Green Car Guide

PRODUCED BY THE AUTOMOBILE CLUB OF SOUTHERN CALIFORNIA'S AUTOMOTIVE RESEARCH CENTER

2013 TESLA S
Top-Scoring Green Car

83 GREEN CARS

Reviewed & Scored

2014 Chevy Spark 1LT
Best Green Car Value

2014 Edition

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2014 EDITION

Produced by the
Automobile Club of Southern California's
Automotive Research Center

AAA.com/greencar

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Introduction

The *AAA Green Car Guide* is an annual report produced by the Automobile Club of Southern California's Automotive Research Center (ARC) that reviews and ranks electric, hybrid, alternative fuel, clean diesel, fuel-efficient, and low-emitting gasoline-powered vehicles based on a number of characteristics, including fuel economy, emissions, ride comfort, braking, handling, and more. The purpose of the guide is to provide motorists with useful information about green technologies and vehicles, and to assist them in the process of purchasing a vehicle. The ARC has produced the *AAA Green Car Guide* since 2010.

The ARC, located in California, is one of the premier vehicular-emission test laboratories. It features state-of-the-art facilities and equipment, operated by Auto Club engineers and technicians with more than 100 years of combined experience. It runs emissions and fuel-efficiency tests, on-board diagnostics (OBD) testing, horsepower measurements, and more.

The AAA Green Car Guide is a complete guidebook to green vehicles:

- It **defines** what a green car is and explains why buying a green car can be good for both you and the planet.
- It **explains** the differences between various types of green cars, the advantages and disadvantages of each type, and how to choose one that best suits your needs.
- It presents **previews** of the green cars scheduled to come on the market in the next few years.
- It provides real-world **evaluations** of green cars to determine their usefulness under operating conditions that motorists encounter in their daily lives.

The *AAA Green Car Guide* ranks cars from highest to lowest; it also evaluates them on a cost-per-point basis, taking a car's purchase price into account to determine the best green car value. Its reviews provide summary "snapshots" of the cars and list their strong and weak points.

When you finish reading the *AAA Green Car Guide*, you'll have the tools you need to find the green car that best suits your transportation needs.

What's Inside

What Does it Mean to Be Green?

New-car sales rebounded strongly in 2013, and automakers are offering car buyers a greater selection and availability of green cars than in past years. But exactly what does the term "green car" mean?

Green cars are vehicles that are designed to:

(1) burn less fuel than conventional gasoline- or diesel-powered vehicles

(2) minimize the harmful byproducts (emissions) of burning that fuel, and

(3) reduce the harm they do to people and the environment.

Green cars are often powered by alternative fuels, and include hybrid-electric vehicles (including plug-in hybrids, or PHEVs), electric vehicles (EVs), natural-gas (CNG) vehicles, clean-diesel vehicles, hydrogen fuel cell vehicles, and vehicles that run on fuels such as biodiesel or an ethanol blend (flex-fuel vehicles, or FFVs).

Cars with advanced internal-combustion engines (ICEs) that run on gasoline or diesel fuel and attain high fuel economy can also be considered green cars, because they use much less gas and produce fewer carbon emissions than the average car, improving energy-efficient usage in the short run.

Kia **Soul**

Toyota
Avalon

Jeep
Grand Cherokee

Lexus **LS 600h L**

The many **sizes** & **shapes** of **green cars**

Fiat **500**

Ford **F-150**

Getting to Green

Simply put, the **higher the miles per gallon** (MPG or MPGe), the greener the car. Automakers attempt to improve a vehicle's fuel economy in a number of ways, including:

- Installing a more fuel-efficient powertrain, such as hybrid-electric, electric, CNG, or diesel
- Better engine and transmission design—features like turbocharging and supercharging, stop-start technology, cylinder deactivation, and continually variable transmissions (CVTs)
- Reducing vehicle size and weight
- Improving vehicle aerodynamics
- Using low-rolling-resistance tires

Typically, carmakers use three types of technology to reduce harmful emissions: (1) improved powertrain design, (2) catalytic converters, and (3) evaporative emissions systems.

