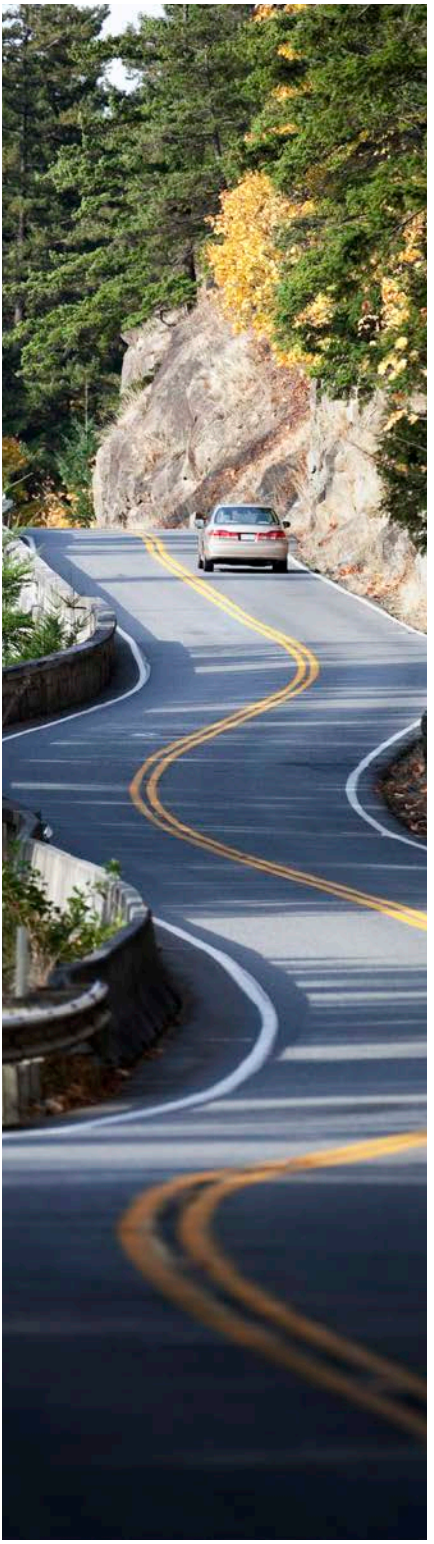


U.S. DEPARTMENT OF ENERGY | Energy Efficiency & Renewable Energy

Clean Cities

2014 Vehicle Buyer's Guide

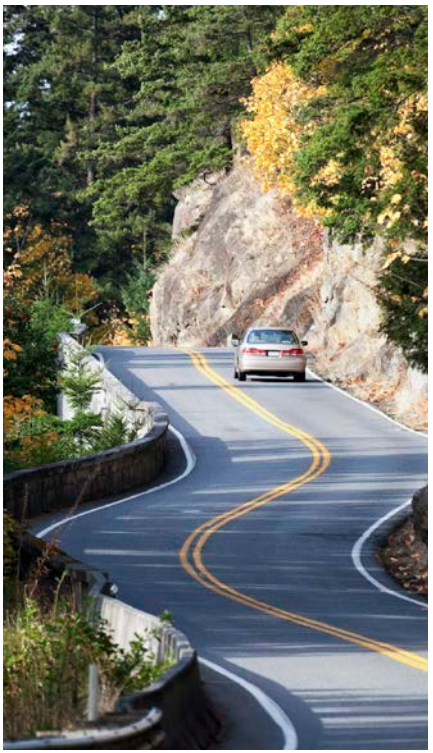
- Natural Gas
- Propane
- Biodiesel
- Electric
- Hybrid
- Ethanol Flex-Fuel

Clean Cities
U.S. Department of Energy

Clean Cities

2014 Vehicle Buyer's Guide

Today more than ever before, auto manufacturers are helping drivers and fleets reduce petroleum use, save on fuel costs, and cut emissions by offering hundreds of light-duty vehicle models that take advantage of alternative fuels and advanced technologies. Inside this guide is a comprehensive list of such vehicles for 2014.



Contents

Clean Cities
U.S. Department of Energy

Disclaimers

Photo on this page and front cover from iStock 18259512

Introduction

Chevrolet Cruze Diesel. *Photo from General Motors*

In the United States today, the number of vehicles that use alternative fuels or advanced fuel-saving technologies continues to expand. More than 17 million of these vehicles are currently on the road, and their growth in popularity is fueled by a number of factors:

- Alternative-fuel cost savings
- Availability of more than 2,000 federal and state incentives
- A rebounding economy
- Corporate Average Fuel Economy (CAFE) standards that encourage the production of alternative fuel vehicles (AFVs)
- Continued interest in reducing environmental impacts.

The growing pool of available AFV models gives consumers and vehicle fleets more options to use alternative fuels like biodiesel, natural gas, electricity, ethanol, and propane. Manufacturers are introducing new plug-in electric vehicles, and hybrid luxury cars are now in the marketplace. Early in the 2013 calendar year the number of all-electric vehicles on U.S. roads broke the 100,000 mark. Flex-fuel vehicles enjoyed growth as well, with nearly 1 million additional vehicles added to the light-duty vehicle fleet.

A diesel option new this year is the 2014 Chevrolet Cruze. Its turbo diesel system helps reduce fuel consumption and emissions while maintaining power. The Cruze has a 151-horsepower engine and is **approved for use with biodiesel blends up to B20**.

The network of fueling and charging infrastructure in the United States also continues to expand. As of October 2013, the number of publicly accessible alternative fueling and charging stations surpassed 12,500. Because fuel availability is the most important factor in choosing an AFV, this growth opens up new possibilities for fleets and consumers.

Mercedes-Benz B-Class Electric. *Photo from Mercedes-Benz USA*

About This Guide

This guide presents a comprehensive list of 2014 light-duty alternative fuel and advanced vehicles, grouped by fuel and technology. It features model-specific information on vehicle specs, manufacturer suggested retail price (MSRP), fuel economy, energy impact, and emissions. When you are ready to identify your options, compare vehicles, and find data to inform your buying decisions, this guide can serve as an unbiased resource.

Fuel Economy

This guide includes fuel economy estimates from the U.S. Environmental Protection Agency (EPA) for both city and highway driving. These estimates are based on manufacturers' laboratory tests, which are designed to reflect typical driving conditions and driver behavior and are conducted in accordance with federal regulations. EPA retests about 10% to 15% of vehicle models to confirm manufacturer results.

Ford E-150 FFV. *Photo from Ford Motor Company*

For some types of AFVs listed in this guide, fuel economy estimates are expressed in miles per gallon of gasoline-equivalent (mpge), representing the number of miles a vehicle can travel using a quantity of fuel with the same energy content as a gallon of gasoline. For some vehicle models, EPA data were not available at the time of this guide's publication. EPA fuel economy estimates are also available on FuelEconomy.gov.

EPA establishes methods for estimating fuel economy using typical driving conditions and behaviors, but your fuel economy will still vary. This is because several factors can affect fuel economy significantly, such as how and where you drive, vehicle condition and maintenance, fuel and vehicle variations, and engine break-in. Therefore, the EPA ratings are a useful tool for comparing the fuel economy of different vehicles but may not accurately predict the average miles per gallon (mpg) you will

Chevrolet Impala CNG Bi-Fuel. *Photo from General Motors*

achieve. To find out what you can do to improve the fuel economy of your vehicle, see FuelEconomy.gov's Driving More Efficiently (*fueleconomy.gov/feg/driveHabits.jsp*) and Keeping Your Car in Shape (*fueleconomy.gov/feg/maintain.jsp*).

