

# SAVING ENERGY, THE ENVIRONMENT, AND A GOOD NIGHT'S REST—OREGON'S APPROACH TO TRUCK IDLING

BY KEVIN DOWNING

**T**RUCKING IS AN IMPORTANT part of America's economy, as any trucker will tell you that everything you have was brought to you by truck. They'll also tell you that life on the road, supplying that demand, can be hard. Many drivers are away from home for weeks at a time. The margins are slim and it isn't possible for these truckers to spend the night in motels. So they rest in their trucks. Sleeper compartments have come a long way in the past several years, offering a number of amenities like televisions, VCRs, and refrigerators. But it takes power to run this technology, and that requires idling of the truck's engine. This becomes an issue for the driver, the truck owner, and the community at large, as well as environmental agencies. This is a story about how Oregonians have come to address this problem.

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## The Impacts of Truck Idling

With up to a million trucks across the country each idling almost 2,000 hours a year, the impacts can be rather sizeable. Long duration idling by trucks is estimated to consume approximately 960 million gallons of diesel fuel every year, costing truck operators over \$1.4 billion in fuel and an additional \$300 million for wear and tear on the engines. The diesel fuel consumed by truck idling during rest periods represents about one percent of the petroleum imported into the United States and five percent of the fuel used by heavy trucks altogether. All of that idling also results in significant air pol-

lution impacts: 180,000 tons of nitrogen oxides (NOx), 5,000 tons of particulate matter (PM), and 11 million tons of carbon dioxide (CO<sub>2</sub>) emitted each year.

NOx emissions contribute to ozone creation, which remains a challenge in many parts of the country, but it is the latter two pollutants that have attracted increasing attention in the last few years. Diesel particulate is identified as a probable or likely human carcinogen by a number of international, federal, and state environ-



mental and public health agencies. Many states, including Oregon, have posited that diesel particulate accounts for the greatest risk for cancer in breathing the outdoor air, in some cases by an order of magnitude greater than the next air toxic in the ranking. CO<sub>2</sub> is identified as the most significant anthropogenic climate change agent, although carbon soot, which comprises a large portion of the particulates found in diesel exhaust, has also been put forward as another important global warming influence. It is the combination of these public health and environmental impacts from idling diesel trucks that enabled various players in private, public, and nonprofit sectors in Oregon to take advantage of currently existing programs and incentives to produce an effective and comprehensive response to this problem.

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Initially, long duration idling was identified as an issue of interest under the West Coast Governors' Climate Change Initiative. Launched by the Governors of Washington, Oregon, and California in September 2003, the goal of the initiative was to devise a regional approach to global warming. The recommendation on idling was to develop a string of "electrified" truck stops along the Interstate 5 corridor. This is a technique that provides for infrastructure changes at truck stops

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that allow drivers' comfort needs to be met more efficiently with fewer environmental impacts. It would rely upon privately owned truck stops to refit their facilities to incorporate these technologies into their operations. How that was to be accomplished was left to the states.

## Oregon's Approach to the Problem

The health impact of exposure to diesel exhaust has been an issue of interest to the Oregon Department of Environmental Quality (ODEQ). ODEQ's diesel program, known as the Oregon Clean Diesel Initiative, relied primarily on promoting retrofitting exhaust controls on existing engines and using cleaner grades of diesel fuel. However, it also became clear that reducing emissions during trucker rest periods could prove to be another viable strategy. As clear as it may be to most observers that reducing truck idling is a good idea with benefits for all parties, for the participants directly involved there remained a number of barrier issues that resembled the old chicken-and-egg phenomenon. Truck stop operators were reluctant to in-

stall units on their sites if they didn't see a demand for the service, truckers weren't able to demand a service they couldn't see in the marketplace, and technology providers found it difficult to overcome the risk to put new technology in place.

Seeing an opportunity to move this project idea forward, Stephanie Hallock, director of the ODEQ, petitioned Governor Ted Kulongoski, a former trucker himself, to convene an Oregon Solutions team to address the problem. Oregon Solutions, a program in place since 2001, promotes a new style of community governance, one based on the principles of collaboration, integration, and sustainability. It is intended to create a place to come together and reach community agreement on solving specific problems important to Oregonians.

