



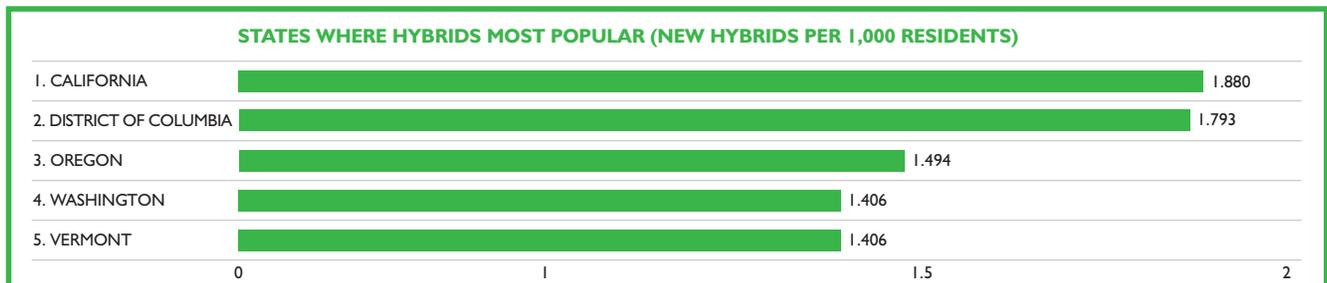
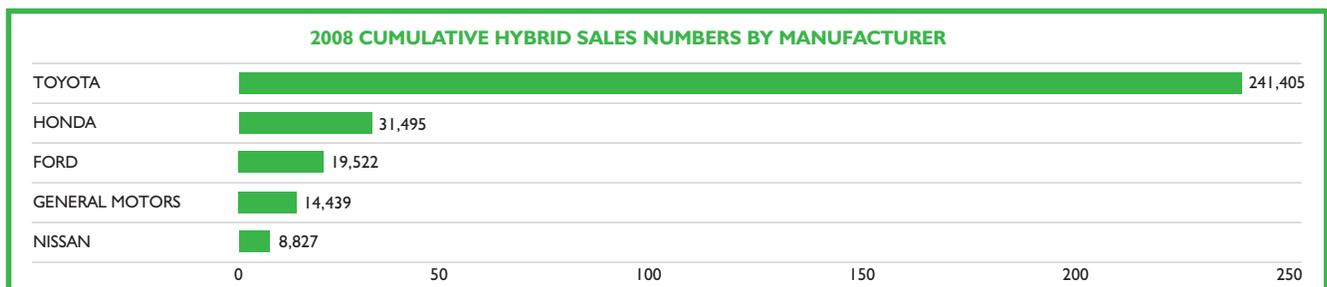
On a Roll: Electric Drive in America

The electrification of transportation is on a roll.

- > Americans now have an unprecedented number of fuel-efficient hybrid vehicles to purchase.
- > The world's largest and most innovative auto manufacturers are planning to rollout a new generation of battery and plug-in hybrid electric vehicles in the coming months and years.
- > With the recent American Recovery and Reinvestment Act, Congress and the Obama Administration have made historic investments to support the growth of the electric drive industry in America, which will help reduce our dependence on foreign oil, create green jobs and lead to a cleaner environment.

Hybrids: From Hype to Hit

- > 1.3 million hybrid vehicles have been sold in the U.S. since 1999.
- > 2.5% of new cars sales sold in 2008 were hybrids. 11% of all Toyota vehicle sales in the U.S. in 2008 were hybrids.
- > 20+ hybrid cars, trucks and sport utility vehicles are available to consumers.
- > New 2009 hybrid models include: Ford Fusion, Mercury Milan, Ford Escape, Honda Insight, Lexus HS250, Mercedes S-Class, Toyota Prius (next generation).
- > 2,000+ hybrid buses are in use in cities including New York, Philadelphia, Minneapolis, Ann Arbor and Washington, providing 25-35% improvement in fuel efficiency and up to a 90% reduction in soot pollutants.
- > Corporations with hybrid fleet vehicles include AT&T, Coca-Cola, FedEx, Wal-Mart, Con Edison, Purolator, Courier, UPS, Verizon, and SC Johnson.



Source: R.L. Polk & Co.



Battery, Plug-in Hybrid & Fuel Cell Vehicles: Now and in the Future

- > 40,000 Neighborhood Electric Vehicles (NEVs) have been sold by Chrysler's Global Electric Motorcars based in Fargo, ND. NEVs operate on batteries with zero emissions at speeds up to 25 miles an hour, and are used by police forces, military installations, college campuses, utilities, planned communities, recreational facilities, and individual consumers.
- > Tesla (San Carlos, CA) and ZAP Alias (Santa Rosa, CA) sell battery electric vehicles. In 2009, BMW will lease 500 Mini E battery vehicles in Los Angeles and New York.
- > Chrysler, Ford, Mitsubishi, Nissan, Subaru, and Tesla have announced new battery electric vehicles for 2009-2011.
- > Better Place (San Francisco, CA) plans to market battery vehicles to lease and replace batteries as needed, and establish charging spots. Hawaii was selected as one of its introductory markets.
- > Plug-in hybrid and Extended Range Electric Vehicles are expected in 2009-2010 by General Motors, Toyota, Chrysler, Fisker, and BYD.
- > Fuel cell demonstration vehicles are on the roads today, including the Honda FCX Clarity, GM Chevy Equinox SUV, and Toyota FCEV.

U.S. Battery Manufacturers: Poised for Growth

- > U.S. lithium-ion battery developers and manufacturers include: A123 Systems (Watertown, MA), Boston-Power (Boston, MA), EnerI (Indianapolis, IN), Johnson Controls-Saft Advanced Power Solutions (Milwaukee, WI) and Valence (Austin, TX).
- > A123 Systems plans to build a \$2.3 billion lithium-ion manufacturing plant in Southeast Michigan.
- > The American Recovery and Reinvestment Act allocates more than \$2 billion in grants and credits for accelerating the advanced battery industry in the U.S.

The Road Ahead: What to Expect

- > President Obama has called for 1 million plug-in electric drive vehicles on the roads by 2015.
- > The City of San Francisco has taken a leading role by installing the first three electric vehicle-charging stations using Coulomb Technologies charging stations.
- > Multi-industry partnerships are underway to prepare for grid-connected vehicles. Ford Motor Company, General Motors, Mitsubishi, Tesla and others have established demonstration programs with major utilities across the country, including Southern California Edison, Progress Energy and the New York Power Authority, to test grid-connected vehicles.
- > If 73 percent of the nation's light vehicles were fueled by electricity, the U.S. could displace an estimated 6.2 million barrels of oil a day, about 52 percent of current oil imports. (Pacific Northwest National Laboratory)
- > If 60 percent of U.S. light vehicles were powered by today's electric grid, greenhouse gas emissions from this sector would drop by one-third, the equivalent of taking 82 million cars off the road. (Electric Power Research Institute and Natural Resources Defense Council)