Energy Impact Scores

Energy Impact Scores allow buyers to compare vehicles' annual estimated petroleum consumption. These scores represent the number of barrels of petroleum a vehicle will likely consume each year. The scores are based on 45% highway driving, 55% city driving, and 15,000 annual miles. One barrel equals 42 gallons.

Infiniti QX60 Hybrid. *Photo courtesy of Infiniti USA*

Smog Scores

Smog Scores, determined by EPA, reflect vehicle tailpipe emissions that contribute to local and regional air quality problems and related health issues. Scores are based on U.S. vehicle emission standards for criteria pollutants, including carbon monoxide, formaldehyde, nitrogen oxides, non-methane organic gas, and particulate matter. Scores range from 1 to 10, where 10 is best.

Greenhouse Gas Emissions Scores

Greenhouse Gas (GHG) Scores reflect tailpipe emissions of carbon dioxide and other GHGs, which contribute to climate change. Scores range from 1 to 10, where 10 is best. The GHG Scores in this guide do not reflect emissions related to the production or distribution of fuels or vehicles.

Compressed Natural Gas Vehicles

GMC Savana 2500/3500 2WD

- 6.0L 8 cyl engine
- Starting MSRP: $31,365
- Emissions data and fuel economy not available

Photo from General Motors

Compressed natural gas vehicles have low fuel costs and other benefits

Compressed natural gas (CNG) is readily available from domestic sources, and its use as a vehicle fuel can support U.S. energy independence. CNG vehicles get about the same fuel economy as comparable conventional vehicles on a gasoline-gallon-equivalent basis, and CNG prices tend to be much lower than those of gasoline and diesel fuel. The resulting fuel cost savings can help offset the purchase price of a CNG vehicle, and state incentives can provide additional financial assistance (see page 26). Use of renewable natural gas (captured from landfills, sewage treatment facilities, or agricultural waste) can translate to significant well-to-wheels greenhouse gas emissions reductions.

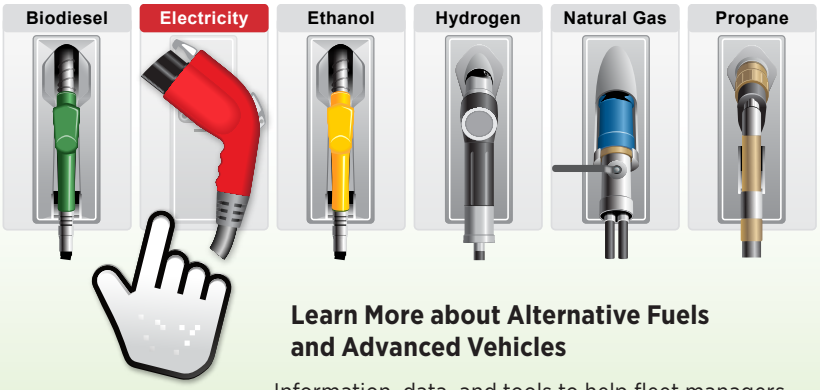
Manufacturers are providing more CNG options

Dedicated CNG vehicles are available directly from original equipment manufacturers (OEMs). The Honda Civic Natural Gas and the natural gas General Motors Chevrolet Express/GMC Savana are ready-to-go options. General Motors and Chrysler both offer direct-from-OEM bi-fuel vehicles, which can run on CNG or gasoline. The Chevrolet Silverado/GMC Sierra 2500HD and the Ram 2500 CNG operate on natural gas and

Photo from Ford Motor Company

Ford Super Duty F-250/350/450

- 6.2L 8 cyl engine
- Starting MSRP: $29,875
- Emissions data and fuel economy not available



Learn More about Alternative Fuels and Advanced Vehicles

Information, data, and tools to help fleet managers and other transportation decision makers find ways to reduce petroleum consumption are readily available from Clean Cities' Alternative Fuels Data Center (AFDC). A small sample of what's available from this helpful website includes up-to-date news on the latest manufacturer offerings, a selection of YouTube videos that share success stories from across the United States, and the basics of converting vehicles to run on alternative fuels. It's all online at *afdc.energy.gov*.

then automatically switch to gasoline operation when the CNG cylinders are empty. General Motors plans to introduce a bi-fuel Chevrolet Impala in mid-2014.

Ford offers propane/CNG prep packages for its E-150, E-250, and E-350 cargo and passenger vans (5.4L V-8 and 6.8L V-10); its F-150 through F-650 pickups (3.7L V-6, 5.4L V-8, and 6.8L V-10); its Transit Connect (2.5L 4 cyl); and its Transit van (3.7L V-6). A Ford-approved qualified vehicle modifier (QVM) can convert these vehicles to run on CNG or propane for delivery through select Ford dealerships, without impacting OEM warranties or service agreements.

Courtesy of American Honda

Honda Civic Natural Gas

- 1.8L 4 cyl engine
- Emissions data, fuel economy, and MSRP not available

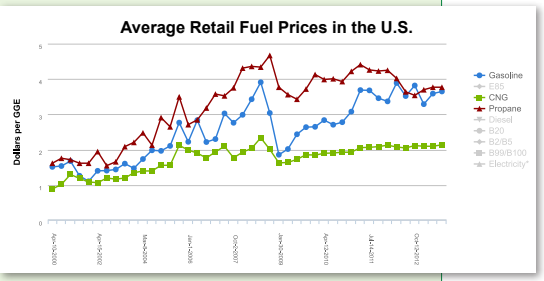
Fueling infrastructure is an important factor

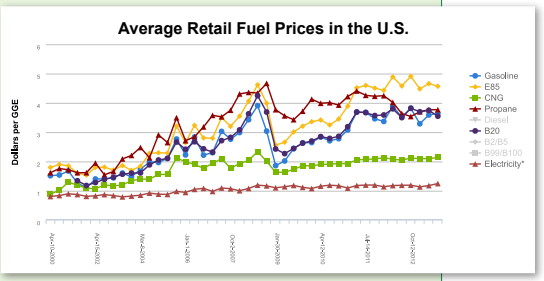
If you are considering the purchase of a CNG vehicle or converting a conventional vehicle to run on CNG, it's important to determine whether CNG fueling infrastructure is available in locations that are convenient to you. In December 2013, there were more than 500 publicly accessible CNG fueling stations across the country. See page 14 for information about finding stations in your area.

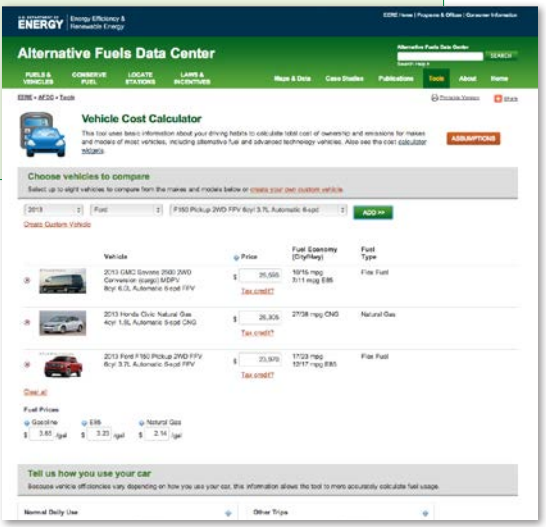
Before You Purchase, Compare Vehicle Costs and Emissions

The true cost of a vehicle is more than just the number on its price tag. It also includes lifetime ownership costs for things like fuel and maintenance. The AFDC's Vehicle Cost Calculator can help you easily assess the full cost of a vehicle. In addition, this easy-to-use online tool, available at *afdc.energy.gov/calculator*, can perform a side-by-side comparison of multiple vehicles that includes the average current cost of conventional fuels, alternative fuels, and electricity. The AFDC's Vehicle Cost Calculator also allows users to evaluate a vehicle's emissions benefits. The tool's capabilities help make vehicle-purchase decisions easier and more thorough.