Improved powertrain design includes technology such as direct fuel injection and an engine control unit (ECU) to regulate air/fuel ratio, ignition timing, idle speed, and valve timing, thereby achieving more complete combustion.

Catalytic converters convert hydrocarbons, carbon monoxide (CO), and oxides of nitrogen (NO_x) in a car's exhaust into less harmful gases, using chemical elements such as platinum, palladium, and rhodium as catalysts.

Evaporative emissions systems use charcoal canisters to absorb harmful fuel vapors from a vehicle's fuel system, which might otherwise escape into the atmosphere.

Technological improvements to motor fuels—removing lead from gasoline and reducing the amount of sulfur in gasoline and diesel fuel, for example—have also contributed to reducing the harmful emissions vehicles produce.

PRINCIPAL POLLUTANTS in vehicle exhaust

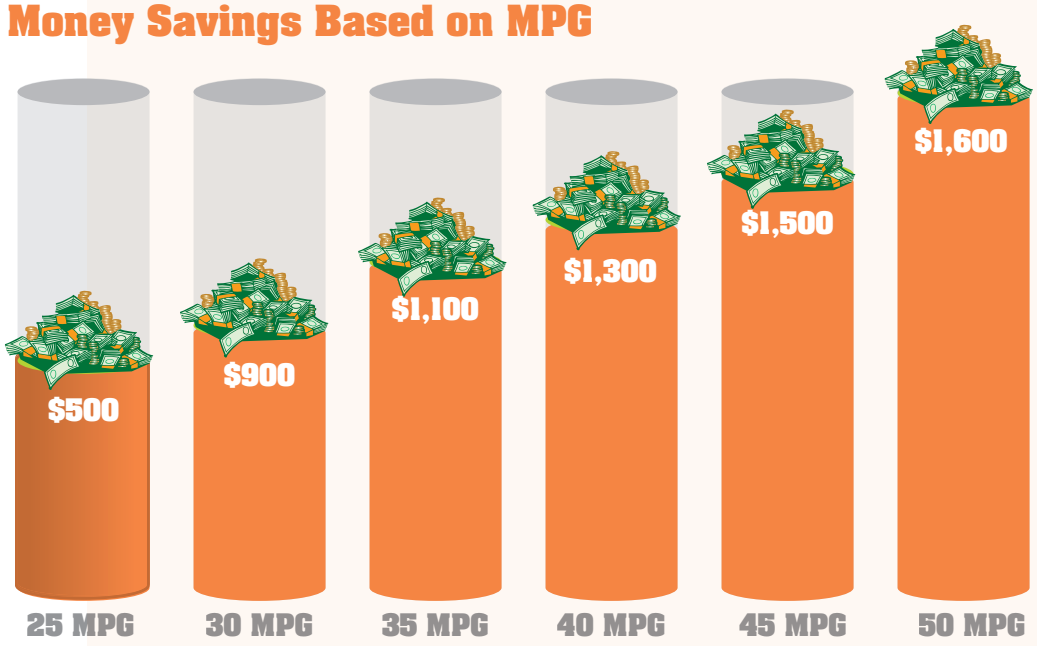
Oxides of Nitrogen (NO_x), caused from superheating nitrogen and oxygen during fuel combustion.

Volatile Organic Compounds (VOCs), comprised primarily of unburned fuel and evaporation of hydrocarbons. When VOCs combine with NO_x in sunlight, ozone is created. Ozone serves as a protective layer in the Earth's stratosphere but is unhealthy to breathe.

Carbon Monoxide (CO), caused from the incomplete combustion of carbon-based fuel (for example, oil, natural gas, alcohol, coal, or wood).

Carbon Dioxide (CO_2), one of the two main constituents in the exhaust of vehicles burning carbon-based fuel (gasoline, diesel, natural gas, and alcohols). If perfect combustion occurred, the only exhaust ingredients would be CO_2 and water vapor. Unfortunately, CO_2 is a potent greenhouse gas, leading to global warming. Increased ground-level temperatures attributed to global warming also lead to increased low-level ozone. According to the EPA, passenger vehicles account for about 17 percent of CO_2 emissions nationally.