The team for this project—representing truck companies; truck stop operators; electricity providers; technology vendors; and economic development, energy and environmental agencies—was able to develop a consensus around the concept of truck stop electrification. While recognizing that idling trucks can be found at locations other than truck stops, the team chose to focus on truck stop electrification in part because the target was more focused: 5,700 commercial truck parking spaces in the state versus 290,000 long haul trucks licensed to operate in Oregon. However, that doesn't mean that the latter aspect of truck idling isn't addressed in Oregon. More on that shortly.

The team worked to develop a project plan supporting a grant application to EPA's SmartWay Transport program for Oregon State University and The Climate Trust to administer a project that would "electrify" at least 600 commercial truck parking spaces primarily along the I-5 corridor. Financing for the project comes from a variety of sources. Oregon's Business Energy Tax Credit Program, administered by the Oregon Department of Energy, will provide \$2.3 million in credits, and the State Low Interest Energy Loan Program will provide \$1.4 million in loans. The idling technology providers are expected to provide a matching con-

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tribution valued at \$1.6 million, and The Climate Trust will commit \$2 million. The Climate Trust derives its funds from implementing Oregon's innovative CO<sub>2</sub> standard, the first state-mandated regulation of greenhouse gases, passed by the Legislature in 1997. This standard requires new power plants to offset a significant portion of their CO<sub>2</sub> emissions. A plant developer may choose to meet part or all of its reduction target by paying mitigation funds to The Climate Trust, which in turn must use the funds to carry out projects that avoid, sequester, or displace the CO<sub>2</sub> the plant will emit in excess of the standard. The project sites are not necessarily limited to Oregon. The Climate Trust at the same time also committed \$200,000 to support truck stop projects in Washington State.

In January 2005 The Climate Trust published a request for proposals for projects to be funded under this financing package. The solicitation period was still open as this article went to press. Although the overall project costs—about \$7 million—are significant, the benefits are tremendous. When completed, the project will result in the following annual savings:

- ❖ 3.1 million gallons of diesel fuel;
- ❖ \$1.8 million to truck drivers and trucking companies in avoided fuel costs and reduced engine wear;
- ❖ \$6.6 million in avoided public health costs;
- ❖ more than 900 tons of carbon monoxide, hydrocarbon, PM, and NO<sub>x</sub>; and
- ❖ 33,000 tons of CO<sub>2</sub>.

## Idling Outside Truck Stops

As noted earlier, trucks will still idle for long periods of time at other locations like public rest areas, "wide spots" in the road, and distribution centers. Emissions from idling at these places can still be significant and are not addressed by an effort that focuses only on truck stops. There are technological solutions like providing auxiliary power units, onboard cabin heaters, and battery powered systems that can answer the

driver's need for comfort, but again, these face many of the same challenges preventing widespread truck stop idling solutions.

Stepping up to this challenge is the Lane Regional Air Pollution Authority (LRAPA) based in Eugene, Oregon. Its program, known as "Everybody Wins," takes advantage of the state's Business Energy Tax Credit and the Low Interest Energy Loan Program to underwrite a purchase/lease program for these onboard truck idle reduction systems. Promoted on placemats used at truck stops across the state, the program is designed to overcome the capital cost barrier that truckers face in making this kind of investment by allowing them to effectively make their payments from the resulting savings in fuel costs. LRAPA also organized installation training at a local community college, recruited local truck repair facilities to become trained and certified to complete these installations, and provided hospitality packages to truckers staying over while their rigs were refitted with this technology.

Both the truck stop electrification effort and the LRAPA program reflect the creativity and enterprise of people coming together from the public and private sectors to solve significant challenges. As a result, it will soon be possible to tell truckers that when they come to Oregon, they can help the environment and get a good night's rest.

*Kevin Downing is clean diesel program coordinator with the Oregon Department of Environmental Quality. For more information on the West Coast Governors' Climate Change Initiative, see [http://www.energy.ca.gov/global\\_climate\\_change/west-coastgov/](http://www.energy.ca.gov/global_climate_change/west-coastgov/). For information on Oregon Solutions, see <http://www.orsolutions.org/>. For information on The Climate Trust and the truck stop electrification solicitation, see <http://www.climatestrust.org/truckstopREP.html>. For information about the Business Energy Tax Credit and Low Interest Energy Loan Program, see <http://egov.oregon.gov/ENERGY/CONS/BUS/bushome.shtml>. For information on LRAPA's "Everybody Wins" project, see <http://www.apucentral.com/index.php>.*