To find out how the price of alternative fuels compares to gasoline and diesel prices, see the Clean Cities Alternative Fuel Price Report, available online at *afdc.energy.gov/fuels/prices.html*.







Chevrolet Express. *Photo from General Motors*

Converting Vehicles to Run on Alternative Fuels

To convert a vehicle from using only gasoline to using alternative fuel, you have several options. Many conventional vehicles can be converted to run on natural gas, propane, electricity, or other alternative fuels with little effect on horsepower, towing capacity, or factory warranty.

All conversions must meet emissions and safety standards instituted by EPA, the National Highway Traffic Safety Administration, and relevant state agencies. Conversions should be performed by an authorized technician associated with a manufacturer that holds all relevant emissions-related certifications and tampering exemptions.

Ford Transit Connect. *Photo from Ford Motor Company*

Many new and used conventional vehicles can be converted to run on CNG or propane at a cost of about $8,000 to $12,000 per vehicle.

The table on the next page lists conversion companies that offer certified CNG or propane conversion systems for various 2013 and 2014 vehicles. Most conversion companies provide up-to-date information online about vehicle models and powertrains their systems are compatible with. The lists of systems certified by EPA and/or the California Air Resources Board are updated regularly. Visit *epa.gov/otaq/consumer/fuels/altfuels/altfuels.htm* and *arb.ca.gov/msprog/aftermkt/altfuel/altfuel.htm* for the most current lists of certified systems for vehicles of all model years. Find out more about vehicle conversions at *afdc.energy.gov/vehicles/conversions.html*.

2013-2014 EPA-Certified Light-Duty Alternative Fuel Conversions
As of October 2013

Conversion Fuel System	Original Equipment Manufacturer (OEM)	Conversion Fuel System Manufacturer
Dedicated CNG	Ford Motor Company	Altech-Eco Corporation BAF Technologies IMPCO Technologies, Inc. Landi Renzo USA Corporation
	General Motors	IMPCO Technologies, Inc.
	Chrysler	NatGasCar, LLC
Bi-Fuel CNG/Gasoline	Ford Motor Company	Altech-Eco Corporation BAF Technologies IMPCO Technologies, Inc. Landi Renzo USA Corporation NatGasCar, LLC Powerfuel CNG Systems, LLC Westport Light Duty, Inc.
	General Motors	IMPCO Technologies, Inc. NatGasCar, LLC The CNG Store, LLC (dba Auto Gas America)
	Chrysler	NatGasCar, LLC
Dedicated Propane	Ford Motor Company	Icom North America, LLC Roush Industries, Inc.
	Toyota	Yellow Checker Star Transportation
Bi-Fuel Propane/ Gasoline	Ford Motor Company	American Alternative Fuel Icom North America, LLC IMPCO Technologies, Inc.
	General Motors	American Alternative Fuel Blossman Services, Inc. Icom North America, LLC IMPCO Technologies, Inc.

Propane Vehicles

Ford Super Duty F-350/450/550 Chassis Cab

- 6.2L 8 cyl engine or 6.8L 10 cyl engine
- Starting MSRP: $30,230
- Emissions data and fuel economy not available

Ford Super Duty F-450 available with LPG prep package. *Photo from Ford Motor Company*

Propane is used worldwide

Propane is a clean-burning gaseous fuel that has been used in transportation for decades. Also known as liquefied petroleum gas (LPG), propane is the most commonly used alternative motor fuel in the world, and its prices are typically more stable than those of gasoline. Propane is nontoxic, safe to handle, and presents no threat to soil, groundwater, or surface water when leaked or spilled. As of October 2013, propane is available at more than 2,700 stations throughout the country. See page 14 for information on finding propane fueling stations in your area.

Choose your path to propane

In 2014, General Motors is offering dedicated propane options for the Chevrolet Express and GMC Savana 3500 and 4500 cutaway vans equipped with 6.0L V-8 engines. These vehicles can be ordered directly through any General Motors dealership.

Ford offers propane/CNG prep packages for its E-150, E-250, and E-350 cargo and passenger vans (5.4L V-8 and 6.8L V-10); its F-150 through F-650 pickups (3.7L V-6, 5.4L V-8, and 6.8L V-10); its Transit Connect (2.5L 4 cyl); and its Transit van (3.7L V-6). A Ford-approved qualified vehicle modifier (QVM) can convert these vehicles to run on CNG or propane for delivery through select Ford dealerships without impacting OEM warranties or service agreements.

GMC Savana Cutaway 3500. *Photo from General Motors*

See page 10 for more information about converting conventional vehicles to run on propane.

Biodiesel Vehicles

Chevrolet Cruze Diesel

- 2.0L 4 cyl engine
- Starting MSRP: $17,170
- 27 mpg city, 46 mpg highway
- Smog Score: 5
- GHG Score: 7
- Energy Impact Score

11.6

Photo from General Motors

Biodiesel is a renewable option for diesel vehicles

Biodiesel is domestically produced from a wide range of vegetable oils and animal fats. It is biodegradable, renewable, and nontoxic. Consumers typically buy biodiesel blends ranging from B5 (5% biodiesel, 95% diesel fuel) to B20 (20% biodiesel, 80% diesel fuel). B100 must be produced to strict specifications (ASTM D6751) to ensure proper performance at any blend level. The use of biodiesel blends in place of conventional diesel can reduce tailpipe emissions, such as particulate matter and hydrocarbons. Relative to conventional diesel fuel, biodiesel can reduce life cycle emissions of carbon dioxide by more than half.

All light-duty vehicle manufacturers have approved B5 for use in their diesel engines, and current ASTM standards allow conventional diesel fuel to contain up to 5% biodiesel. B20 has been shown to perform well in diesel vehicles, including in cold weather conditions and in older engines. More than 300 publicly accessible fueling stations across the country offer biodiesel blends of B20 or above. The following vehicles are currently approved by their manufacturers for B20 use:

- Chevrolet Cruze sedan, equipped with the 2.0L 4 cyl turbo diesel
- Chevrolet Silverado 2500/3500 HD pickups and Express 2500/3500 vans, equipped with the 6.6L V-8 Duramax Turbo Diesel
- GMC Sierra 2500/3500 HD pickups and Savana 2500/3500 vans, equipped with the 6.6L V-8 Duramax Turbo Diesel

Photo from Ford Motor Company

Ford Transit

- 3.2L 5 cyl engine
- Emissions data, fuel economy, and MSRP not available

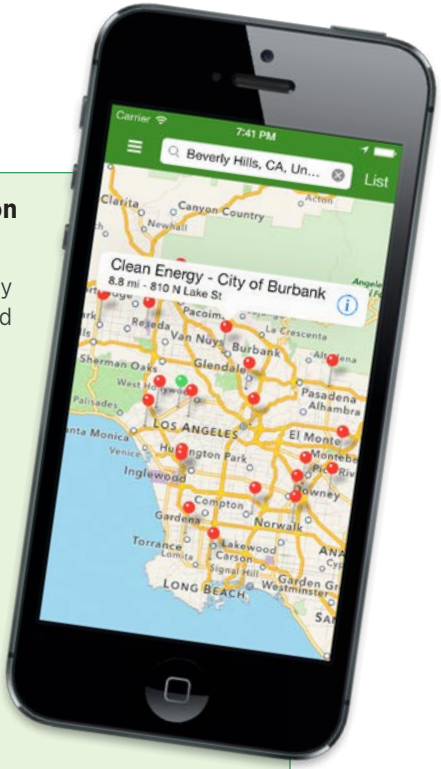
- Ford Super Duty F-250 through F-750, equipped with the 6.7L V-8 Powerstroke Turbo Diesel
- Ford Transit van, equipped with the 3.2L 5 cyl Powerstroke Turbo Diesel
- Ram 2500/3500 HD Pickups, equipped with the 6.7L 6 cyl Cummins High Output Turbo Diesel (fleet calibration only).

