

## Freightliner Wind Tunnel Research Facility to streamline truck design

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The Freightliner Group of Portland opened its innovative wind tunnel transportation research facility in April 2004 to improve the aerodynamic design of its trucks. The Oregon Department of Energy provided a Business Energy Tax Credit (BETC) to help support the project, which focuses on improving large-scale fuel consumption of trucks in Oregon.

“As the industry moves toward more efficient truck designs, fuel budget savings will benefit companies and reduce the cost of delivering goods in Oregon,” says ODOE Director Michael Grainey.

The research facility utilizes a state-of-the-art wind tunnel to study the aerodynamics of heavy- and medium-duty vehicles, according to Matt Markstaller, wind tunnel project manager for Freightliner. “Better design will reduce vehicle drag, resulting in fuel efficiency increases of up to 10 to 12 percent or 33 million gallons over a 10-year period, with an associated reduction in exhaust emissions,” says Markstaller. About 12,000 vehicles built by Freightliner companies regularly drive Oregon’s highways. On average, these vehicles use a total of 86 million gallons of diesel each year.

Markstaller worked with ODOE staff to secure a BETC to help finance the research, design and development facility for the company’s heavy vehicle manufacturing arm. The BETC program assists businesses that



Testing shows airflow direction over a Freightliner truck in the new Freightliner Wind Tunnel Research Facility. Photo courtesy of the Oregon Department of Energy.

invest in energy conservation, recycling, renewable energy resources and less-polluting transportation fuels.

Located near Freightliner’s company headquarters on Swan Island, the research facility is the first commer-

cial wind tunnel designed for research on large vehicles in Oregon. According to company officials, the facility may be the first of its kind in North America with a dedicated full-scale wind tunnel.

### Business Energy Tax Credit

Business owners who pay taxes for a business site in Oregon are eligible for a Business Energy Tax Credit (BETC). The tax credit is 35 percent of eligible project costs, either the incremental cost of the system or equipment that’s beyond standard practice. Those with eligible project costs of \$20,000 or less may take the tax credit in one year. For projects over that amount, the credit is taken over five years: 10 percent in the first and second years and 5 percent each year thereafter. If the full tax credit can’t be taken each year, a business owner can carry the unused credit forward up to eight years.

Non-profit organizations or public entities who have no tax liability or business owners who choose can pass their project tax credit eligibility on to a business or individual with a tax liability using the Pass-through Option. This allows for a cash payment in exchange for the tax credit. For more information, see the Department of Energy Web site at [www.energy.state.or.us](http://www.energy.state.or.us).