Money Savings Based on MPG



Here's how much you could save in one year if you switched from a 20-MPG vehicle to a more fuel-efficient one.

Why Go Green?

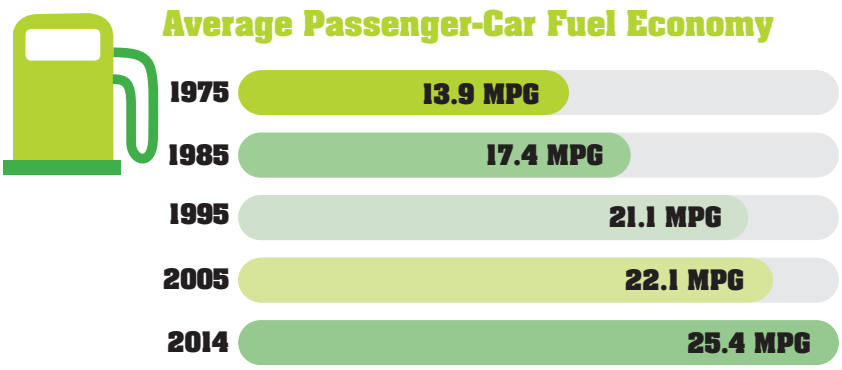
There are two good reasons to buy a green car: to save money and to save the planet (environmental, health, and energy security benefits).

Saving Money. If you want to spend less money on fuel, buying a high-MPG car is the most effective way to do it. Suppose you drive 15,000 miles a year, your midsized sedan averages 17 MPG, and a gallon of gas costs $3.70. That means you'd use about 880 gallons of gas a year, and your fuel costs would be about $3,250.

However, if you bought a midsize sedan that averages 35 MPG—not that difficult to do—you'd use just 430 gallons of gas and spend about $1,600 a year for fuel—a $1,650 savings. And if fuel prices rise, you'll save even more money.

A common objection to buying a green car is that they typically cost more than their conventional counterparts. In general, however, the difference in price is coming down and, depending on the vehicle, you could recoup the money within a few years. For example, if you were to buy a 2014 Toyota Prius (50 MPG) instead of a 2014 Toyota Camry LE (29 MPG), you'd recover the $366 manufacturer suggested retail price (MSRP) premium in six months. And, driving 15,000 miles a year and paying $3.70 a gallon for gas, you'd save $800 a year. (To calculate the payback time for other hybrids versus nonhybrids, go to the U.S. Environmental Protection Agency [EPA] website, fueleconomy.gov/feg/hybridCompare.jsp.)

Of course, reducing automotive emissions and improving fuel economy have huge benefits for society, too. Three of the most important are improvements to the *environment, health,* and *energy security.*



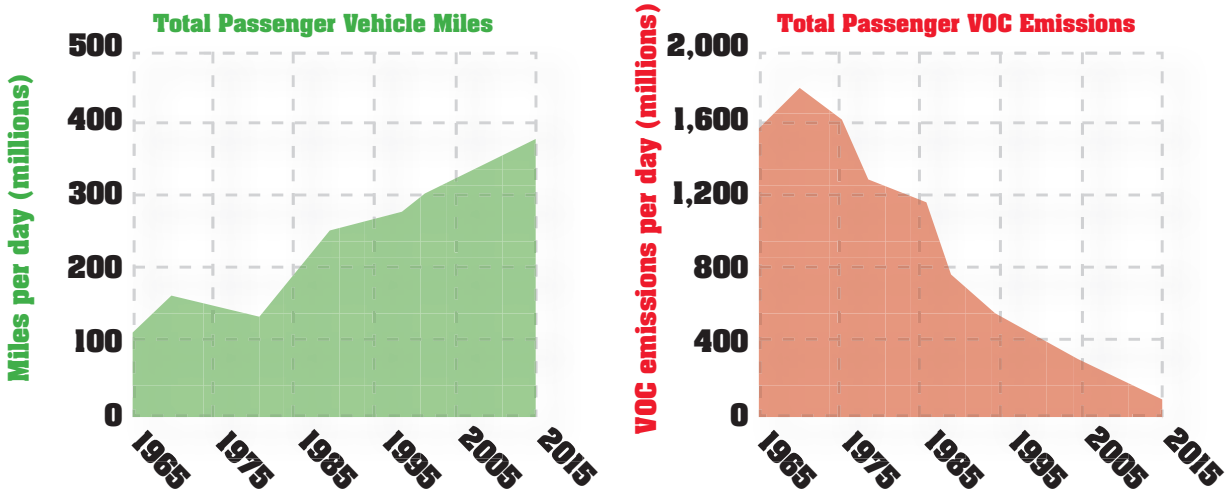
Environmental benefits. Carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) from vehicle emissions are major contributors to the concentration of greenhouse gases that cause climate change. And that's saying a lot—each gallon of gas burned puts about 20 pounds of CO_2 into the atmosphere. The transportation sector is responsible for 27 percent of U.S. greenhouse gas emissions, and cars and light trucks are responsible for 17 percent, according to the EPA. Therefore, driving a vehicle with better fuel economy can reduce your contribution to climate change. In general, the average fuel economy numbers for U.S. passenger vehicles has improved significantly since the 1970s. We've gone from an average of 13.9 MPG in 1975 to an average of 25.4 MPG today.