Straight vegetable oil is not biodiesel

To produce biodiesel, vegetable oils or animal fats are filtered to remove water and contaminants. The fats and oils are then mixed with alcohol and a catalyst to produce biodiesel. It's important to note that straight vegetable oil is not registered for legal use in vehicles, and its use can void vehicle warranties.

Find an Alternative Fueling Station or Electric Charging Station

Locating fueling sites across the country that provide alternatives to gasoline and diesel fuel is easy with the AFDC's Alternative Fueling Station Locator (*afdc.energy.gov/stations*). This online tool helps drivers navigate to stations that provide propane, biodiesel blends of 20% (B20) or greater, natural gas, electric charging, E85, and hydrogen. Users can also download the data into a spreadsheet, determine the number of stations in a given geographic area, and plan a route with stations identified along the way.



There's even a mobile version at *afdc.energy.gov/stations/m* and a new Station Locator iPhone app available for free download from the App Store.

All-Electric Vehicles

Kia Soul. *Photo courtesy of Kia Motors America*

All-electric vehicles can yield significant emissions benefits

An all-electric vehicle (EV) uses a battery to store electrical energy, which powers one or more motors. EV batteries are charged by plugging into an off-board electrical power source. They can also be charged in part through regenerative braking, which generates electricity from some of the energy normally lost when braking. EVs produce no tailpipe emissions, but there are emissions associated with the majority of electricity production in the United States. In many geographic regions of the country, EVs have substantial well-to-wheels emissions benefits, based on the mix of fuels used to generate electricity.

In 2014, EV models are being offered by nearly every OEM, and new to the fleet are models from BMW, Chevrolet, and Kia. Most currently available EVs can travel 60

Ford Focus.
Photo from Ford Motor Company

BMW i3.
Photo from BMW

to 100 miles on a single charge, depending on the model. EV drivers are now benefitting from a growing network of charging stations. In October 2013, there were more than 6,600 publicly accessible charging locations across the country. See page 14 for information about finding stations in your area.

Chevrolet Spark. *Photo from General Motors*

EV prices tend to be higher than those of similar conventional and hybrid electric vehicles, but some costs may be recovered through fuel savings, a federal tax credit, or state incentives. See page 9 to find out how to calculate EV fuel savings, and page 26 for information about finding incentives.

Hydrogen Fuel Cell Vehicles

A hydrogen fuel cell vehicle combines hydrogen gas with oxygen from the air to produce electricity, which drives an electric motor. Fuel cell vehicles produce no harmful tailpipe emissions.

These vehicles are not yet commercially available, but some manufacturers produce them in very limited numbers for select organizations with access to hydrogen fueling stations.

Photo from Mercedes-Benz USA

Mercedes-Benz B-Class F-CELL

- 100 kW PEM fuel cell
- Emissions data, fuel economy, and MSRP not available

Courtesy of American Honda

Honda FCX Clarity

- 100 kW PEM fuel cell
- MSRP not available
- 60 mpkg
- Smog Score: 10
- GHG Score: 10

Electric Vehicle Model	Electric Motor; Battery Size	Energy Impact Score* (barrels petroleum/year)	Smog Score**	GHG Score**	Fuel Economy (mpge) *City/Hwy*	Starting MSRP
BMW i3	125 kW; 21 kWh	-	-	-	-	$41,350
Chevrolet Spark	104 kW; 20 kWh	0.2	10	10	128 / 109	$27,495
Fiat 500e	83kW; 24 kWh	0.2	10	10	122 / 108	$31,800
Ford Focus Electric	107 kW; 23 kWh	0.2	10	10	110 / 99	$35,200
Honda Fit EV	92 kW; 20 kWh	0.2	10	10	132/ 105	-
Kia Soul EV	50 kW; 16.4 kWh	-	-	-	-	-
Mercedes-Benz B-Class Electric	100 kW; 28 kWh	-	-	-	-	-
Mitsubishi i-MiEV	49 kW; 16 kWh	0.2	10	10	126 / 99	$29,125
Nissan Leaf	80 kW; 24 kWh	-	-	-	-	$28,800
Scion iQ EV	47 kW; 12.0 kWh	0.2	10	10	138 / 105	-
smart fortwo electric drive	55 kW; 17.6 kWh	0.2	10	10	122 / 93	$25,000
Tesla Model S	300 kW; 60 kWh	0.2	10	10	94 / 97	$71,070
Toyota RAV4 EV	115 kW; 41.8 kWh	0.2	10	10	78 / 74	$49,800

** Assuming 15,000 miles driven per year. ** 10 = Best*

Plug-In Hybrid Electric Vehicles

Chevrolet Volt. *Photo from General Motors*

Plug-in hybrids provide flexibility in fueling and charging

Plug-in hybrid electric vehicles (PHEVs) use batteries to power an electric motor and use another fuel, such as gasoline or diesel, to power an internal combustion engine. The batteries can be charged from an off-board electrical power source, through regenerative braking, or by the internal combustion engine. Powering the vehicle with electricity some or all of the time significantly reduces operating costs, petroleum use, and tailpipe emissions.

PHEVs don't have to be plugged in before driving. They can be fueled solely with gasoline, like a conventional hybrid. However, they will not achieve maximum fuel economy or take full advantage of their all-electric capabilities without plugging in.

Ford Fusion Energi. *Photo from Ford Motor Company*

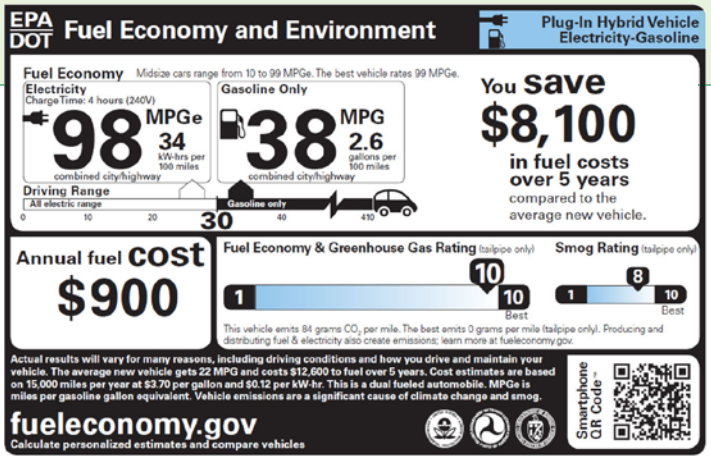
Toyota Prius Plug-In.
Photo from Toyota Motor Sales, U.S.A., Inc.

