

Electric cars rolling out

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Nissan Leaf

(PhysOrg.com) -- Electric vehicles are far from new, but we are still a long way from electric cars being the norm. Now two new electric cars may bring that goal a step closer.

The Nissan Leaf all-electric prototype shown off recently has 107 horsepower and accelerates quickly and silently, reaching up to 90 miles an hour, and offering a 100 mile driving range. It has all the comforts expected in today's cars, including cruise control, air conditioning, stereo sound system, and a [navigation system](#) that points you to the nearest public charging stations.

The Leaf also has a built-in charger with a timer that lets you decide when it is charged. Most owners are expected to charge the 24 kWh battery overnight at their own home. A full recharge will take 16 hours

at voltages available in the US, but public fast-charging stations with [high-voltage](#) plugs will be able to recharge the battery in just 30 minutes.



Toyota Prius plug-in hybrid

Meanwhile Toyota has announced plans to market large numbers of a plug-in Prius hybrid in late 2011. Its range will be much less than the Leaf, at only 14.5 miles, but unlike the Leaf, it is not all-electric, which will be an advantage until charging stations become widespread enough that an all-electric car can go anywhere. Toyota says the hybrid will be extremely economical to run, at 134 mpg. The 5.2 kWh [lithium ion battery](#) pack recharge time will be much faster than for the Leaf.

Charging stations are beginning to appear in the US. Director of Product Planning for Nissan in North America, Mark Perry, points out that 2,500 public charging stations will be built around Seattle, and there will soon be a station within five miles of anywhere in the Puget Sound region. Charging stations will also be built elsewhere in the US in the near future.

Battery technology is also improving, and the ideal battery for electric cars would give the car a long range, while producing minimal waste

when it comes to the end of its life. The [battery](#) in the Nissan Leaf uses LiMn chemistry, and is expected to last 10 years, after which it can be recycled.

Nissan will be taking orders for the Leaf starting in spring, 2010, and the car is expected to retail at around \$32,000. Toyota's plug-in vehicle should be widely available in 2011, probably for under \$30,000, and General Motors will have the Chevy Volt plug-in hybrid available in 2011 at a price tag of about \$40,000. Tesla already has its own electric cars with a 313 mile range, and more affordable cars than the Roadster are planned. Ford and Mitsubishi are also planning to offer electric cars in the near future.

[Electric cars](#) have zero emissions and in the US are eligible for tax credits, which can be as much as \$7,500.

More information: Nissan Leaf website -- www.nissanusa.com/leaf-electric-car/#/car/index

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