

## About Neighborhood Electric Vehicles

In an electric vehicle (EV), batteries and other energy storage devices store the electricity that powers the electric motor in the vehicle. EV batteries must be replenished by plugging in the vehicle to a power source. Whether charged with an on-board charger or through an external outlet, EV's are powered from the electricity grid.

Although electricity production creates (highly-regulated) emissions, an EV is a zero emission vehicle and its motor produces no exhaust or emissions. In addition, EV's have the potential to reduce U.S. dependence on foreign oil as only a very small amount of U.S electricity is generated from oil.

Electric vehicles are often seen in niche applications. In combination with the larger electric drive vehicle market, these niche applications continue to drive the advancement of battery and electric propulsion technologies that underlie hybrid and fuel cell transportation development.

EV's are available for a variety of applications, from small neighborhood electric vehicles (NEV's) to heavy-duty buses. Because of their range limitations, based on battery size and vehicle weight, the vehicles are uniquely suited to short-distance, high-use applications that demand frequent starts and stops. In its most recent analysis, DOE estimates that almost 56,000 electric vehicles were in use in 2004.

Neighborhood electric vehicles (NEV's), or low-speed vehicles (LSV's) are compact, one- to four-passenger vehicles powered by rechargeable batteries and electric motors. They have been recognized by the National Highway Traffic Safety Administration (NHTSA) as a form of transportation since 1998. Over 45 states allow these vehicles to be driven on roads with posted speed limits of 35 miles per hour or lower.

Clean running and compact NEV's are cost-effective solutions for short commutes where traffic, parking, and air pollution are problems. NEV's (like full size EV's) are zero emission vehicles that produce no tailpipe or evaporative emissions.

As the Department of Energy's website asserts:

- NEV's emit zero tailpipe emissions or evaporative emissions that contribute to air pollution and global warming.
- NEV's are smaller and take up less space on the road, so they help reduce traffic congestion.
- They are inexpensive to fuel because the cost of electricity per kilowatt-hour usually compares favorably to that of gasoline.
- More than 95% of the electricity used to recharge NEV's originates from domestic resources, so driving an NEV reduces the nation's dependence on imported oil.

<http://www.eere.energy.gov/cleancities/atv/tech/nev.html>; a survey of models is available at [http://www.eere.energy.gov/cleancities/progs/afdc/search\\_type.cgi?1/NELEC](http://www.eere.energy.gov/cleancities/progs/afdc/search_type.cgi?1/NELEC)

### **Electric Vehicles in Use**

For utilities, electric vehicles, including NEV's and larger vehicles trucks, provide critical options in reducing petroleum usage and air pollution.

The New York Power Authority's (NYPA) Electric Transportation Group, established in 1991, uses a variety of advanced vehicle technologies. NYPA's program includes a Clean School Bus Program retrofit program; a Neighborhood Electric Vehicle (NEV) Incentive Program, which

promotes the use of NEV's throughout the State, with a focus on college campuses and state and city parks; the Green Zones Program, to promote the use of on-road and off-road hybrid and all-electric vehicles; and a Hybrid-Electric Transit Bus Program, which continues to demonstrate the effectiveness of hybrid electric buses in City fleets. More recently, the Clean Commute Program established a 100 electric passenger car demonstration project for short commutes to local train stations and also larger scale vehicle deployment.

In 2004, an analysis of the benefits of the NYPA electric transportation program, which includes a total of 740 vehicles that have logged over 4,000,000 miles, found that 678,108 gallons (16,145 barrels) of crude oil had been saved.

The Neighborhood Electric Vehicle (NEV) donation and incentive programs alone have resulted in the

reduction of 60 tons of carbon monoxide emissions. Low cost off-road vehicles, a significant component of the Green Zones Pilot Program, offered carbon monoxide emissions reductions of 45 tons during the period reported in the study.

Another growing application for NEV's is U.S. military installations. The electric vehicles do not need on- or off-installation refueling, and reduce the cost and logistical burden of transporting fuel to military installations. Low maintenance, quiet operation and reliability also contribute to the utility of GEM vehicles on America's military installations.

In Palm Springs, California, NEV's are used as police patrol cars in enclosed neighborhoods. Plans are also underway to incorporate NEV's into Palm Springs' local government fleet. California is the largest market for NEVs, with over 15,000 on the roads.

NEV's have also been demonstrated for use as "station cars" for providing clean, quiet transportation options in smaller destinations that require regular access. For example, in the San Francisco Bay Area, commuters used small battery-powered electric cars to travel between home and mass transit stations or between mass transit stations and workplaces. The vehicles also were available for non-commute errands and short evening and weekend trips.

College campuses, industrial parks and airports are other sites where station cars can provide enhanced mobility without increasing congestion or pollution. Under the existing tax code, the purchaser of a qualified electric vehicle is eligible for a tax credit equal to 10% of the purchase price, not to exceed \$4000. The credit is fully available for purchases made in 2005 and is reduced to 25% of the otherwise available credit for 2006 purchases. No credit is available for purchases after December 31, 2006. EDTA is working on a one year extension of this tax credit.

A proposed modification and extension of the credit was included in the Senate version of the Energy Bill was omitted from the conference report. EDTA is working to ensure continuing federal support for EVs which could enable current niche applications to continue to secure fuel and air quality benefits. It also will provide the support that manufacturers and consumers need to invest in additional applications, such as larger electric transit options.

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*The Electric Drive Transportation Association (EDTA) is the trade association representing battery, plug-in, hybrid and fuel cell electric drive technologies and infrastructure. EDTA conducts public policy advocacy, education, industry networking, and international conferences. EDTA's membership includes automotive and other equipment manufacturers, energy companies, technology developers, component suppliers, and government agencies. For more information about EDTA and its members, visit [www.electricdrive.org](http://www.electricdrive.org).*