Honda Accord Plug-In Hybrid. *Courtesy of American Honda*

Plug-In Vehicles and EPA Labels

EPA labels for all-electric vehicles (EVs) display fuel economy estimates in kilowatt-hours per 100 miles and in miles per gallon of gasoline-equivalent (mpge). Mpge represents the number of miles a vehicle can travel using a quantity of fuel with the same energy content as a gallon of gasoline (33 kilowatt-hours). For PHEVs, EPA labels display separate fuel economy estimates for electric-only and gasoline-only modes. Estimates for gasoline-only operation are expressed in miles per gallon and in gallons per 100 miles. All this information allows for efficiency comparisons across different types of vehicles and fuels. For more information, visit *fueleconomy.gov/label*.

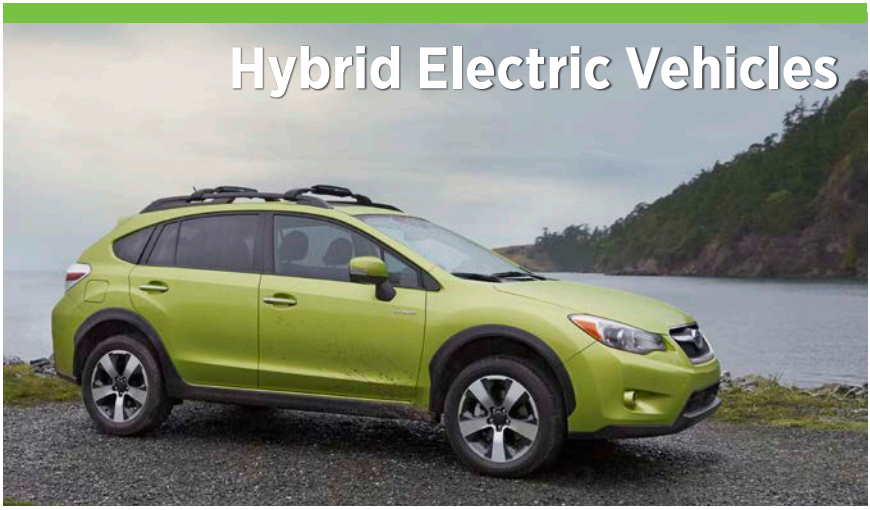
EPA plug-in vehicle labels also contain information about GHG emissions and air pollution. This information reflects tailpipe emissions only. It does not account for emissions associated with the production of electricity, gasoline, or any other fuel that powers the vehicle. For information on comparing well-to-wheels emissions of conventional and plug-in vehicles, visit *afdc.energy.gov/vehicles/electric_emissions.php*.



Plug-In Hybrid Electric Vehicle Model	Gasoline Engine; Electric Motor	Energy Impact Score* (barrels petroleum/ year)	Smog Score**	GHG Score**	Fuel Economy		Starting MSRP
					Gasoline Only *(mpg) City/Hwy*	Electric + Gasoline *(mpge) Combined City-Hwy*	
BMW i3 w/ Range Extender	0.6L 2 cyl; 125kW	-	-	-	-	-	-
BMW i8 Plug-In Hybrid	1.5L 3 cyl; 96kW	-	-	-	-	-	$135,700
Cadillac ELR	1.4L 4 cyl; 111 kW	-	-	-	-	-	$75,995
Chevrolet Volt	1.4L 4 cyl; 111 kW	3.1	6	10	35 / 40	98	$34,185
Ford C-MAX Energi	2.0L 4 cyl; 68 kW	4.2	-	10	44 / 41	100	$32,950
Ford Fusion Energi	2.0L 4 cyl; 68 kW	4.2	7	10	44 / 41	100	$38,700
Honda Accord Plug-In Hybrid	2.0L 4 cyl; 124 kW	4.8	9	10	47 / 46	115	$39,780
McLaren P1	3.8L 8 cyl; 132 kW	-	-	-	-	-	$1.4M est.
Porsche Panamera S E-Hybrid	3.0L 6 cyl; 70 kW	-	-	-	-	-	$99,000
Toyota Prius Plug-In	1.8L 4 cyl; 38 kW	4.7	7	10	51 / 49	95	-

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Hybrid Electric Vehicles



Subaru XV Crosstrek Hybrid. *Photo from Subaru*

Hybrid technologies can boost fuel economy

Hybrid electric vehicles (HEVs) are powered by an internal combustion engine and an electric motor that uses energy stored in a battery. HEVs run on gasoline and can't be plugged in to recharge the battery. Instead, the battery is charged by the internal combustion engine and through regenerative braking. The extra power provided by the electric motor allows for a smaller engine, resulting in better fuel economy without sacrificing performance.

Some HEVs achieve fuel economy ratings of 40 to 50 mpg. They generally produce lower levels of air pollutants and greenhouse gas emissions than similar conventional vehicles.

Ford C-MAX Hybrid.
Photo from Ford Motor Company

Hybrid configurations vary among models

HEVs range from mild to full hybrids. Full hybrids can run on battery power alone during stops and at low speeds. When speeds increase, the electric motor works with the gasoline engine to provide power. Full hybrids are 25% to 40% more fuel efficient than comparable conventional vehicles. Mild hybrids use a battery and electric motor to help power the vehicle, allowing the

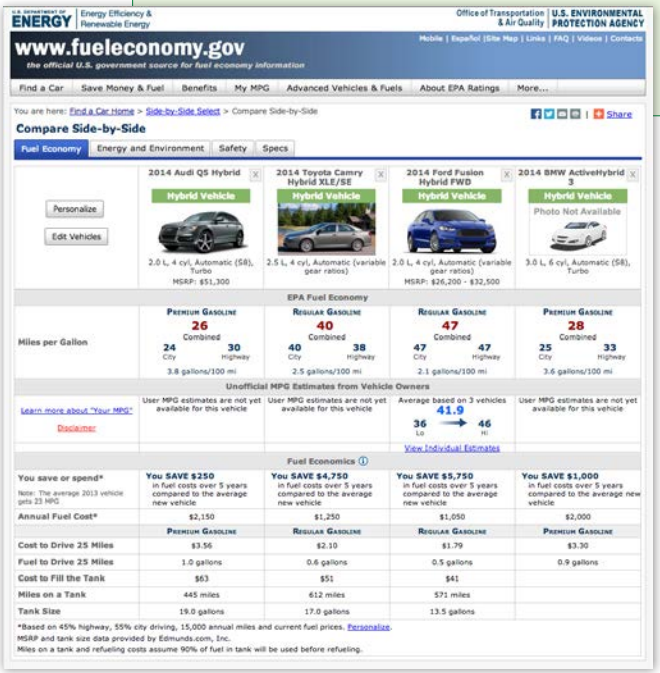
Honda Accord. *Photo from American Honda*

Lexus ES 300h. *Photo from Lexus U.S.A.*

engine to shut off when the vehicle stops at traffic signals and in stop-and-go traffic, thus improving fuel economy. But electricity alone cannot propel a mild hybrid. These vehicles usually cost less than full hybrids, but they provide more modest increases in fuel economy.

Get More Info on Fuel Economy

Information, data, and tools to support efforts to improve fuel economy are all available at FuelEconomy.gov. There you can compare conventional and alternative fuel vehicles using the Find a Car tool. You can also get extensive information on fuel economy ratings, emissions, energy impacts, annual fuel costs, and more for vehicles of current and past model years. To find out what you can do to improve the fuel economy of your car, see page 26 or visit Driving More Efficiently (*fueleconomy.gov/feg/driveHabits.shtml*) and Keeping Your Car in Shape (*fueleconomy.gov/feg/maintain.shtml*). Depending on such factors as vehicle condition, where and how you drive, and fuel variations, your fuel economy may vary.



