



Ford's Electrification Future

Ford's electrification strategy involves three types of electrified vehicles – hybrid electric, all-electric and plug-in hybrid electric – to provide consumers with significant fuel economy improvements and reduced CO₂ emissions without compromising the driving experience.

Ford's electrification strategy will deliver a suite of electrified vehicles to market by 2012, including:

- Ford Transit Connect Electric small commercial van in 2010
- Ford Focus Electric passenger car in 2011
- Two next-generation hybrids powered by lithium-ion batteries in 2012
- Plug-in hybrid in 2012

The electrification strategy builds on Ford's vision for bringing affordable fuel-efficient technology to millions.

Hybrid Electric Vehicle



The hybrid electric vehicle combines an internal combustion engine with an electric motor and battery. Electric power is used for vehicle launch and lower-speed operation. The internal combustion engine takes over for higher-demand operation and charges the battery

All-Electric Vehicle



All-electric vehicles do not use a drop of fuel. Instead of an internal combustion engine, it features a high-voltage electric motor, which takes its power from a battery pack charged by plugging in to a 120- or 240-volt outlet

Plug-in Hybrid Electric Vehicle



Plug-in hybrid electric vehicles combine hybrid electric technology with a high-voltage storage battery like that used in an all-electric vehicle. Ford has developed what is known as a blended plug-in hybrid electric – first using the charge of the battery and then running in regular hybrid mode for the best possible fuel economy, smallest battery and most affordable customer solution. On startup, it operates in charge-depletion mode and then switches to charge-sustaining hybrid mode for continued optimal fuel economy

Fuel economy/range	About 70 percent better than comparable non-hybrid models. The 2010 Fusion Hybrid achieves 41 mpg city, 8 mpg better than Toyota Camry Hybrid and over 700 miles on a tank of fuel	Focus Electric will offer a mile per gallon equivalent better than Chevrolet Volt and competitive with other BEVs Up to 80 miles per full charge for the Ford Transit Connect Electric	Far fewer trips to the fuel station. Charge-depleting maximum fuel economy operating range of more than 20 miles
Engine	High-efficiency Atkinson cycle in combination with motor	N/A	High-efficiency Atkinson cycle in combination with motor
Motor	High-voltage electric motor-generator	High-voltage electric motor-generator	High-voltage electric motor-generator
Emissions	Partial Zero Emission Vehicle (PZEV)	Zero Emission Vehicle (ZEV)	Partial Zero Emission Vehicle (PZEV)
Battery type	Current: Nickel-metal-hydride 2012: Lithium-ion (Li-ion)	Lithium-ion (Li-ion)	Lithium-ion (Li-ion)
Regenerative braking	Yes	Yes	Yes
Charging time	Requires no electrical infrastructure connection	The production model will be rechargeable from 240- or 120-volt outlets, with charging times between three and 12 hours	Plugs in to standard 120-volt outlet. Ideal for overnight charging in non-peak usage times. Requires six to eight hours charging time
Customer usage	Flexible for a wide range of customer use, with excellent urban fuel economy	For customers with shorter, predictable daily trips of less than 100 miles total	Real-world city driving for optimal fuel economy. Ideal for longer commutes than an all-electric vehicle
Ford experience	Five years of production experience with the world's most fuel-efficient SUVs, Ford Escape and Mercury Mariner Hybrid electric vehicles, and America's most fuel-efficient midsize cars, Ford Fusion, Lincoln MKZ Hybrid and Mercury Milan Hybrid electric vehicles	Prior development and demonstration fleets, including Ford Ranger electric vehicle	Units from a fleet of 21 Escape plug-in hybrid electric test vehicles are already in testing with the 10 utilities/research organizations and the U.S. Department of Energy

