

AC Transit to test cleaner-burning fuels

Alternative-energy project pairs East Bay bus company with Chevron

By George Avalos
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Diesel fuels derived from soybeans and natural gas will propel a number of East Bay buses through a test that Chevron Corp. and AC Transit are jointly conducting.

The energy giant and the transit agency want to find out whether the cleaner-burning fuels could be a viable alternative that might replace conventional diesel.

San Ramon-based Chevron said the test is just part of a multipronged quest it has undertaken to harvest new sources of alternative and renewable energy.

"There is a gap between energy demand and energy supplies," said Shariq Yosufzai, president of global marketing for Chevron. "Our job is to fill that gap."

AC Transit is attempting to determine what other fuels it can use instead of the time-worn diesel that now goes in the tank for the vast majority of its buses. Plus, the agency figures its actions can bolster the environment.

"We think we are world leaders in adopting alternative energy programs," said Jaimie Levin, an AC Transit official. "We want to develop a more sustainable footprint."

To accomplish this, the transit agency also seeks fuels that will bolster its overall operations and service.

"When we use a clean fuel, we need to know what it does for our emissions, what is the impact on engine performance and how reliable it is," said Levin, the agency's director of marketing and alternative fuels policy. The program is scheduled to be formally unveiled before the end of October.

AC Transit turned to Chevron because of the need to determine alternative fuels' reliability and effectiveness.



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AN AC TRANSIT bus pulls up to a fueling station in Oakland that pumps the new soybean-based biofuels Chevron is supplying for 18 of the agency's vehicles.

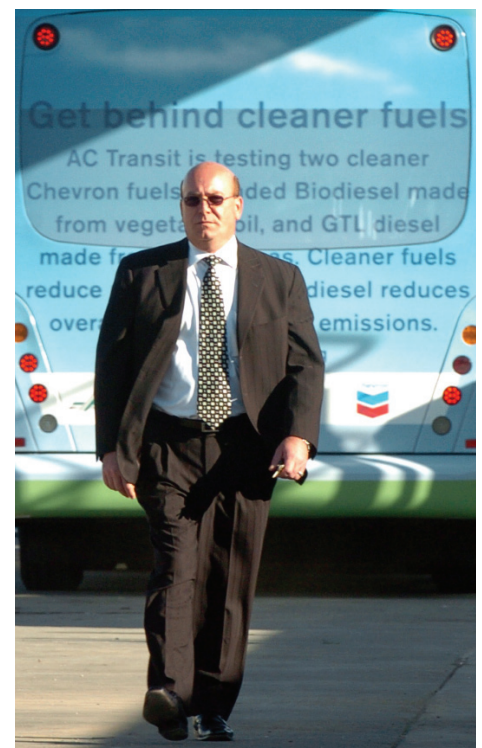
"We have the assurance of working with a large company like Chevron that has a great reputation," Levin said. "Chevron has stepped up in a way we have not seen elsewhere."

Chevron won't specify how much it is spending on the AC Transit test project. But what does seem certain is the company has intensified its efforts to bolster a variety of projects linked to alternative and renewable energy technologies.

Geothermal, hydrogen, biofuels and solar energy are the primary sectors that have caught Chevron's attention.

From 2002 through 2006, Chevron spent \$2 billion, or an average of \$400 million a year, on these alternative and renewable energy initiatives. The company projects that it will spend \$2.5 billion from 2007 to 2009. That's an average of \$833 million a year.

Chevron and AC Transit will test the alternative fuels in 18 buses, said Rajesh Paulose, global product line manager for biofuels. The buses primarily will run along major AC Transit



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RICK FERNANDEZ, AC Transit's general manager, leaves a news conference Sept. 24 in Oakland on the alternative-fuels test project the agency is conducting with Chevron.

routes in the East Bay and on the system's transbay routes across the Bay Bridge.

Both of the fuels involved will use a blend of conventional diesel with an alternative fuel. The soybeans in the biodiesel come from the Midwest, and the natural gas for the synthetic diesel is produced by a Chevron joint venture with a South Africa energy company, Paulose said. About 20 percent of the blend will be an alternative fuel.

Despite the company's efforts, an official with the Sierra Club was skeptical that the biodiesel would be very effective in reducing pollution.

"Biodiesel is in some ways more environmentally friendly because it is not oil, but there are still problems with it," said David Willett, a spokesman for the Sierra Club. "But any kind of biodiesel is actually fairly polluting at the tailpipe. And any kind of diesel has a lot of particulate matter and does contribute to haze and smog."

Chevron officials say it is important to at least begin the research into the potential upside for a variety of biofuels.

"You can sit there and say that this

is only marginally better than regular diesel and say it competes against growing food," Paulose said. "But if you accept all of that and do nothing, you are not going to make any progress."

The company also maintains that the soybean-based biofuel will benefit the environment.

"The bulk of the published literature does indicate that soybean and things such as that are slightly better from a greenhouse gas perspective," Paulose said.

AC Transit and Chevron are already working on an alternative energy project. In 2006, the two organizations unveiled a mini-fleet of buses that were powered by hydrogen fuel supplied by Chevron.

Still, AC Transit's efforts over the years to use buses running on hydrogen fuel cells have encountered more than a few speed bumps. No question, the project demonstrated that the hydrogen fuel works and cuts pollution. But the buses are pretty costly, although the two organizations have figured out how to reduce those

expenses.

The first group of hydrogen-fueled buses cost \$3 million each. The next group cost \$2.2 million each. The most recent batch had a price tag of \$2 million each, Levin said. The problem is a conventional diesel-fueled bus costs \$350,000.

"Hydrogen is a very popular vehicle technology, but there are a lot of challenges to make this commercially viable," Levin said.

Executives at Chevron say the company has little choice but to march ahead with these sorts of initiatives.

"As energy demand in China, India and the United States continues to grow, we need to have the ability to use the entire diversity of fuels," Yosufzai said. "We need to get our hands on every energy molecule that we can."

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