Hybrid Electric Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year)	Smog Score**	GHG Score**	Fuel Economy (mpg) *City/Hwy*	Starting MSRP
Acura ILX	1.5L 4 cyl	8.7	9	9	39 / 38	$26,900
Audi Q5 Hybrid AWD	2.0L 4 cyl	12.7	5	7	24 / 30	$51,300
BMW ActiveHybrid 3	3.0L 6 cyl	11.8	5	7	25 / 33	$49,700
BMW ActiveHybrid 5	3.0L 6 cyl	12.7	5	7	23 / 30	$61,400
BMW ActiveHybrid 7	3.0L 6 cyl	13.2	5	6	22 / 30	$84,300
Ford C-MAX Hybrid	2.0L 4 cyl	-	-	10	-	$25,200
Ford Fusion Hybrid	2.0L 4 cyl	7.0	7	10	47 / 47	$26,200
Honda Accord	2.0L 4 cyl	7.0	7	10	50 / 45	$29,155
Honda Civic Hybrid	1.5L 4 cyl	-	-	-	-	-
Honda CRZ	1.5L 4 cyl	8.9	9	9	36 / 39	$19,995
Honda Insight	1.3L 4 cyl	7.8	9	9	41 / 44	-
Hyundai Sonata	2.4L 4 cyl	8.7	8	9	36 / 40	-
Infiniti Q50 Hybrid FWD/AWD	3.5L 6 cyl	10.6	5	8	29 / 36	$43,950

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Hybrid Electric Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year)	Smog Score**	GHG Score**	Fuel Economy (mpg) *City/Hwy*	Starting MSRP
Infiniti Q50S Hybrid FWD/AWD	3.5L 6 cyl	11.0	5	8	28 / 34	$46,350
Infiniti QX60 Hybrid	2.5L 4 cyl	12.7	5	7	26 / 28	$44,550
Infiniti QX70 Hybrid	3.5L 6 cyl	-	-	-	-	-
Kia Optima	2.4L 4 cyl	8.7	8	9	36 / 40	$25,900
Lexus CT 200h	1.8L 4 cyl	-	-	-	-	-
Lexus ES 300h	2.5L 4 cyl	8.2	7	9	40 / 39	$39,350
Lexus GS 450h	3.5L 6 cyl	10.6	7	8	29 / 34	-
Lexus LS 600h L	5.0L 8 cyl	16.5	7	5	19 / 23	$120,060
Lexus RX 450h FWD/AWD	3.5L 6 cyl	11.0	7	8	32 / 28	$46,410
Lincoln MKZ	2.0L 4 cyl	7.3	7	10	45 / 45	$36,190
Mercedes-Benz E400 Hybrid	3.5L 6 cyl	12.7	6	7	24 / 30	$56,700
Nissan Pathfinder Hybrid 2WD/AWD	2.5L 4 cyl	12.7	5	7	25 / 28	$35,110
Porsche Cayenne S Hybrid	3.0L 6 cyl	15.7	5	5	20 / 24	$70,900

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Hybrid Electric Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year)	Smog Score**	GHG Score**	Fuel Economy (mpg) *City/Hwy*	Starting MSRP
Subaru XV Crosstrek Hybrid	2.0L 4 cyl	-	-	-	-	$25,595
Toyota Avalon	2.5L 4 cyl	8.0	7	9	40 / 39	-
Toyota Camry	2.5L 4 cyl	8.2	-	9	43 / 39	$22,235
Toyota Highlander	3.5L 6 cyl	-	-	-	-	-
Toyota Prius	1.8L 4 cyl	6.6	7	10	51 / 48	-
Toyota Prius *c*	1.5L 4 cyl	-	-	-	-	-
Toyota Prius *v*	1.8L 4 cyl	7.8	7	9	44 / 40	$26,750
Volkswagen Jetta Hybrid	1.4L 4 cyl	7.3	7	10	42 / 48	$24,995
Volkswagen Touareg Hybrid	3.0L 6 cyl	15.7	5	5	20 / 24	$67,170

** Assuming 15,000 miles driven per year. ** 10 = Best*

Optimize Incentives for a Shift to Alternative Fuels and Advanced Vehicles

The upfront costs of a transition to alternative fuels or advanced vehicles can, in many cases, be offset by lower operating costs and by federal, state, and local tax exemptions, rebates, grants, or other incentives. A comprehensive database of state and federal laws and incentives related to alternative fuels and vehicles, air quality, fuel efficiency, and other transportation topics is available at *afdc.energy.gov/laws*. Be sure to consult with your tax advisor to determine your eligibility for any tax incentive.

Easy Steps to Improve Fuel Economy

Driving behaviors significantly impact fuel economy. To get the most out of each gallon (or kilowatt-hour), follow these tips:

Photo from iStock 3886863

- **Don't drive aggressively:** Avoid jack-rabbit starts, hard braking, and swift acceleration.
- **Remove excess weight:** Don't keep unnecessary items in your vehicle.
- **Keep tires properly inflated:** Check the sticker inside your door or glove box for the proper pressure.
- **Don't speed:** Fuel economy generally decreases at speeds above 50 mph.
- **Remove rooftop boxes and racks when not in use:** Increased drag lowers fuel economy.
- **Avoid idling:** Turn off your engine when parked.
- **Keep the engine tuned:** Delaying maintenance can impact fuel efficiency.
- **Combine trips:** Several short trips from cold starts use more fuel than one multi-purpose trip.

For more tips and information, visit *fueleconomy.gov/feg/drive.shtml.*

Ethanol Flex-Fuel Vehicles

Ford F-150. *Photo from Ford Motor Company*

Flex-fuel vehicles can operate on gasoline or E85

Flex-fuel vehicles (FFVs) are able to run on gasoline, E85, or any combination of the two. E85 is a blend of gasoline and ethanol, with the ethanol content ranging between 51% and 83%, depending on geographical location and season.* According to EPA estimates, the fuel economy of today's FFVs is 25% to 30% lower when running on E85, because ethanol contains less energy per gallon than gasoline. However, E85 is a high-octane fuel, so drivers typically experience better power and performance on E85 than on gasoline. An FFV is often distinguished by a decal on the back of the vehicle, and many FFVs have yellow fuel caps.

As of December 2013, E85 is available at more than 2,300 publicly accessible locations. See page 14 for information about finding E85 stations near you.

* *The E85 fuel economy estimates presented in this section are based on tests with blends containing 79%–85% ethanol.*

Audi A5 quattro. *Photo courtesy of Audi*

Buick LaCrosse. *Photo from General Motors*

Chevrolet Equinox. *Photo from General Motors*

E15 and Intermediate Ethanol Blends

EPA has approved the use of ethanol-gasoline blends up to E15 for use in all 2001 and newer vehicles. Fuel containing more than 15% ethanol is only approved for use in FFVs. This includes various intermediate blends now available from stations with ethanol blender pumps. Using blends higher than E15 in non-FFVs may result in maintenance, safety, or performance problems.

Blends of E15 and above are not approved for use in motorcycles; vehicles with heavy-duty engines; off-road vehicles, such as boats and snowmobiles; off-road equipment, such as lawnmowers and chainsaws; or any conventional vehicles from 2000 or older. For more information, visit *epa.gov/otaq/regs/fuels/additive/e15/e15-faq.htm*.

