

Buzz builds around electric cars as Nissan plans debut

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Japan's Nissan Motor's Leaf electric vehicle during a press conference on the pre-order announcement at the company's global headquarters in Yokohama. As the Gulf of Mexico disaster casts an ugly spotlight on the pitfalls of global oil dependency, Japan's auto giants are moving into high gear in a drive to mass-market electric cars. AFP PHOTO/FILES/Kazuhiro NOGI

As the Gulf of Mexico disaster casts an ugly spotlight on the pitfalls of global oil dependency, Japan's auto giants are moving into high gear in a drive to mass-market electric cars.

Nissan, Honda and Toyota are among car-makers now gambling that [electric vehicles](#) (EVs) with their zero tailpipe emissions will catch on and, some time in the future, start to drive traditional gas-guzzlers off

the road.

If their bet pays off, [green car](#) proponents say, it could ring in a revolution that changes the very idea of what an automobile is, turning cars into electric appliances that drive smoothly, cleanly and silently.

US President Barack Obama called last Tuesday for a "national mission" to develop clean energy, speaking from the White House as gushing crude oil kept fuelling his country's worst environmental catastrophe.

"The tragedy unfolding on our coast is the most painful and powerful reminder yet that the time to embrace a clean energy future is now," he said in a sombre prime-time telecast.

Battery-powered cars will be a crucial part of that future, manufacturers promise, even as critics point to tough hurdles -- including higher sticker prices and 'range anxiety' -- to gaining wide consumer acceptance.

An EV's [energy consumption](#) and [carbon footprint](#) are determined by the way its [battery](#) is charged -- meaning it can effectively be powered by anything from fossil fuel or nuclear plants to hydro, wind or solar energy.

A critical question will be whether sufficiently large networks of electric re-charging stations are built -- a chicken-and-egg question that has long held back the development of EVs, analysts say.

Cars that can be charged like a cellphone by plugging them into a wall socket, preferably during overnight off-peak hours, promise to shield consumers from volatile petrol prices and be cheaper in the long run.

Another benefit is that they emit none of the tailpipe pollutants that have covered the skies over cities from Los Angeles to Mumbai in smog.

Their efficiency is boosted because they are lighter, have motors that directly power wheels, preserving energy otherwise lost in transmission, and because the battery charge is topped up by regenerative braking.

Bullish Nissan, part-owned by Renault of France, will in December roll out its Leaf -- short for Leading Environmentally Friendly, Affordable Family car -- as the world's first mass-produced electric car.

The five-seater hatchback has a top speed above 140 kilometres (90 miles) per hour, a range of 160 kilometres (100 miles) and can be recharged in eight hours, or rapid-charged to 80 percent of capacity in 30 minutes.

"We do believe this car is a game-changer in terms of this technology, and it will play a role in the future," Simon Thomas, Nissan's senior vice president of sales and marketing, said in London last month.

Nissan plans to sell 50,000 EVs in the United States, Japan and Europe per year in 2011 and 2012 and then 500,000 units in 2013. It predicts that by 2020 [electric cars](#) will account for 10 percent of the global auto market.

-- Japan enthusiasts drive electric car 1,000 kilometres --

Although experts foresee revolutionary change, they disagree on the pace.

"This could be a new industrial revolution," said Mamoru Kato, analyst at Tokai Tokyo Research Center. "With EVs, you will no longer need traditional auto parts makers. Carmakers will essentially become electronics makers."

However, he predicted EVs won't really take off for another 10 years.

"I think the hurdle for their popularisation is very high," he told AFP.

"It will take at least a decade to improve batteries so that they can sufficiently power vehicles. After that, it will take more years to build up infrastructure, like battery power stations."

Questions remain about global standards for electric plug-in systems, and about the supply of lithium for batteries and their safe disposal.

Batteries now make up about a half the price of an EV, typically between 10,000 and 20,000 dollars, and a key will be to make them cheaper and last longer, said Tatsuya Mizuno, analyst at Mizuno Credit Advisory.

"Generally, they have to increase performance while cutting prices," he said. "It will be difficult. But prices of electronics parts are falling fast."

Whatever the outlook, other major carmakers, among them General Motors, Ford, BMW and Daimler, plan to start selling EVs by 2013.

At home Nissan will go head-to-head with Mitsubishi Motors which launched its all electric "i-MiEV" compact a year ago.

Toyota, which has for more than a decade sold petrol-electric hybrids such as the Prius, has promised to launch its own electric car by 2012.

Last month it bought a 50-million-dollar stake in Tesla Motors, a Palo Alto, California start-up that in 2004 began developing its Roadster, a boutique, "highway-ready" electric sports car with a range of about 245 miles.

The Silicon Valley firm this year also bought the former NUMMI factory in Fremont, California which until recently made Toyota's

Corolla and Tacoma vehicles, to build its Model S sedan and future Tesla vehicles.

Some industry players may leapfrog to EVs, PriceWaterhouseCooper said in a recent report, pointing to the "changing geography of the automotive industry".

"Chinese automakers, for example, understand it will behoove them to focus on developing electric vehicles rather than committing major resources to catching up on internal combustion engine standards," it said.

In many countries, electric charging networks are now being built.

The company Better Place has built up EV infrastructure in Denmark and Israel where drivers can either recharge or swap batteries, focusing on customers such as government agencies and taxi fleets.

Nissan says it has partnered with 50 groups and communities around the world, from Australia's capital Canberra to parts of England, to introduce EVs with subsidies and benefits such as dedicated highway lanes.

California is shaping up as the US test-bed for EVs, with the government offering rebates and backing a network of more than 5,000 charging stations, set to be up and running by 2012.

Many will be at locations where people spend time -- including restaurants, hotels, malls and churches -- and some major retailers plan to offer electricity for free to attract customers, Dow Jones has reported.

In Japan pilot programmes in tourist spots and by city governments have given many people a taste of driving an EV.

A citizens group, the Japan Electric Vehicle Club, has fuelled the buzz. In May it claimed a new world record when it drove its own EV, fitted with a stack of lithium ion batteries, for 1,003 kilometers (623 miles) on a single charge.

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