Historically, we've done a better job reducing emissions than improving fuel economy, so the greater focus is likely to be on improving fuel economy in the future. The federal government has set ambitious corporate average fuel economy (CAFE) standards and greenhouse gas goals for automakers over the next decade. The new CAFE standards are intended to significantly reduce CO_2 emissions from passenger vehicles and to reduce the nation's petroleum consumption.

Fuel economy is expected to improve each year so that the average new passenger vehicle reaches a real-world average of about 40 MPG by 2025. The technology needed to achieve higher fuel standards will increase new-vehicle costs by an estimated $1,800, but that should be offset by fuel savings of about $7,300 over the lifespan of the vehicle.

Vehicle Miles Traveled vs. VOC Emissions

South Coast Air Basin (Los Angeles, Orange, Riverside, and San Bernardino counties)



Health benefits. In the 1950s and '60s, emissions from passenger vehicles produced 50 percent of the gases that resulted in smog, which is linked to respiratory and cardiopulmonary disease, lung cancer, and higher rates of mortality. Since the late 1980s, however, the EPA and the California Air Resources Board (CARB) have required automakers to produce an increasing number of low- and zero-emission vehicles.

As a result of these improvements, today's cars now account for less than 25 percent of smog-producing emissions, despite the increase in the number of cars on the road and the number of vehicle miles traveled. In 1965, a new car emitted on average 228 pounds of volatile organic compounds (VOCs) a year; today, that number is down to less than 2 pounds (based on driving 15,000 miles a year), a 99 percent reduction.

These emission reductions have led to big improvements in the air we breathe. For example, Southern California's air quality has traditionally been the worst in the U.S. In the 1960s, this region experienced well over 100 smog alerts annually. Now, smog alerts are rare; there has been just one in the past 10 years.

Energy security. Nearly 40 percent of the petroleum the U.S. uses is imported, costing us about $300 billion annually. Despite recent increases in domestic oil production, the U.S. Department of Energy estimates that 30–40 percent of our petroleum will come from imports for the foreseeable future. What's more, most of the world's oil reserves are in regions like the Middle East and Russia, and controlled by governments potentially unfriendly to ours, so our dependence makes us vulnerable to price spikes and fluctuations in supply.

Because cars and light-duty trucks account for 45 percent of U.S. oil consumption, improving the fuel economy of U.S. passenger vehicles will significantly reduce our dependence on foreign oil. The EPA estimates that by 2025, the new higher fuel-economy standards will reduce oil consumption by about 2.2 million barrels a day. And as older vehicles are replaced by newer ones, that number will rise to more than 4 million barrels a day.

In the final analysis, fuel prices and tax breaks will play a big part in determining whether or not consumers decide to buy cars with fuel-efficient powertrains—alternative or conventional. Mainly because of their initial lower cost, conventional gasoline-powered cars will likely continue to outsell those with alternative powertrains, at least through the end of the decade.

