



Michelle Cooper (left), fleet manager for the Duwamish Corridor in the Puget Sound region, watches as intern Nadira Dossa takes a turn in the driver's seat of one of Boeing's new electric scooters. Approximately 500 electric utility vehicles already are being used in Puget Sound facilities. ED TURNER/BOEING

Environmentally driven

Boeing vehicle fleet aims at reduced emissions of greenhouse gases

By Bill Seil

The engines of innovation are in high gear at Boeing sites throughout the enterprise as vehicles powered by alternative energy sources are reducing the company's use of fossil fuels.

Fleet Support personnel, working with the Environment, Health and Safety organization and Shared Services' Conservation Initiative team, are shifting to vehicles that use fuels that offer environmental benefits such as reduced emissions of carbon dioxide, the main greenhouse gas linked to climate change concerns.

Boeing has committed to reduce greenhouse gas emissions companywide over the next five years, even as its business grows. In this early stage of the vehicle program, electric and biodiesel vehicles are the most easily deployed around the company. In the future, natural gas and hydrogen are likely to grow in use.

NORTHWEST LEADS THE WAY

Boeing's Pacific Northwest sites alone operate about 5,300 vehicles, ranging from forklifts to trucks. That represents about 65

Electric utility vehicles used at Boeing plants can be recharged by pulling an electric cord from the cab and plugging it in to a standard electric outlet. ED TURNER/BOEING

percent of the company's U.S. vehicle fleet, and they consume around 80 percent of all the fuel used by Boeing company vehicles. This high consumption rate has made Northwest fleet managers the natural choice to lead the push to alternative fuels.

Larry Cameron, vehicle maintenance and fleet manager, Fleet Support, said electric utility vehicles, often referred to as "scooters," have been particularly successful replacements. Another alternative to pickup trucks and vans are neighborhood electric vehicles, which can carry loads within a plant. (They can also take loads to other plants within a limited distance; however, they're slower than pickup trucks, with some of the higher-speed vehicles traveling up to 35 mph, or 56 kph.)

About 500 electric utility vehicles are already being used in Boeing's Puget Sound area facilities. Over time, Cameron expects that two-thirds of Puget Sound's nearly 900 pickup trucks can be replaced by these vehicles. This would create significant savings, since the cost of electricity to fuel a utility

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vehicle averages around \$100 per year.

The electric utility vehicles, designed to carry two to four people, are quiet and comfortable. And since they have fewer moving parts, they’re easier to maintain. There are some trade-offs, however. For instance, Cameron said they’re narrower than a pickup. Also, electric vehicles also require inside floor space to park and recharge in Seattle—something that’s not always easy to find in a busy factory.

FOR THE GOOD OF BOEING

While the Northwest region has taken the lead in researching and acquiring alternative fuel vehicles, the change is an enterprisewide effort. Every two weeks, Boeing Fleet Support focals from the Northwest, Southwest, Midwest and East regions hold a teleconference to talk strategy. They began by addressing the challenge at a high level, then examine each site, looking for opportunities.

While vehicle selections vary among regions, the enterprise is benefiting from research and benchmarking being performed by the Northwest team.

The benchmarking covered large corporations, governmental fleets and a major university. Cameron noted that Boeing, compared with the benchmarked companies, has an older fleet: About 38 percent of its vehicles are at least 10 years old, and in the Northwest region, that figure is 55 percent. As Boeing replaces these older vehicles there will be opportunities to shift to alternative fuels.

In addition to benchmarking, the company is exploring market opportunities. Cameron, on average, speaks with two vendors a week. He asks about environmentally friendly vehicles that are currently on the market and new models that will be introduced over the next couple of years. There are a number of attractive options.

Hybrid automobiles are part of this future. Boeing’s Northwest region currently operates approximately 100 sedans, and only a few are hybrids. The goal is to replace the remainder of the fleet with hybrids over the next 10 years.

Boeing also has had success in add-

ing biodiesel to its selections of alternative fuels. The Northwest region is currently using a 10 percent biodiesel blend, and St. Louis and Mesa a 20 percent blend, in their diesel vehicles.

“Introducing biodiesel has been fairly seamless,” Cameron said. “There’s no conversion involved.”

EYES ON NATURAL GAS

In 2009, Cameron plans to devote more attention to compressed natural gas as a fuel source. While supplies of natural gas are plentiful in the United States, there are problems with using it to power company vehicles. First, costly fueling stations would have to be built at company sites. Vehicle fill-ups are also a concern, since they can take two to three hours. Vehicles fueled by natural gas can travel 200 to 300 miles without a fill-up; however, there’s no guarantee you’ll find a fueling station on long-distance trips. Still, Cameron believes natural gas is a fuel that is worth considering: It’s clean, affordable and easily acquired.

In the decades ahead, Cameron believes hydrogen will be a major source of fuel. While hydrogen fuel cells have been available for some time, there is no infrastructure to support hydrogen-powered vehicles. Experts predict it could be 2030 before hydrogen becomes practical as an automotive fuel.

LEAN AND GREEN

The push for more environmentally progressive vehicles is part of Boeing’s strategy—clearly laid out in its 2008 Environment Report, at www.boeing.com/aboutus/environment/environmental_report—to reduce the environmental impact of the company’s operations and of its products and services.

“Fleet operations represent a significant component of our internal environmental footprint and a key opportunity for both environmental and productivity improvements,” said Jeff Nunn, SSG Conservation Initiative program manager. “It’s a great example where doing the right thing to reduce air emissions also adds to the company’s bottom line.”

Indeed, the switch to electric-, biodiesel and natural gas-powered alternatives is estimated to help cut the company’s use of fossil fuels for fleet operations by 20 percent over the next five to eight years; reduce fossil fuel emissions by 18 percent; and reduce maintenance and fuel costs by 15 percent.

The reaction of Boeing employees to alternative fuel vehicles at work also has been positive, Cameron said. A careful selection process has helped ensure employees get the right vehicle for the job.

Cameron has enjoyed the opportunity to participate in the transition to alternative fuels. “Of course, I still like to hear the throaty sound of the V-8 engine in my own car. I haven’t gotten over that yet,” he said. “But when you look at the performance of these new vehicles, it’s just as good as you get from a gasoline-powered engine.” ■

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Many of the diesel trucks in Boeing’s fleet are fueled with a 10 percent biodiesel blend. ED TURNER/BOEING