



Oregon
Environmental
Council
It's Your Oregon

Clean Construction

Staying competitive through clean construction equipment and practices



Because of concerns about the health impacts of diesel exhaust, developers and state and local agencies are interested in contracting with construction companies that have taken steps to reduce emissions, such as retrofitting their equipment and using biodiesel. Reducing your construction equipment's diesel emissions can help you stay competitive and be ready for future bid requirements

Exposure to diesel exhaust can harm your workers' health, meaning increased health care costs and lost work days. Nationally, diesel-related lost productivity and health costs total \$139 billion dollars a year. For chronic diseases, including those triggered by diesel emissions, nearly 80% of the economic impact is from lost pro-

Five ways to reduce emissions

Use cleaner fuels. Biodiesel is widely available and a cost-effective way to reduce harmful on-site emissions.

Don't idle. Adopt an anti-idling policy that saves money in maintenance costs and fuel. For an average vehicle, an hour of wasted idle time per day costs \$360-\$720 of fuel per year.

Retrofit your engines. Significantly reduce emissions with proven retrofit technology (see reverse for details).

Perform regular maintenance. Simple maintenance improves engine life and efficiency and can prevent future equipment failure.

Repower an old engine. Improve performance and extend the life of older equipment by upgrading to newer engines.

Financial assistance

In 2007, the Oregon Legislature established a Clean Diesel Fund to provide grants, loans and tax credits to retrofit, rebuild or replace older diesel engines. These incentives are available to all private and public entities that own and operate equipment with diesel engines.

Retrofit and repower projects starting January 1, 2008 may be eligible for tax credits covering 25-50% of parts and costs of installation. Firms interested learning more about these tax credits and in receiving additional financial assistance to retrofit their equipment are encouraged to contact Kevin Downing at the Oregon Department of Environmental Quality.

What's biodiesel?

Biodiesel is an American-grown, renewable fuel made from new or recycled vegetable oils and animal fats. It can be blended with petroleum diesel in any combination or burned in its pure form. B20, which is 20% biodiesel and 80% petroleum diesel, is the most common blend. Biodiesel costs an average of \$0.08 more per gallon (sometimes less) and can be used in existing diesel engines with little or no mechanical modification.

To find biodiesel near your worksite, visit:
www.cwcleancities.org/locator.php



Diesel exhaust and health: why we need to act

The EPA considers a cancer risk factor of one in a million to be an “acceptable” level. The Clean Air Task Force estimates that the average national risk of developing lung cancer due to diesel emissions is 363 in a million. Based on this same risk factor, the risk in Multnomah County is almost double that, at 687 in a million, or one in every 1,456 people.

Individuals who operate or work around diesel engines are among the groups with the highest diesel exhaust exposure, making them even more at risk for developing lung cancer or other associated ailments like upper respiratory illnesses, allergies, asthma, and heart disorders.

As construction equipment is the leading source of diesel emissions in the Portland area, governments and community leaders are seeking ways to reduce these emissions. Proactive measures taken now to clean up your diesel equipment are a wise investment to anticipate regulations and large bulk expenses in the future.

Retrofit devices

The following two retrofit options are most common:

Diesel particulate filters have the greatest emissions reduction impact by collecting particulate matter and oxidizing it into less harmful components. These work best on engines built after 1995, require the use of ultra-low sulfur diesel, and range in cost between \$8,000 and \$15,000.

Diesel oxidation catalysts can be installed on almost any engine and act much like a catalytic converter in a car to reduce particulate matter by 20-30%. These devices cost between \$1,000 and \$3,000.

Oregon tax credits can currently be applied to 35% of the costs of retrofit devices and installation. In 2008, tax credits will increase to up to 50% of retrofit expenses. Improving your equipments’ emission controls can also increase their capital resale value.

EPA’s Verified Technology List makes it easy to select a device that qualifies for a tax credit: see www.epa.gov/otaq/retrofit/nonroad-list.htm.

Biodiesel’s proven record:

EarthWise Excavation

Earthwise Excavation has used several biodiesel blends in construction equipment for years, currently operating their machines on B100 and B80 in



the winter. Due to the switch, Earthwise employees no longer experience the dull headaches often associated with daily exposure to diesel exhaust, which has led to a decrease in employee turnover. No related mechanical breakdowns or loss in horsepower have been reported.

RESOURCES

www.westcoastdiesel.org
www.epa.gov/cleandiesel
www.deq.state.or.us/aq/diesel

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