Few motorists are willing to put public interest before self-interest if buying green costs extra. For example, a study by Consumers Union found that most consumers would buy an electric vehicle only if they could break even on ownership costs within three years.

Nevertheless, to meet CAFE and increasingly stringent emissions standards, automakers will keep introducing more alternative-powered cars in the years ahead. And as these vehicles evolve and become more popular, the costs associated with building them should decline, prompting more motorists to buy them.

Clean, cleaner, cleanest vehicles

Classifications for Passenger-Vehicle Emissions

LEV: Low-emission vehicles emit about 45 percent of the smog-forming pollutants permitted under the former LEV standard. Examples: Buick LaCrosse eAssist (2.4-liter 4, auto), Nissan Altima (2.5-liter 4, auto)

ULEV: Ultra-low-emission vehicles emit half the carbon monoxide and hydrocarbons of a LEV vehicle. Examples: Chevrolet Impala (2.4-liter 4, auto), Hyundai Sonata (2.4-liter 4, auto)

SULEV: Super-ultra-low-emission vehicles meet even stricter standards than ULEV when fueled with low-sulfur gasoline. Examples: BMW 328i (2.0-liter 4, auto), Buick LaCrosse (3.6-liter 6, auto)

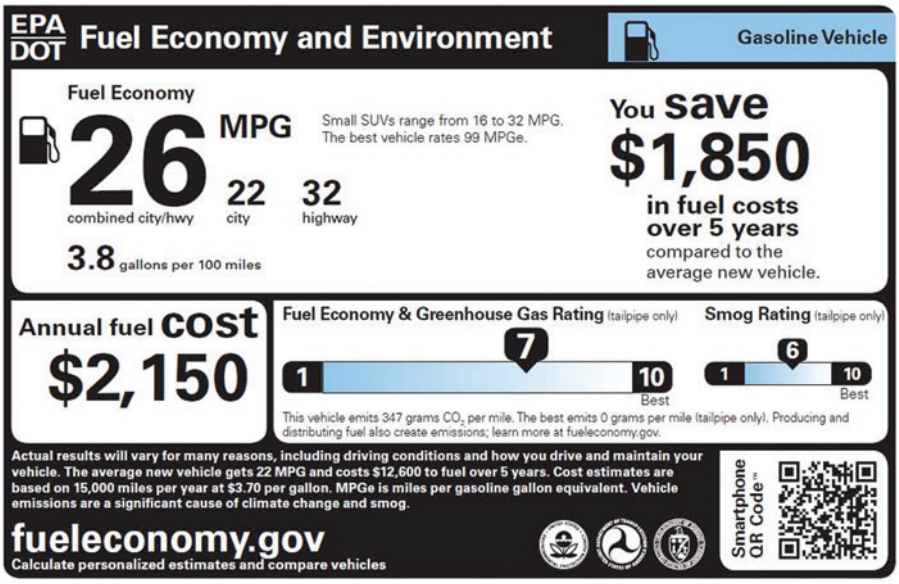
PZEV: Partial zero-emission vehicles meet SULEV requirements, have zero evaporative emissions, and include a 15-year/150,000-mile warranty on emissions-control parts. Examples: Subaru Forester (2.5-liter 4, CVT), Toyota Prius (1.8-liter 4, CVT)

AT PZEV: Advanced technology partial zero-emission vehicles meet PZEV requirements, but also some ZEV requirements. Example: Honda Civic CNG.

ZEV: Zero-emissions vehicles are EVs and hydrogen fuel cell vehicles. Examples: Honda Clarity, Nissan Leaf.

Green Alternatives

An abundance of green cars are now available, which is both good news and bad news for prospective car buyers. The good news is that when you're looking for a green car, you're not limited to any particular powertrain or body style. You can find green cars that are powered by gasoline, a combination of gasoline and electricity, flex fuel (a mixture of gasoline and ethanol), electricity alone, compressed natural gas, or diesel fuel. What's more, you'll find green cars in virtually every body type and size: sedan, hatchback, convertible, minivan, coupe, SUV, and pickup truck. The bad news (all right, not that bad) is that for the uninitiated, so many choices can be overwhelming. However, the *AAA Green Car Guide* can help you sort out what's most important and simplify the decision-making process. For more information, go to AAA.com/greencar.



