can I find out more about the Collaborative?

For more information about the West Coast Collaborative, please visit our web site at www.westcoastcollaborative.org.

West Coast Collaborative Projects

Ports and Marine Vessels

Puget Sound Maritime Air Emissions Inventory & Diesel Emissions Reduction Project

The EPA through the West Coast Collaborative selected the Port of Seattle to receive a \$135,000 that has leveraged over \$1,000,000 in partner funding to support the Puget Sound Maritime Air Emissions Inventory & Diesel Emissions Reduction Project. The first project of the Puget Sound Maritime Air Forum, a regional voluntary association of ports, industry, regulatory agencies, and other members with operational or regulatory responsibilities related to maritime industry air quality impacts. The Puget Sound Maritime Air Emissions Inventory released April 10, 2007 is an activity-based inventory of all maritime-related air emission sources in the Greater Puget Sound region. This project also implements control technologies like diesel oxidation catalysts (DOC), cleaner fuels like ultra-low sulfur diesel (ULSD) and biodiesel, and public education activities such as idle reduction programs for truckers and equipment operators at the seaport.

Electric Hybrid Yard Hostler Demonstration Project

The EPA selected the Port of Long Beach to receive a \$300,000 grant to demonstrate the use of electric hybrid yard hostlers at the Port. (leverage: \$600,000)

The Port of Long Beach LNG Yard Hostler Project

The EPA through the West Coast Collaborative selected the Port of Long Beach to receive a \$75,000 leveraging \$525,000 in partner funding demonstrate and evaluate liquefied natural gas yard hostler technology aimed at reducing emissions from diesel equipment that operates at the port. This project will retrofit three yard hostlers at the POLB with on-road certified liquefied natural gas (LNG) engines and will compare vehicle emissions and performance with diesel yard hostlers.

Electrification of Port Gantry Cranes Project

The EPA selected the Port of Tacoma to receive a \$75,000 to demonstrate the effectiveness of electrifying all of their gantry cranes.

Cruise Ship Shore Power Project

The EPA selected the Puget Sound Clean Air Agency to receive a \$50,000 grant to support the City of Seattle, Port of Seattle, Seattle City Light and Princess Cruise Lines putting in shore side power for Cruise ships to plug into while berthing at the Port of Seattle. (leverage: \$1.5 million)

Holland America Seawater Scrubber Demonstration Project

The EPA selected the Puget Sound Clean Air Agency (PSCAA) to receive a \$300,000 grant which has leveraged over \$1,000,000 to demonstrate the feasibility of advanced sea water scrubbing technology on a large cruise vessel. Partners include Holland America Line (HAL) group (Holland America Line, Carnival Cruise Line, Princess Cruises, British Petroleum, and Caterpillar), Environment Canada, and the BC Clean Air Research. The project partners will achieve this goal by designing, installing, and testing scrubbing technology on a 1,500 passenger cruise ship, HAL's Vessel ms Zaandam, which operates in Hawaii, Alaska, and along the West Coast.

Agriculture and Biofuels

Fields to Fuel San Joaquin Valley Biodiesel Project

The EPA selected Sustainable Conservation to receive a \$100,000 grant to test the effectiveness of a new fuel additive in reducing nitrogen oxide (NO_x) emissions from biodiesel use in America's most productive agriculture region, the San Joaquin Valley. If all farm equipment in the San Joaquin Valley switched from petrodiesel to biodiesel blend, the region could experience reduced carbon monoxide emissions of about 2,000 tons per year and reduced particulate matter (PM) emissions of about 600 tons per year, plus reduced nitrogen oxide emissions.

Biodiesel Federal Users Guide

West Coast Collaborative and the Federal Network for Sustainability created a biodiesel buying guide for federal fleet managers at www.federalsustainability.net/initiatives/biodiesel.htm

Bridging the Biodiesel Gap -- From Boutique to Mainstream Alternative

The EPA selected the City College of San Francisco to receive a \$200,000 grant to work with distributors and trucking companies in San Francisco to promote the use of biodiesel in the local trucking sector.

Alaska Fish Oil Biodiesel Project

The EPA selected the Alaska Energy Authority to receive a \$200,000 grant to demonstrate the potential of producing biodiesel for rural Alaska power generation from fish processing waste.

Washington State Ferries Biodiesel Demonstration Project

The EPA selected the Puget Sound Clean Air Agency to receive a \$51,000 grant to demonstrate the use of biodiesel in the Washington State Ferry System.

Diesel Pumping Efficiency Program

The EPA selected the Center for Irrigation Technology at California State University, Fresno, for a \$50,000 grant to provide low-cost pump efficiency tests; retrofit research; and incentive rebates for retrofit and repair of six inefficient agricultural pumps in the San Joaquin Valley. The project will reduce nitrogen oxide (NO_x) by an estimated 19.8 tons annually.

Milk to Methane

The EPA selected Western United Resource Development, Inc. to receive a \$400,000 grant to demonstrate the feasibility of converting dairy lagoon waste into natural gas for their delivery trucks.

Biodiesel from Fuel Crops in Hawaii

The EPA selected Honolulu Clean Cities to receive \$100,000 to demonstrate the feasibility of growing biofuels feedstock on underutilized agriculture land.

Direct Seed No Till

The EPA selected the Upper Columbia Resource Conservation District to receive a \$100,000 grant with support from USDA NRCS to provide incentives to farmers to use direct seed/no till practices in Washington State. Direct seed/no till substantially reduces the number of passes needed to farm a crop, thus reducing fuel use and emissions.