Mercedes-Benz E350 4Matic.
Photo from Mercedes-Benz USA

Jeep® Grand Cherokee.
Photo from Chrysler Group LLC

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Audi A4 quattro	2.0L 4 cyl	13.7 / 4.7	5	6 / 6	20 / 29	14 / 20	$34,700
Audi A5 quattro	2.0L 4 cyl	14.3 / 4.7	5	6 / 6	20 / 29	14 / 20	$39,000
Audi A5 Cabriolet quattro	2.0L 4 cyl	14.3 / 4.7	5	6 / 6	20 / 29	14 / 20	$46,600
Audi Allroad quattro	2.0L 4 cyl	14.3 / 5.0	5	6 / 5	20 / 27	14 / 18	$40,700
Audi Q5 AWD	2.0L 4 cyl	14.3 / 4.7	5	6 / 6	20 / 28	14 / 19	$37,300
Bentley Continental Supersports	6.0L 12 cyl	22 / 6.8	5	2 / 2	12 / 20	9 / 15	-
Bentley Continental GT	6.0L 12 cyl	22 / 6.8	5	2 / 2	12 / 21	9 / 15	-
Bentley Continental GTC	6.0L 12 cyl	22 / 6.8	5	2 / 2	12 / 20	9 / 15	-
Bentley Continental Flying Spur	6.0L 12 cyl	22 / 6.8	5	2 / 2	12 / 20	9 / 15	-

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Buick LaCrosse FWD/AWD	3.6L 6 cyl	15.7 / 4.7	6	5 / 6	18 / 28	14 / 20	$38,310
Buick Verano	2.4L 4 cyl	-	-	-	-	-	-
Cadillac ATS RWD/AWD	3.6L 6 cyl	-	-	-	-	-	-
Cadillac Escalade ESV 2WD/4WD	6.2L 8 cyl	20.6 / 6.2	6	3 / 3	14 / 18	10 / 15	$70,570
Cadillac Escalade 2WD/4WD	6.2L 8 cyl	20.6 / 6.2	6	3 / 3	14 / 18	10 / 15	$67,970
Chevrolet Caprice Police Patrol Vehicle	3.6L 6 cyl 6.0L 8 cyl	-	-	-	-	-	-
Chevrolet Captiva FWD/AWD	3.0L 6 cyl	17.3 / 5.3	6	4 / 5	17 / 24	12 / 17	-
Chevrolet Captiva FWD/AWD	2.4L 4 cyl	14.3 / 4.2	6	6 / 6	20 / 28	15 / 22	-
Chevrolet Equinox FWD/AWD	2.4L 4 cyl	12.7 / 4.2	6	7 / 6	22 / 32	15 / 22	$24,360

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Chevrolet Equinox FWD/AWD	3.6L 6 cyl	16.5 / 4.7	6	5 / 6	17 / 24	13 / 22	$24,360
Chevrolet Express 1500 2WD/AWD	5.3L 8 cyl	22.0 / 6.8	6	2 / 3	13 / 18	10 / 13	-
Chevrolet Express 2500 2WD	6.0L 8 cyl	25.3 / 8.3	2	1 / 1	11 / 16	8 / 11	-
Chevrolet Express 3500 2WD	6.0L 8 cyl	27.5 / 8.3	2	1 / 1	11 / 16	8 / 11	-
Chevrolet Impala	3.6L 6 cyl	15.0 / 4.7	6	5 / 6	19 / 29	14 / 20	-
Chevrolet Impala Limited Police	3.6L 6 cyl	-	-	-	-	-	-
Chevrolet Silverado 1500 2WD/4WD	4.3L 6 cyl	16.5 / 5.3	6	5 / 4	18 / 24	12 / 16	$31,715
Chevrolet Silverado 1500 2WD/4WD	5.3L 8 cyl	17.3 / 5.3	6	4 / 5	16 / 23	12 / 17	$31,715
Chevrolet Suburban 2WD/4WD	5.3L 8 cyl	19.4 / 5.8	6	3 / 4	15 / 21	11 / 16	-

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Chevrolet Tahoe Police 2WD/4WD	5.3L 8 cyl	-	-	-	-	-	-
Chevrolet Tahoe 2WD/4WD	5.3L 8 cyl	19.4 / 3.8	6	3 / 4	15 / 21	11 / 16	$41,600
Chrysler 200	3.6L 6 cyl	15.0 / 4.7	6	5 / 6	19 / 29	14 / 21	$21,195
Chrysler 300 FWD/AWD	3.6L 6 cyl	14.3 / 4.4	6	6 / 6	19 / 31	14 / 23	$30,545
Chrysler Town & Country	3.6L 6 cyl	16.5 / 5.3	6	5 / 5	17 / 25	12 / 18	$30,765
Dodge Avenger	3.6L 6 cyl	15.0 / 4.7	6	5 / 6	19 / 29	14 / 21	$19,989
Dodge Charger FWD/AWD	3.6L 6 cyl	14.3 / 4.4	6	6 / 6	19 / 31	14 / 23	$26,295
Dodge Charger Police Pursuit	3.6L 6 cyl	-	-	-	-	-	-
Dodge Durango 2WD/AWD	3.6L 6 cyl	17.3 / 5.0	6	4 / 5	17 / 24	13 / 18	-

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Dodge Durango Police Special Service Vehicle	3.6L 6 cyl	-	-	-	-	-	-
Dodge Grand Caravan	3.6L 6 cyl	16.5 / 5.3	6	5 / 5	17 / 25	12 / 18	$19,995
Dodge Journey FWD	3.6L 6 cyl	17.3 / 5.3	6	4 / 5	17 / 25	12 / 18	-
Ford Police Interceptor	3.5L 6 cyl 3.7L 6 cyl	-	-	-	-	-	-
Ford Police Interceptor Utility	3.7L 6 cyl	-	-	-	-	-	-
Ford E-150/250/350	4.6L 8 cyl 5.4L 8 cyl	22.0 / 6.8	2	2 / 2	13 / 16	10 / 12	$29,730
Ford E-350/450 Cutaway	5.4L 8 cyl	25.3 / 7.5	-	1 / 2	12 / 16	9 / 12	$27,030
Ford Expedition 2WD/AWD	5.4L 8 cyl	20.0 / 6.2	6	3 / 3	14 / 20	10 / 14	$41,180
Ford Explorer 2WD/AWD	3.5L 6 cyl	16.5 / 5.0	5	5 / 5	17 / 24	13 / 18	$29,600

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Ford F-150	3.7L 6 cyl 5.0L 8 cyl	17.3 5.3	6	4 / 5	17 / 23	12 / 17	$24,070
Ford Focus	2.0L 4 cyl	11.0 3.3	6	8 / 8	26 / 37	20 / 28	$16,310
Ford Super Duty F-250/350	6.2L 8 cyl	-	-	2 / 2	-	-	$29,875
Ford Super Duty F-350	6.2L 8 cyl	-	-	-	-	-	$30,230
Ford Taurus FWD/AWD	3.5L 6 cyl	14.3 4.7	5	6 / 6	19 / 29	13 / 21	$26,700
Ford Transit 150/250/350	3.7L 6 cyl	-	-	-	-	-	-
Ford Transit 250/350	3.7L 6 cyl	-	-	-	-	-	-
GMC Savana 1500 2WD/AWD	5.3L 8 cyl	22.0 6.8	6	2 / 3	13 / 18	10 / 13	-
GMC Savana 2500 2WD	6.0L 8 cyl	25.3 8.3	2	1 / 1	11 / 16	8 / 11	-