EPA Fuel Economy and Environment label for a gasoline vehicle

Finding a Green Vehicle

How do you know you're actually buying a green car? Sometimes the answer is obvious. If a car gets a rating of 41 MPG for combined city/highway driving like the Toyota Camry Hybrid does, you can be pretty sure you're shopping in the right new-car lot.

But suppose you want to buy a car with a conventional gasoline engine and you'd still like to get the cleanest, most efficient model available? That can make things a little more difficult, because two cars that look almost identical can have different "green cred," depending on their engines and transmissions, among other components. And even cars with similar fuel economy ratings can vary in terms of their smog-producing emissions.

The best place to start is to check out a vehicle's EPA Fuel Economy and Environment Label (pictured), which has lots of useful information on it. It's affixed to the side window of all new cars and light trucks. The type of label varies depending on the type of vehicle (gasoline, hybrid, diesel, or electric).

To get a handle on a vehicle's green qualities, you'll want to look at three numbers: fuel economy (upper left), fuel economy & greenhouse gas rating (center), and smog rating (center right).

- The **Fuel Economy score** lists city, highway, and combined MPG, with combined as the most prominent.
- The **Fuel Economy & Greenhouse Gas score** assigns a rating from 1 to 10 (worst to best) for fuel economy and for greenhouse gas emissions (how much CO_2 the vehicle's tailpipe emits). As was mentioned in Chapter 1, higher fuel economy correlates with lower greenhouse gas emissions.
- Finally, the **Smog Rating** (1 to 10, worst to best) is a rating for vehicle tailpipe emissions that cause smog and other local air pollution.

To find out more useful information about the Fuel Economy and Environment label, such as estimated annual fuel costs and fuel savings over a five-year period, go to epa.gov/carlabel.

Which Kind of Green Car?

If you're in the market for a green car, you can choose from literally hundreds of models across a wide variety of green technologies. What follows are descriptions of the major types, followed by an assessment of the advantages and disadvantages of each.

Advanced-Technology Internal-Combustion Engines (ICEs)

Many mainstream vehicles using traditional ICEs meet high fuel economy and achieve low emissions standards (e.g., PZEV). As was mentioned in Chapter 1, such vehicles use a variety of technologies to achieve these high standards, such as turbocharging, direct fuel injection, CVTs, and so on. Unfortunately, relatively few people (including some new-car salespeople) are aware of their existence. So if you want to buy a green car, when you go shopping, do your research first, and then check out the car's EPA label.

Mazda **Mazda3**

2014 vehicles with advanced ICEs that can have SULEV or PZEV ratings include:

VEHICLE	COMBINED MPG	SMOG RATING	GREENHOUSE GAS RATING
BMW 328i	28	8	7
Buick LaCrosse	29	8	7
Cadillac ATS	26	8	7
Chevrolet Equinox	28	8	7
Chevrolet Impala	29	8	7
Ford Fusion	28	9	7
Honda Accord	30	8	8
Hyundai Elantra	28	9	7
Hyundai Sonata	28	9	7
Kia Optima	27	9	7
Mazda3	31	9	8
Mazda6	30	9	8
Nissan Altima	31	9	8
Nissan Sentra	33	9	8
Subaru Forester	27	9	7
Subaru Outback	26	9	7
Toyota Camry	28	9	7
Volkswagen Golf	26	9	7
Volkswagen Passat	26	9	7

As you can see from this list, it's no longer only boxy subcompacts that can be considered green cars. For a list of EPA's fuel-efficient, clean Smartway vehicles, go to fueleconomy.gov/feg/smartWay.jsp.

What's Cool

- Proven, reliable technology
- Gets better gas mileage, pollutes less than conventional vehicles
- Generally less expensive than other types of green vehicles.

What's Not

- May not be as fuel efficient or clean as other kinds of green vehicles.

