
# Keys to the All-electric Car

Tom Joyal climbed into his car on a beautiful late summer night and took the scenic coastal ride from his Kennebunk business to Cape Porpoise.

"It cost me 23 cents," said Joyal, owner of the Old House Parts Company. That's because he drove an electric-powered, three-wheeled ZAP Xebra truck.

Joyal is one of a growing number of Maine motorists who've purchased an electric vehicle (not to be confused with a gas/electric hybrid) rather than empty their wallets at the gas pump and spew emissions into the air.

Robert Lutz, vice chairman and head of product development at General Motors, recently predicted that by 2020 or 2025 between a quarter and half of all new vehicles sold in the United States will be electric or hydrogen-powered.

BY PETER BLAIS
PHOTOGRAPH BY MARK MARCHESI

For Mainers like Joyal, that's too far away, especially when the vehicles are now available. But these new vehicles still have limited range and speed by conventional, gasoline-powered automobile standards.

Most commercially produced, four-wheel electrics have similar performance characteristics and are considered low-speed vehicles (LSVs), a legal class of four-wheel transport that have a maximum speed around 25 mph, meaning they can be operated along roadways posted at 35 mph or less. They have a maximum range of 30 to 40 miles between recharging sessions, cost two to three cents per mile to operate, and should encounter no problems at registration or inspection time, says Kal Rogers of Maine Electric Vehicles, a separate business that shares space with Performance Motors in Falmouth.

Smaller companies already producing and marketing electric cars include ZAP (stands for Zero Air Pollution) of Santa Rosa, California, ZENN Motor Company (Zero Emission No Noise) of Toronto, and Miles Electric Vehicles, a Chinese manufacturer with offices in California. All three lines are available at Maine Electric Vehicles. Rogers estimates that there are between 50 and 100 electric cars driven regularly on Maine roadways.

The three-wheeled Xebra sells for about $12,000, seats two people, travels up to 40 mph, and has a range of about 30 miles. Its rechargeable batteries are plugged into a standard outlet and take four to eight hours to recharge, like most other electric vehicles.

The Zap Xebra is considered a motorcycle in most states, says Rogers, meaning it can travel faster than the 25 miles per hour mandated by federal LSV legislation and can operate on most Maine roads, except for highways. However, Maine has conflicting laws and regulations regarding whether the Xebra is a low-speed vehicle or a motorcycle.

The Maine Bureau of Motor Vehicles earlier this year informed Joyal that his vehicle was not technically a motorcycle because it has a steering wheel instead of handlebars. State law does not mention the need for handlebars for a vehicle to be considered a motorcycle, but the state police inspection manual does. Because of the discrepancy, Joyal was told to temporarily park his ZAP Xebra until the legislature changes the law to make the two compatible. That could happen in the 2009 session.

With Maine's largely rural geography (where speed limits frequently exceed 35 mph), occasionally hilly terrain (which reduces the car's range), and cold winters (which can reduce mileage, especially when the heater is running), Rogers admits it's a challenge selling an electric vehicle that tops out at 25 mph and has only a 30-mile range.

Fleet owners—think municipalities, college campuses, warehouses and large resorts—are often major purchasers. But, he believes that many Maine households, some of which have three or more cars sitting in their driveways, are basically small-fleet operations that could benefit their pocketbooks and the environment by trading one of those gas-powered vehicles for an electric.

Rogers has traveled statewide over the past 18 months providing the opportunity to test drive one. "Electric vehicles are a good fit for people in the right circumstances," he says. "Many households could change out one gas vehicle for an electric that can be used on short trips around town and to work. Think of them as right-size, right-use vehicles. They are very appropriate for people living and working in places like Portland, Brunswick, Belfast, and other communities with a commercial hub."

"These vehicles seem to sell faster in other parts of the country," he adds. "Mainers often hold back and ultimately talk themselves out of buying one. That overly cautious approach is ultimately costing them, the state, and the country money."

That hesitancy to go electric is likely to change in coming years, Rogers predicts, with many smaller companies on their way to building highway-speed vehicles. Miles Electric Vehicles will be one of the first, with a consumer car expected to hit the market in the next few months that will cost about $32,000 with a 125-mile range that can travel at 75 to 80 miles per hour.

"That is a vehicle more people may be willing to adopt," he says. "The major car companies will likely have an electric product within five years. The smaller companies are ahead of the curve."

In the meantime, Joyal is glad he jumped on the electric-vehicle bandwagon early and believes the state will soon come around on registering his ZAP Xebra, allowing him to use the vehicle for business or to simply take a Sunday drive along the southern Maine coast. "I am a 110-percent, satisfied customer," he says. ✦