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
GMC Savana 3500 2WD	6.0L 8 cyl	27.5 / 8.3	2	1 / 1	11 / 16	8 / 11	-
GMC Sierra 1500 2WD/4WD	4.3L 6 cyl	16.5 / 5.3	6	5 / 4	18 / 24	12 / 16	$32,215
GMC Sierra 1500 2WD/4WD	5.3L 8 cyl	17.3 / 5.3	6	4 / 5	16 / 23	12 / 17	$32,215
GMC Terrain AWD	2.4L 4 cyl	12.7 / 4.2	6	7 / 6	22 / 32	15 / 22	$26,465
GMC Terrain FWD/AWD	3.6L 6 cyl	16.5 / 4.7	6	5 / 6	17 / 24	13 / 22	$26,465
GMC Yukon Denali 4WD	6.2L 8 cyl	22.0 / 6.2	6	2 / 3	13 / 18	10 / 14	$59,815
GMC Yukon XL 2WD/4WD	5.3L 8 cyl	19.4 / 5.8	6	3 / 4	15 / 21	11 / 16	-
GMC Yukon XL 2WD/4WD	6.2L 8 cyl	20.6 / 6.2	6	3 / 3	14 / 18	10 / 15	-
GMC Yukon 2WD	6.2L 8 cyl	20.6 / 6.2	6	3 / 3	14 / 18	10 / 15	$42,955

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
GMC Yukon 2WD/4WD	5.3L 8 cyl	19.4 / 5.8	6	3 / 4	15 / 21	11 / 16	$42,955
Jaguar XF FFV	3.0L 6 cyl	15.7 / 5.0	5	5 / 5	17 / 28	19 / 19	$46,975
Jaguar XF FFV	5.0L 8 cyl	18.3 / 5.8	5	4 / 4	15 / 23	11 / 17	$46,975
Jaguar XJ FFV	3.0L 6 cyl	15.7 / 5.3	5	5 / 5	18 / 27	12 / 19	$73,200
Jaguar XJ FFV	5.0L 8 cyl	18.3 / 5.8	5	4 / 4	15 / 23	11 / 17	$73,200
Jaguar XJL FFV	3.0L 6 cyl	15.7 / 5.3	5	5 / 5	17 / 27	11 / 19	$73,200
Jaguar XJL FFV	5.0L 8 cyl	18.3 / 5.8	5	4 / 4	15 / 23	11 / 17	$73,200
Jeep® Grand Cherokee 2WD/FWD	3.6L 6 cyl	16.5 / 4.7	6	5 / 5	17 / 25	14 / 19	$22,995
Land Rover Range Rover	3.0L 6 cyl	17.3 / 5.3	5	4 / 4	17 / 23	12 / 16	$63,497

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Land Rover Range Rover	5.0L 8 cyl	20.6 / 6.8	5	3 / 3	14 / 19	9 / 14	$63,497
Land Rover Range Rover Sport	3.0L 6 cyl	17.3 / 5.3	5	4 / 4	17 / 23	12 / 16	$63,497
Land Rover Range Rover Sport	5.0L 8 cyl	20.6 / 6.8	5	3 / 3	14 / 19	9 / 14	$63,497
Lincoln Navigator 2WD/AWD	5.4L 8 cyl	20.6 / 6.2	6	3 / 3	14 / 20	10 / 14	$57,875
Mercedes-Benz C300 4Matic	3.5L 6 cyl	15.0 / 4.7	5	6 / 6	20 / 27	14 / 20	$39,400
Mercedes-Benz C350 Sedan/Coupe	3.5L 6 cyl	14.3 / 4.4	5	6 / 6	20 / 29	15 / 21	$42,100
Mercedes-Benz E350 4Matic Sedan/Coupe	3.5L 6 cyl	13.7 / 4.4	5	6 / 6	20 / 29	15 / 21	$54,400
Mercedes-Benz E350 Sedan/Coupe	3.5L 6 cyl	13.7 / 4.2	5	6 / 6	21 / 31	16 / 23	$51,900
Mercedes-Benz ML350 4Matic	3.5L 6 cyl	17.3 / 5.0	5	5 / 5	17 / 22	13 / 17	$47,790

** Assuming 15,000 miles driven per year. ** 10 = Best.*

Flex-Fuel Vehicle Model	Engine Size	Energy Impact Score* (barrels petroleum/year) On Gasoline / On E85	Smog Score**	GHG Score** Gasoline/ E85	Fuel Economy (mpg) Gasoline City/Hwy	Fuel Economy (mpg) E85 City/Hwy	Starting MSRP
Nissan Armada 2WD/4WD	5.6L 8 cyl	22.0 / 6.8	5	2 / 2	12 / 19	9 / 13	$36,890
Nissan Titan 2WD/4WD	5.6L 8 cyl	22.0 / 6.8	5	2 / 2	13 / 18	9 / 13	-
Ram 1500 2WD/4WD	3.6L 6 cyl	16.5 / 5.3	6	5 / 5	17 / 25	12 / 17	-
Ram C/V	3.6L 6 cyl	15.7 / 5.0	6	5 / 5	18 / 26	13 / 18	$21,360
Toyota Sequoia 4WD	5.7L 8 cyl	22.0 / 6.8	5	2 / 2	13 / 17	9 / 12	$43,595
Toyota Tundra 4WD	5.7L 8 cyl	22.0 / 6.8	5	2 / 2	13 / 17	9 / 12	$25,920

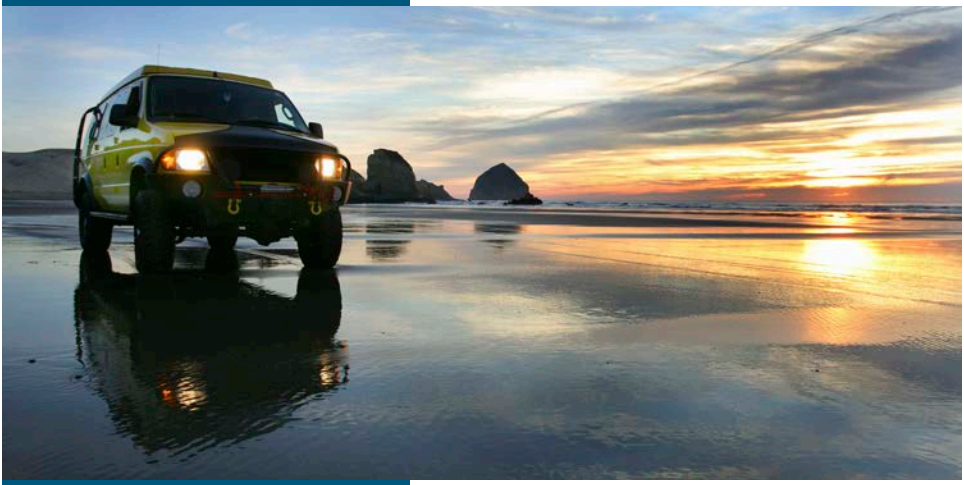
** Assuming 15,000 miles driven per year. ** 10 = Best.*

U.S. Department of Energy

Clean Cities advances the nation's economic, environmental, and energy security by supporting local actions to cut petroleum use in transportation. A national network of nearly 100 Clean Cities coalitions brings together stakeholders in the public and private sectors to deploy alternative and renewable fuels, idle-reduction measures, fuel economy improvements, and emerging transportation technologies.

For more information, visit:

- *cleancities.energy.gov*
- *fueleconomy.gov*
- *afdc.energy.gov*



U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy

Clean Cities Technical Response Service
800-254-6735
technicalresponse@icfi.com

To view this and other Clean Cities publications online, visit *cleancities.energy.gov/publications.*

DOE/GO-102013-4261
December 2013

Prepared by the National Renewable Energy Laboratory (NREL), a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy; NREL is operated by the Alliance for Sustainable Energy, LLC.

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% post consumer waste.

Photo from iStock 4800563

Clean Cities
U.S. Department of Energy