

Japanese car makers out to electrify Tokyo show

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Photographers take pictures of the new Japanese Nissan Motor's electric vehicle called "Leaf" during the opening ceremony for the new company headquarters in Yokohama, Kanagawa prefecture, on August 2009.

Move over hybrids -- the biggest buzz at this year's Tokyo Motor Show looks set to come from electric cars as the dream of affordable zero-emission vehicles moves closer to reality.

Japanese automakers, pioneers in [hybrid cars](#) powered by a mixture of petrol and electricity, are now looking to take fuel-efficient motoring to the next level with vehicles that run on rechargeable batteries.

Nissan will put its electric car, the Leaf, on display to the public for the first time at the [Tokyo Motor Show](#), which kicks off on Wednesday with press previews and opens to general visitors on Saturday.

The mid-sized hatchback, which will go on sale in late 2010 in Japan, is billed by Nissan as "the world's first affordable, zero-emission car."

It can travel more than 160 kilometres (100 miles) on a single charge, at a top speed of 140 kilometres per hour.

The world's largest automaker Toyota, which has said it aims to launch an electric vehicle by 2012, will display a new version of its electric concept car -- the FT-EV II -- at the show.

"We think the time is almost ripe for cost levels, batteries and performance to evolve one step further," said Toyota's Akihiro Yanaka, who oversees the project.

Nissan will also show off a futuristic electric concept car that leans to the side when going around bends.

The "Land Glider," just 1.1 metres (3 feet 7 inches) wide, seats two people -- one in the front and one in the back. Inspired by motorbikes and glider aircraft, it has tilting wheels that enable it to lean by up to 17 degrees.

From Honda comes the EV-N, a cute new electric [concept car](#) that can store a one-wheel personal mobility device inside its door.

The dream of an electric car, which has been around since the time of Thomas Edison, has so far failed to break into the mainstream because of the high cost and limited [battery](#) life.

But after technological advances in the development of long-lasting lithium-ion batteries, the dawn of affordable zero-emission automobiles may be approaching.

Nissan says it plans to sell the Leaf at a similar price to a comparable model with a petrol-powered engine.

The battery will be leased separately for a monthly charge that, together with the electricity cost, will be cheaper than gasoline, it says.

The Leaf will not be the first electric car on the market. Mitsubishi Motors recently started selling its "i MiEV" minicar. But at 4.6 million yen (50,600 dollars), for now it is aimed at corporate and government clients.

Subaru meanwhile launched the Plug-in STELLA for about 4.73 million yen but plans to deliver just 170 of the vehicles between late July and next March.

Some experts are sceptical about whether [electric cars](#) can enter the mainstream within the next decade given the lack of recharging stations and the high production costs, particularly in the current economic climate.

Mass recalls of lithium-ion batteries for laptop computers by some makers due to fears of overheating have also stirred safety concerns.

"If you look at the next four or five years, especially for electric cars, the business case is pretty challenging," said Ashvin Chotai, the London-based managing director of Intelligence Automotive Asia, a consultancy firm.

Even by 2020, "it's hard to see how penetration levels of electric cars will increase significantly. There's still a lot of challenges in terms of concerns about the safety of the lithium-ion batteries and reducing costs."

But others see a brighter future for electric cars given growing concerns about global warming, the prospect of a decline in production costs and the fact that many governments are offering subsidies for zero-emission vehicles.

If the price for consumers of an electric car declines below two million yen (22,000 dollars), "then demand will grow dramatically," said Tatsuya Mizuno, director of Mizuno Credit Advisory.

"The biggest cost comes from the rechargeable batteries. I expect the price will decline at a relatively high speed," said Mizuno, who also thinks that safety issues surrounding lithium-ion batteries have now been resolved.

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