

# Automakers Unleash Electric Experiments On Oregon

Richard Read

PORTLAND, Ore. (AP) — Automakers are racing to unleash electric vehicles in Oregon, one of the nation's first significant test markets for plug-in cars.

The Nissan Leaf, a four-door hatchback with 100-mile range, leads the pack of zero-emission sedans, with a suggested retail price of \$23,780 after tax credits. Oregon customers can reserve theirs starting this month.

The Tesla Roadster, a two-seater sports car, is already here - if you have \$100,000 to spend.

Yet the concept of an electric vehicle is so new, carmakers downplay expectations even as companies rush to install charging stations.

"The challenge is, I can't suddenly decide I'm going to go see my aunt in Spokane," said Moe Durand, a spokesman for Mitsubishi, whose four-door i-MiEV will go 75 miles on a charge. "Japan or Europe are frankly more ideal for this product."

Try telling that to Northwest consumers. A whopping 83 percent of Willamette Valley residents said in a poll last fall that they want Oregon to help lead the nation in pioneering electric vehicles. Many say they'd consider buying an EV, especially as battery range increases and prices fall.

Interest and support for plug-ins transcend politics, says Adam Davis, a partner at polling firm Davis, Hibbitts & Midghall Inc., which surveyed more than 800 Willamette Valley residents in October. The poll, with a margin of error plus or minus 3.5 percentage points, found Oregonians slightly more EV-crazy than residents of Washington's King County, where Davis also characterized support as high.

Oregonians cite a number of reasons to champion electric cars: boosting the state's green reputation; cutting pollution; creating jobs; and reducing gas prices and oil usage.

Skeptics, though, aren't convinced the cars help the environment. All-electrics will certainly reduce pollution if their electricity comes from natural gas, hydroelectric power or renewables such as wind and solar.

But Oregon electric utilities use coal and hydropower to generate about 80 percent of their energy. Coal commands a bigger share at night - just when most EVs are expected to charge. University of California researchers estimate that a fully electric car charged by coal power might emit roughly one-fifth less greenhouse gas than a

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gasoline-powered car, when emissions from manufacturing are included.

George Beard, a Portland State University instructor who has attracted test vehicles to Oregon, sees numerous benefits but wants motorists to experiment with the cars. As part of a pilot project, Beard is lending Toyota RAV4 plug-ins to PSU faculty and staff to see how they deal with the "dreaded range anxiety of only being able to go 100 miles."

Beard, senior instructor at the university's office of research and sponsored projects, is excited that Toyota will soon let him do the same with 10 plug-in Prius demos. The Prius plug-in is a hybrid's hybrid, a gas-powered car with a dedicated battery that can propel the vehicle about 15 miles.

"My wife could drive over to Naito Parkway on one charge, never turn on the engine, never engage the hybrid capacity, never burn oil to get to and from work," said Beard, who lives in Portland's Eastmoreland neighborhood. "Yet if we went to the University of Oregon for a fall football game, we wouldn't have to worry about stopping in Albany to charge for a while."

Charging stations are all-important for electrics, and Oregon is among a handful of states building a network. An Arizona company called eTec will use a federal grant to install free 220-volt charging equipment in homes of the first 900 Leaf buyers in Oregon.

The equipment, worth almost \$2,000 a unit, will take anywhere from six to eight hours to recharge a car battery, much faster than using a 110-volt outlet. Jeanine L'Ecuyer, a spokeswoman for ECOtality, which owns eTec, says you can't just plug a car straight into your 220-volt clothes-dryer socket.

"You need to have this connector to avoid a fire in your home," L'Ecuyer said. "Also you need to have a dedicated circuit, so you're not going to run your hot tub and your car off the same line. We don't want to blow all the circuits in your house all at once."

Charging stations will begin appearing near big-box stores, which may offer the juice to customers for free, as incentive to shop. Powerful "level three" charging stations, capable of replenishing batteries in 15 or 20 minutes, will be located at gas stations.

"The cost will be minimal compared to gasoline," L'Ecuyer said. And Oregon's ban on self-service gas fueling won't apply to charging stations, she said.

Shorepower Technologies of Portland is making charging stations for Portland General Electric Co., whose commercial customers are installing them. The utility is playing a lead role in attracting EV companies to Oregon.

Charlie Allcock, PGE economic development director, has watched during the past year and a half as the number of automakers worldwide planning to make EVs has jumped from a dozen to more than 50. Allcock ponied up the \$99 required to

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reserve a Leaf, which becomes especially attractive as his three children migrate toward college.

"We're talking about a fairly significant reshuffle of the Allcock fleet," he said. "We're going to move on from the minivan."

Oregon continues to be a leader when it comes to the introduction of plug-ins, said Brian Carolin, Nissan sales and marketing senior vice president, during a recent Portland visit.

Carolin disagrees with competitor Mitsubishi's view of Europe and Japan - where the i-MiEV has been selling since last year - as superior markets. The United States has a far higher percentage of multi-vehicle households, making the potential market enormous, he said.

Carolin expects electric vehicles to make up 10 percent of Nissan's global auto sales by 2020. He says the Leaf - which he calls the first mass-market affordable EV - outdoes the gas-supplemented Chevy Volt as a "zero-emission solution."

Leaf customers tend to be homeowners with above-average income and higher education, he said. Carolin predicts EV battery technology will quickly improve to extend vehicle ranges.

"In the main," he said, "Leaf is going to be a second or third vehicle."

Many electric cars won't look that much different from conventional vehicles on the road today. At least one, the Tesla Roadster, appears downright snazzy. The sports car does zero to 60 mph in 3.7 seconds.

Gregory McMurray of Lake Oswego loves the roadster he bought last July. "I don't have the guilt of burning gas and oil," said McMurray, who recalls waiting in gas station lines during 1970s shortages.

McMurray tries not to proselytize, but he enjoys showing his Tesla to Cadillac Escalade owners. "I just try to pass on that the technology's finally arrived," he said. He drove 153 miles the other day, and figures it cost \$3 to recharge the battery.

California-based Tesla will add to its model lineup when it debuts its Model S, a five-passenger luxury sedan, in 2012. It's expected to have a 300-mile range.

Passenger cars hog most of the attention: Carmaker Think, for example, plans to run its City EV in Portland's Rose Festival parade next month. But Allcock says electric trucks may provide the biggest bang.

"The reduction in CO2 emission is big — much, much bigger than a car," Allcock said. "Think of Postal Servicedelivery trucks or FedEx and UPS trucks in the neighborhoods."

Smith Electric Vehicles of Kansas City has a delivery truck on the market now, with

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Ford and Navistar scrambling to catch up. Like Chevrolet, Smith is reluctant to reveal sticker prices.

"Our truck saves about 90 percent in operations cost over diesel," said Ryan Taylor, a sales and marketing manager for Smith, which will bring trucks to Oregon for test driving this summer. "We have about 35 on the road today, and we're booked up for the year to sell around 600."

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