

UC San Diego Vehicle Fleet One of America's Greenest

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In the seventh annual Government Green Fleet Awards, a competition of environmentally friendly vehicle-fleet operations that is open to all federal, state and local governments in North America, UC San Diego's Fleet Services ranked 22nd and UC Davis' vehicle fleet ranked fourth. The two UC campuses were the only college campuses ranked. The city of San Diego's vehicle fleet ranked 19th.

A panel of judges based the ranking on performance in seven categories:

The degree to which fleets are made up of hybrid, electric, and alternative-fuel vehicles.

Use of renewable fuels.

Planning that includes budgeting for future additions of green technologies.

Use of vehicles that are appropriately sized for the required tasks.

A high degree of utilization of all vehicles in the fleet.

Executive and employee involvement in implementation of improved green technologies.

Support programs such as recycling, applying for grants and maintenance-facility improvements.

"We want to be in the top 10 next year," said Jim Ruby, UC San Diego fleet manager. "As we retire older vehicles, we're replacing many of them with electric, hybrid and compressed natural gas vehicles." Compressed natural gas (CNG) is a cleaner-burning fuel than gasoline, costs less, and since it is found in North America in plentiful supplies, helps to reduce the nation's dependency on fuels from overseas.

"We believe our fleet stood out because of its extensive lineup of electric, hybrid vehicles and biodiesel fuels, and our California-certified Model Pollution Prevention auto repair shop, among other factors," Ruby said.

Melanie Zauscher, a graduate student in the Department of Mechanical and Aerospace Engineering who was eager to help the university reduce its emissions of carbon dioxide, worked with fellow UC San Diego undergraduate and graduate students to help start the university's "Greenline" shuttle.

Zauscher, founder of the UC San Diego student organization Biofuels Action and Awareness Network, helped secure the donation of a diesel engine from Caterpillar, Inc. that runs on B99, or 99 percent biodiesel. The bus, dubbed the Greenline shuttle, began operation in 2009 and now is part of a fleet of 30 additional shuttle buses that burn B20 fuel, a blend of 20 percent biodiesel and 80 percent ultralow-sulfur diesel.

The UC San Diego fleet repair shop uses a parts cleaner that has grease-eating microbes to clean oil and sludge adhering to vehicle parts. The shop also retreads bus tires, saving thousands of gallons of petroleum products that would have been used in new tires.

Fleet Services also uses recycled or re-refined oil in nearly all of its vehicles. Since 2004, UC San Diego has used more than 8,500 gallons of recycled oil that had been re-refined from waste motor oil. Use of such re-refined oil is important because two gallons of waste motor oil can be converted into five quarts of fresh oil for use in vehicles. On the other hand, 84 gallons of crude are required to make five quarts of virgin motor oil.

Alternative transportation programs also scored points in the competition:

Triton Bikes, which lends abandoned bicycles that have been refurbished for free use by on-campus commuters.

Commuter Solutions, a comprehensive UC San Diego program that has helped to reduce single-occupant-vehicle use from 66 percent in 2001 to 44 percent in 2010 by promoting public transportation, carpools, the Zimride route-matching service to promote more carpooling, vanpools and other alternative transportation options.

UC San Diego's many sustainability initiatives, many of which involve student interns and volunteers, have transformed the campus into a living laboratory for sustainable solutions.

UC San Diego Fleet Services manages about 900 vehicles, including:

More than 150 passenger vans and sedans, including 42 Toyota Prius hybrids, 14 Ford Escape hybrid compact sport utility vehicles and one Honda Civic fueled with CNG, a vehicle with one of the cleanest internal combustion engines made.

142 rechargeable neighborhood electric vehicle carts and 153 rechargeable electric utility carts.

Thirty shuttle buses, all of which burn B20 fuel, a blend of 20 percent biodiesel and 80 percent ultralow-sulfur diesel. (The Greenline bus is fueled with B99, or 99 percent biodiesel.) Since 2005, the campus has used over 700,000 gallons of biodiesel, reducing its net emissions of carbon dioxide by more than 2.2 million pounds. Campus diesel-burning vehicles also are equipped with high-efficiency particulate traps that reduce the emission of this class of toxic air contaminants by 86 percent.

13 CNG service vehicles, including two delivery trucks and two street sweepers, three sedans, three pick-up trucks and three buses.

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