



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.

Eastern Washington Farmers Diesel Emissions Reductions Program

What is the Eastern Washington Farmers Diesel Emissions Reductions Program?

The Eastern Washington Farmers Diesel Emissions Reductions Program will encourage approximately 13-50 Eastern Washington farmers in Asotin, Columbia, Garfield, Spokane, Walla Walla and Whitman counties to convert over 16,000 acres from conventional tillage practices to no-till/direct seeding practices. This project will offer cash incentives to farmers who make the switch, reducing the risk of converting to this crop practice. By switching to no-till/direct seeding, these farmers will dramatically reduce the diesel emissions associated with multiple operations prior to conventional seeding. The reduced diesel fuel in turn reduces atmospheric pollutants NOx, SOx, CO, particulate matter (PM), and volatile organic matter (VOM). These environmental benefits will affect the entire Eastern Washington area by decreasing air pollution.

Why is this project important?

No-till/direct seeding technology is not being used to its full potential in Eastern Washington. Currently, only about 10 percent of farmers use no-till/direct seeding, compared with 50 percent of farmers in the Midwest. Rising diesel fuel costs have left many farmers searching for ways to reduce these fuel costs. These farmers are an essential part of Washington's overall economy, contributing over \$550 million to the state's economy. This demonstration project will educate these farms about the financial and environmental benefits of no-till/direct-seeding, and will result in 56,669 gallons of diesel fuel reduced per year.

By burning less fuel, this project will reduce emissions of particulate matter (PM) and nitrogen oxides (NOx) and other air pollutants.

In children, air pollutants like particulate matter (PM) and nitrogen oxides (NOx) have been linked with asthma and bronchitis, and high levels of the pollutants have been associated with increased school absenteeism and emergency room visits.¹

PM is the microscopic soot emitted by diesel engines. 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. Long-term exposure to diesel exhaust may also pose a lung cancer hazard to humans. Recent studies of children's health conducted in California have demonstrated that particle pollution may significantly reduce lung function growth in children because particulate matter becomes embedded in the deepest recesses of the lung where it can disrupt cellular processes.²

NOx are a major contributor to ozone formation (a precursor to smog) which affects human health and damages crops and the natural environment. NOx also exacerbate global climate change through their contribution to "greenhouse gases." Other 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.³

What are the estimated environmental benefits of this project?

The project expects to result in savings of approximately 56,660 gallons of #2 diesel fuel on the 25,000 square acres per year and therefore drastically cuts the resulting NOx, CO, SOx, PM, and volatile organic matter that would have been emitted.

¹ Bailey, Diane. Plenys, Thomas. Solomon, Gina. Campbell, Todd R., Ruderman Feuer, Gail. Masters, Julie and Tonkonogy, Bella. (March 2004). "Harboring Pollution: the Dirty Truth about U.S. Ports." Natural Resources Defense Council. p. 3.

² 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>

³ *ibid*

- Nitrogen oxide (NOx) emissions reduced per year: 100.38 tons
- Carbon monoxide (CO) reduced per year: 21.63 tons
- Oxides of sulfur (SOx) emissions reduced per year: 6.64 tons
- Particulate matter (PM) reduced per year: 7.12 tons
- Volatile organic matter (VOM) reduced per year: 8.14 tons

How is this project funded?

The West Coast Collaborative is providing the following support:

- \$100,000 from EPA;
- \$400,000 from Agricultural sector in the Upper Columbia region of Washington state

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 committed to reducing diesel emissions

along the West Coast. Partners come from all over Western North America, including California, Oregon, Washington, Alaska, Arizona, Idaho, Nevada, Hawaii, Canada and Mexico. The Collaborative is part of the National Clean Diesel Campaign (www.epa.gov/cleandiesel).

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, 503-326-6554) or visit our website at www.westcoastcollaborative.org.

¹ 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>

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