



## WEST COAST COLLABORATIVE

Public-private partnership to reduce diesel emissions

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

# Construction Equipment Retrofit Demonstration Project

The West Coast Collaborative is pleased to announce \$211,000 in Environmental Protection Agency funding and \$774,000 in matching funds from Collaborative partners for the Construction Equipment Retrofit Demonstration Project.

## What is the Construction Equipment Retrofit Demonstration Project?

The Construction Equipment Retrofit Demonstration Project is a joint effort of the Collaborative, the Sacramento Metropolitan Air Quality Management District (SMAQMD), and Cleaire Advanced Emission Controls (a division of Cummins West, Inc.). An Environmental Protection Agency (EPA) grant of \$211,000, with \$774,000 in matching funds from Collaborative partners, will retrofit five pieces of heavy construction equipment with emissions-reducing technology and then evaluate the viability of the retrofit technologies to reduce diesel particulate matter (PM) and, to the extent feasible, nitrogen oxides (NOx), hydrocarbons (HC) and carbon monoxide (CO) emissions.

## Why is this project important?

Each day in the Sacramento Valley Region, diesel engines in construction equipment emit nearly 1.4 tons of PM and 23 tons of NOx emissions.<sup>1</sup> The California Air Resources Board (CARB) estimates that diesel exhaust is responsible for 70 percent of the state's risk of cancer from airborne toxics.<sup>2</sup>

<sup>1</sup> EPA Calculation based on percentages found in the California Air Resources Board 2004 Estimated Annual Average Emissions: <http://www.arb.ca.gov/aqd/almanac/almanac.htm>

<sup>2</sup> Union of Concerned Scientists. (July 2005). "Cleaner Construction Equipment for California: A Blueprint for Healthier Communities." p. 5.

California's construction sector (which includes mining) is the single largest source of diesel PM in the state, accounting for nearly 30 percent of diesel PM emissions.<sup>3</sup> Particulate matter (PM) is the microscopic soot emitted by diesel engines. Recent long-term studies of children's health conducted in California have demonstrated that particle pollution may significantly reduce lung function growth in children. Public health authorities associate exposure to PM with an increased risk of premature death, greater number of hospital admissions for heart and lung disease, and amplified adverse respiratory symptoms such as asthma. CARB has declared diesel PM to be a toxic air contaminant and considers diesel PM to be one of the most significant components of cancer risk in the state.<sup>4</sup>

Nitrogen oxides are major contributor to ozone formation ("smog") affecting human health and the natural environment. The Sacramento region currently violates EPA's National Ambient Air Quality Standards (NAAQS) for ozone. Recent studies reveal how elevated ozone levels are linked to the onset of asthma in exercising children; and ozone can damage the respiratory tract, causing inflammation and irritation, and induce symptoms such as coughing, chest tightness, shortness of breath, and worsening of asthma symptoms.<sup>5</sup> According to the 2003 California Health Interview Survey, 16.6 per cent of Sacramento County residents (1 year and older) have been diagnosed with asthma compared to a statewide rate of 13 per cent.<sup>6</sup> Nitrogen oxides also exacerbate global climate change.

## What are the estimated environmental benefits of this project?

This project will add emission control devices to five pieces of construction equipment to reduce annual diesel emissions by:

- More than an 85 percent for PM;
- Up to 25 percent for NOx; and
- Up to 90 percent for CO.

<sup>3</sup>Union of Concerned Scientists. (July 2005). "Cleaner Construction Equipment for California: A Blueprint for Healthier Communities." p. 5.

<sup>4</sup> ibid

<sup>5</sup> American Lung Association of California and Cal-EPA Air Resources Board. (January 2004). "Recent Research Findings: Health Effects of Particulate Matter and Ozone Air Pollution." Website accessed July 2005:

<http://www.arb.ca.gov/research/health/fs/PM-03fs.pdf>

<sup>6</sup> UCLA Center for Health Policy Research, the California Department of Health Services, and the Public Health Institute. "2003 California Health Interview Survey." Website accessed July 2005, available at: [www.askchis.org](http://www.askchis.org)

## How is this project funded?

The West Coast Collaborative is providing the following support:

- \$211,000 from EPA;
- \$760,000 from Cummins West, Inc.; and
- \$14,000 from SMAQMD.

## Who are the Sacramento Metropolitan Air Quality Management District and Cummins West?

The Sacramento Metropolitan Air Quality Management District (SMAQMD) works cooperatively to coordinate the efforts of local, state and federal government agencies, the business community, and private citizens to achieve and maintain healthy air quality for Sacramento.

Cummins West, Inc., is the Northern California and Hawaii distributor for Cummins engine products, Komatsu heavy equipment and Cleaire emission control technologies. Cummins West, Inc. has

been in business in Northern California for over 70 years and has facilities in Arcata, Redding, San Leandro, Sacramento, Stockton, Fresno, Bakersfield and Kapolei (Honolulu) Hawaii.

## What is the Collaborative?

The West Coast Collaborative is an ambitious partnership between leaders from federal, state, and local government, the private sector, and environmental groups in California, Oregon, Washington, Idaho, Arizona, Alaska, Canada and Mexico committed to reducing diesel emissions along the West Coast. The Collaborative is part of the National Clean Diesel Campaign.

## How can I find out more about the Collaborative?

For more information about the West Coast Collaborative, please contact Peter Murchie ([murchie.peter@epa.gov](mailto:murchie.peter@epa.gov), 503-326-6554) or visit our website at [www.westcoastcollaborative.org](http://www.westcoastcollaborative.org).