

A Roadmap to Vehicle Electrification

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By [Chuck Squatriglia](#), November 16, 2009 | 5:29 pm



The first mass-market electric vehicles are expected in showrooms next year, and a coalition of business leaders has laid out a sweeping plan for the adoption of EVs and the infrastructure to support them.

The [Electrification Roadmap](#) makes the usual arguments for electric cars (reduced emissions, less dependence on foreign oil), lays out the challenges to their adoption and offers some policy proposals for overcoming them. More striking is its bold call for a national goal of seeing EVs account for 75 percent of all light-duty miles driven by 2040. The plan was developed by the Electrification Coalition and the consulting firm PRTM.

“Up to now, electrification seemed like a pipe dream,” said Fred Smith, chairman and CEO of FedEx and a member of the Electrification Coalition announced today. “But we are offering a realistic, practical, achievable plan to build a transportation system that will enhance our national security, propel economic growth and reduce carbon dioxide emissions.”

Many automakers are developing electric vehicles, and the [Chevrolet Volt](#) and [Nissan Leaf](#) are slated for production next year. Nissan CEO Carlos Ghosn is among the auto industry’s most vocal advocates of the technology, but even he has said EVs will comprise no more than 10 percent of the market by 2020.

If the coalition’s goal is to be achieved, one in four vehicles on the road by then will have to be electric.

To reach that target, the coalition — of which Ghosn is a member — says electric and plug-in hybrids must comprise 25 percent of the market by 2020. Reaching that level, [according to Automotive News](#), will require having 14 million cars with cords on the road. That's light years ahead of President Obama's goal of seeing 1 million such vehicles by 2015.

Looking further ahead, 90 percent of all passenger vehicles sold in 2030 must be electric. That will bring us to more than 120 million electric cars. There are currently about 250 million or so vehicles in the United States. So radical a change is necessary, the coalition argues, because the United States already imports more than 65 percent of its petroleum, a situation that is no longer sustainable.

"The risk of sudden and prolonged interruption to steady world oil supplies looms over the U.S. and world economies," the coalition said. Electricity, on the other hand, can be generated in the United States using a variety of sources. Hitting the 2040 target would cut oil consumption in the passenger car fleet from 8.6 million barrels daily to 2 million.

The coalition, which is backed by the likes of Nissan, FedEx, [Coda Automotive](#) and venture capital heavyweights Kleiner Perkins Caufield & Byers, concedes those numbers are "aggressive" and the government will have to provide incentives and other policies to reach them.

"The first electric vehicles will be delivered in 12 months," Ghosn said. "The widespread acceptance of zero emissions cars will require more than the efforts automakers can provide on their own. Public and private collaboration will be the key to mainstream acceptance."

We won't have to see electric cars rolled out nationally; rather, the coalition suggests using government incentives to create "electrification ecosystems" in several major cities. Such cities would be selected based upon their support for the technology, and the public and private sectors would work together to create the infrastructure needed to keep the cars going.

"Introducing all the separate elements, from cars to infrastructure, simultaneously in select communities across the country will move electrification beyond the early adopters," said David Crane, president and CEO of NRG Energy and a member of the coalition.

Even achieving that goal will require getting a lot of electric cars into driveways. Between 50,000 and 100,000 vehicles will have to be deployed in *each* of six or eight cities by 2013 to put the country on pace to reach the coalition's mid- and long-term goals. But the coalition believes the cars will catch on as people see them on the road.

"You'll drive consumer acceptance as they see large-scale penetration in American cities, in these select ecosystems around the country," coalition President Robbie Diamond [told Reuters](#).

The coalition concedes the nation's electrical grid will need significant improvements to supply so large an influx of EVs, but it argues the generation and distribution capacity is in place.

Photo of the Mini E electric vehicle at the 2008 Los Angeles Auto Show: Jim Merithew / Wired.com