



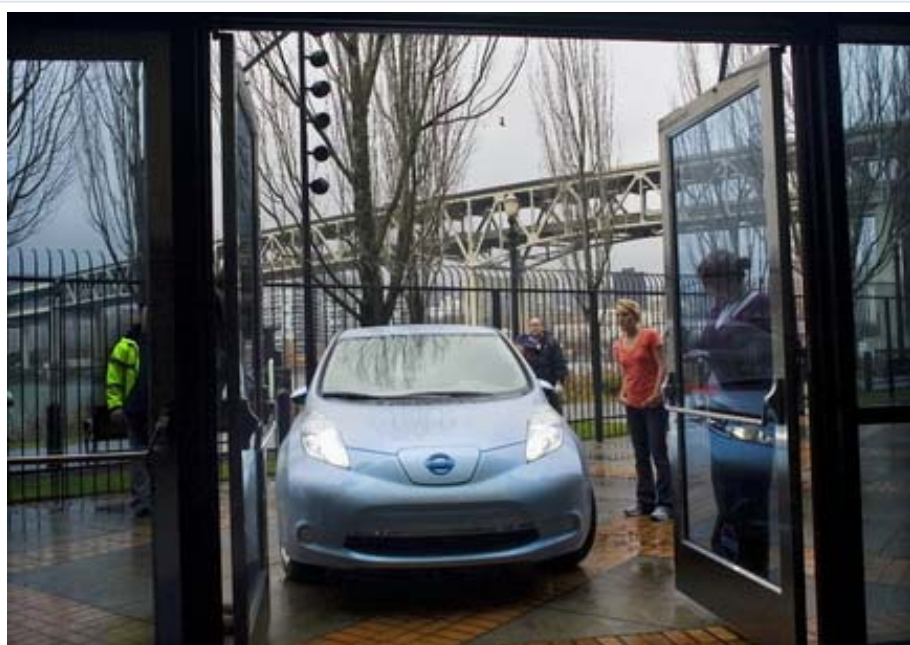
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Everything Oregon

Nissan shows off all-electric car at OMSI

By Ted Sickinger, The Oregonian

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Motoya Nakamura, The Oregonian

Nissan's Leaf, the Japanese manufacturer's all-electric car, came to OMSI on Wednesday for a technology display open to the public Thursday through Sunday. The car is supposed to start arriving at dealerships in 2011.

For those who think electric cars are synonymous with golf carts, those who believe they will perpetually be a decade away, and especially those willing to pay to be on the cutting edge of sustainability, Nissan would like you to consider the Leaf.

Through Sunday, the Japanese auto giant will showcase its all-electric, zero-emissions vehicle at the Oregon Museum of Science and Industry, moving it to Washington Square Mall for a two-day showing next week.

By June 2011, the goal is to have at least 1,000 of them whirring quietly and cleanly around Oregon, which is one of five test markets in a \$100 million study being conducted by Nissan and its charging-station partner, eTec.

At first glance, the Leaf is an attractive, wedge-shaped family sedan; more futuristic-looking than your run-of-the-mill Honda Accord or Toyota Camry, but not a radical departure. Cute? Sure. Airbags, air conditioning, stereo system? Check.

There's even a navigation system capable of directing the driver to the closest public charger.

A quick look under the hood, however, reveals that ... hmmm, there's nothing under the hood.

The Leaf's power plant is a 24-kilowatt-hour battery pack situated under the front and rear

Nissan Leaf

What: An all-electric, zero-emissions vehicle

Where: OMSI, 9:30 a.m. to 5 p.m. today through

Sunday, general admission ticket required; Washington Square Mall on Tuesday and Wednesday

Range: 100 miles on a full charge

Zero to 60: 12 seconds or so

Top speed: 90 mph

Price: \$28,000 to \$35,000

seats. There's a plug receptacle just above the front license plate and a small solar panel embedded in the rear spoiler to power the clock. But that's it.

Availability: For sale in 2011

Motor heads may scoff at the specs: 107 horsepower, 0-to-60 in 12 seconds or so, top speed around 90 mph, and a driving range of 100 miles between charges. But the batteries reportedly deliver plenty of pep off the line. And Mark Perry, a director of product planning and advanced technology at Nissan, says test drivers typically exit the vehicle uttering some version of the same phrase:

"Wow, it's a real car."

Oregon is expected to be fertile ground, both because of its green sensibility and government officials' enthusiastic efforts to court the industry. Portland has the highest per-capita ownership of hybrids in the United States -- a key reason Nissan and eTec chose Oregon as a test market.

In addition to working with Nissan, state representatives have met with Toyota, Mitsubishi, Daimler, BYD and Think in an effort to attract both an early rollout of their products and a potential manufacturing site for vehicles or components.

Portland General Electric, the state's largest utility, has installed 20 charging stations around Portland. That network will grow quickly as the company joins with eTec, which has received a \$100 million grant from the U.S. Department of Energy to study the deployment of a charging-station system. The research design calls for 1,000 vehicles and up to 2,500 charging stations installed in Oregon by mid-2011, including homes, businesses and high-traffic public areas.

The study will start with vehicle deliveries in December 2010 around Portland and then expand to include Salem, Eugene and Corvallis.

Participating individuals and businesses will install a data logger in their car and receive a 220-volt charging station capable of delivering a full charge in eight hours. The public network will consist of up to 1,000 charging stations, as well as 50 quick-chargers capable of delivering an 80 percent refill to the batteries in 26 minutes.

"It's not a test of the car," Perry said. "It's a test of how people actually use the public infrastructure. We'll be collecting hundreds of millions of miles of driving data. We believe 70 to 80 percent of the charging events will happen at home. But we're going to see."

Nissan's goal is to be first-to-market with a zero-emissions vehicle and the first to sell 100,000 cars. On top of the study, the company plans to start regular deliveries of the car in 2011. A \$28,000 to \$35,000 price tag may cause sticker shock, but buyers will be eligible for \$9,000 in federal and state tax credits.

"We see 5,000 to 6,000 units on the road (in Oregon) in the first year," Perry said. "I'd be disappointed if that's all we did."

Perry says the average commuter drives 40 miles per day. The projected cost for a full battery charge, at PGE's current rates, is expected to be less than \$3.

In addition to the charging infrastructure, PGE hopes to glean some insight into how electric cars -- when they are widely deployed -- will affect electricity demand and the operation of its transmission and distribution system.

In utility parlance, electric vehicles should be a complementary load, because consumers are expected to do the bulk of their charging at night, when demand is typically low.

"We're trying to see what works and what consumers really do with this stuff," said Charlie Allcock, PGE's director of economic development.

Eric Tingwall, an associate editor at Automobile Magazine, says consumers should be skeptical of Nissan's zero-emissions claim, as the vehicle consumes electricity generated by burning natural gas and coal.

"People who buy this for environmental attributes need to be aware of where their power comes from," he said. "These aren't the ultimate solution. The next step is hydrogen vehicles."

Perry counters that even in the worst-case scenario, powering the car with solely coal-fired power, the car's emissions are still 60 percent lower than a gasoline engine.

Meanwhile, he said, "the source of all that electricity is going to get cleaner."

-- **Ted Sickinger**

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