Agriculture Farm Equipment Retrofits

The EPA selected the Idaho Department of Environmental Quality to receive a total of \$200,000 to demonstrate retrofit technologies on farming equipment in Idaho's Treasure Valley.

Bio49

The EPA selected the Northwest Energy Technology Center to receive \$70,000 to work with Puget Sound Energy and BC Hydro to use locally produced biodiesel in the utility trucks that operate along the US/Canada border.

Trucking and Locomotive (Freight Movement)

Implementing the SmartWay Package on the I-5 Corridor from Mexico to Canada

The EPA selected Cascade Sierra Solutions to receive a \$200,000 grant to work with trucking owner operators and fleet owners to provide innovative financing to put SmartWay technologies on long haul trucks that operate along the I-5 corridor. (leverage: \$10,000,000)

Oregon On-Board Truck Electrification Project

The EPA selected the Oregon Department of Energy to receive a \$100,000 grant to provide incentives to long haul truckers to add onboard equipment that would allow them to plug at truck stops to supply power for quality of life and operational needs. (leverage: \$120,000)

Everybody Wins

The EPA SmartWay program selected Lane Regional Air Pollution Authority to receive a \$500,000 grant to provide incentives to long haul truckers operating in Oregon and along the I-5 corridor to put on SmartWay idle reduction and fuel use improvement technologies.

I-5 Corridor Truck Stop Electrification Program

The EPA SmartWay program selected recipients in Washington, Oregon and California to receive a total of \$400,000 to put in electrified truck spaces along the I-5 Corridor.

San Diego-Tijuana Diesel Emissions Reduction Demonstration Project

The EPA selected the San Diego County Air Pollution Control District for a \$224,000 grant to evaluate the costs and effectiveness of emission control retrofit technologies on Mexican heavy-duty diesel vehicles operating in the San Diego County-Tijuana border region.

The implementation phase of this study consists in retrofitting approximately 50 Mexico-domiciled heavy-duty diesel trucks operating in the border region with diesel oxidation catalysts and crankcase filtration system to demonstrate their viability under Mexican operating conditions.

NW Hybrid Electric Medium and Heavy Duty Engine Program

The EPA selected King County to receive a \$250,000 grant to work with their municipalities to offset the cost of purchasing ultra-clean new Hybrid Electric medium and heavy duty engines for their public fleets. (leverage: \$2,533,000)

San Joaquin Valley Locomotive Idle Reduction Project

The EPA selected San Joaquin Valley Unified Air Pollution Control District to receive a \$75,000 grant to support a partnership with the Burlington Northern & Santa Fe Railway Company (BNSF), and the Union Pacific Railroad (UP) to install anti-idling technology on ten switcher locomotives in the San Joaquin Valley.

Locomotive Idle Reduction Demonstration Project

The EPA SmartWay program selected Southwest Washington Clean Air Agency to receive a \$85,000 grant to demonstrate the effectiveness of

Auxiliary Power Units and automatic shut down/start up technologies on switcher locomotives in Vancouver Washington.

Hospital Clean Diesel Zones Project

The EPA selected Oregon Health and Science University to receive a \$250,000 grant to support the Hospital Clean Diesel Zones Project. The project will be implemented with \$30,719 in leveraged funds from Oregon Health and Science University and the Oregon Department of Environmental Quality. OHSU, Providence Health Systems, Legacy Health Systems, Kaiser Permanente, ODEQ and other partners will equip 51 vehicles or pieces of equipment with emissions-reducing technology which is expected to reduce annual emissions of particulate matter from participating vehicles or pieces of equipment by approximately 70 percent.

Construction

California DOT Construction Equipment Retrofit Project

The EPA through the West Coast Collaborative selected California DOT to receive a \$280,000 grant that leveraged over \$150,000 to adapt and install passive diesel particulate filters on off road construction vehicles

City of Fresno Construction Equipment Retrofit Program

The EPA through the West Coast Collaborative selected the City of Fresno to receive a \$110,000 grant that leveraged over \$40,000 in partner funding to put diesel exhaust aftertreatment technologies on city owned off road construction equipment.

LA POTW Non Road Equipment Retrofit Program

The EPA through the West Coast Collaborative selected the Los Angeles Department of Public Works to receive a \$160,000 grant that leverages over \$130,000 in partner funding to retrofit LA POTW off road diesel powered construction equipment with emissions reducing after-treatment technologies.

Central Oregon Clean Fuels for Off Road Equipment Program

The EPA selected the Lane Regional Air Protection Agency to receive a \$80,000 grant leveraging over \$120,000 in partner funding to support early use of cleaner ultra low sulphur diesel and biodiesel in off road equipment in central Oregon.

Oregon Construction Equipment Retrofit Project

The EPA selected the Oregon-Columbia Chapter of Associated General Contractors to receive a \$120,000 to demonstrate the effectiveness of retrofitting construction equipment being used for interstate highway projects with cleaner after-treatment technologies and fuels.

Hawaii Off-Road Clean Technologies Project

The EPA selected the American Lung Association of Hawaii to receive a \$135,000 grant that has leveraged almost \$600,000 in partner funding to demonstrate and apply clean retrofit technologies and fuels on heavy duty off road engines in Hawaii.

Clean School Bus USA Program

The EPA through the Clean School Bus USA program has been able to support 23 projects with over \$5,200,000 in total funding in western states that are putting cleaner emissions control technologies and fuels on school buses