Dodge **Ram 1500**

Flex-Fuel Vehicles

A flex-fuel vehicle has an engine that can run on both gasoline and blends of gasoline and alcohol in ratios up to 85 percent alcohol. Initially, the alcohol used was methanol, but this has been supplanted by ethanol. E85 (85 percent ethanol and 15 percent unleaded gasoline) is available in many service stations, most of them in the Midwest. E85 is scarce in other areas.

Why flex-fuel? For one thing, because ethanol is domestically produced, using it reduces the need to import as much oil. Acknowledging the importance of energy independence as a national mandate, Congress passed the Energy Independence and Security Act in 2007, which contains a Renewable Fuels Standard (RFS) that requires blending increasing amounts of biofuels with petroleum-based fuels (gasoline and diesel) over time, topping out at 36 billion gallons per year by 2022.

Ethanol burns cleanly and reduces greenhouse-gas emissions from vehicles. Unfortunately, recent studies have shown that producing ethanol at current levels creates roughly as much extra greenhouse-gas emissions as it saves at the tailpipe. Also, ethanol has a lower energy content than gasoline, resulting in lower (about 25–30 percent) MPG figures.

Most ethanol used in American gasoline today comes from corn, and over time ethanol production has consumed a growing portion of the nation's corn crop. In 2012, it was estimated that 40 percent of U.S. grown corn was used to make ethanol, although 12 percent of that reentered the market as dried distiller grains for livestock feed. Some people object to using a food crop for automotive fuel and claim that food prices have gone up as a result of corn being diverted to ethanol production.

In Brazil, Sweden, and South Africa, fuel ethanol is made from sugar cane and wood chips. It is expected that future U.S. ethanol production will come from cellulosic sources such as corn stover (leaves, stalks, and other leftovers), wood chips or pulp, rye straw, or switchgrass. However, although this technology is being developed, none of these materials are yet being used to produce fuel-quality ethanol on a large scale.

For more information on currently available flex-fuel vehicles and E85 fueling locations, go to fueleconomy.gov/feg/flextech.shtml and to e85vehicles.com.

What's Cool

- Domestically produced alternative fuel reduces the need to import oil
- Higher octane means better performance
- Burns cleaner than gasoline, pollutes less.

What's Not

- Limited availability of E85
- Lower MPG than gasoline
- Diversion of corn to fuel production may increase food prices.

Hybrids

A hybrid is a vehicle with more than one powertrain. There are many potential hybrid technologies, but those currently in production are gas/electric hybrids, which combine a conventional gasoline engine with an electric motor/generator, a battery pack, and a controller. Hybrids have been on the market since the late 1990s.

Hybrids take advantage of the efficiencies of the two powertrains to increase a vehicle's overall fuel efficiency, although not all hybrids are exceptionally fuel efficient. Electric motors are very efficient in stop-and-go city driving, and gasoline engines are more efficient when driving at higher speeds. Hybrids are almost always equipped with regenerative braking. That means when you coast or brake, the electric motor functions as a generator and converts the vehicle's kinetic energy into electricity to charge the battery pack.

Hybrids sometimes cost more than their nonhybrid counterparts—but not always, and sometimes not much more. As we mentioned earlier, the difference in purchase price depends on the model, and if the hybrid costs more, how long it takes to recoup the difference depends on the difference in purchase price, the cost of gasoline, and how much you drive.

At first, consumers were skeptical about hybrids, asking questions like "How often do they have to be plugged in?" "How reliable are they?" "In case of a crash, do occupants risk being electrocuted?" "Will the battery pack fail, and if so, how much does it cost to replace?"

Such fears about hybrids have been allayed. For example, most people now know that conventional hybrids don't have to be plugged in. Hybrid technology has proven very reliable. No one has been electrocuted in a hybrid car crash. Battery packs rarely fail, have long warranties (up to 10 years/150,000 miles), and generally function well beyond the warranties. Replacing a battery pack after the warranty expires can be expensive, but prices are coming down (typically $2,500–$3,500 for a replacement).

In the past decade, the hybrid scene has changed significantly. For example, you can buy a hybrid in almost any size and shape and in almost any price range.

What's Cool

- Gets better gas mileage and produces less pollution than most conventional cars
- Reliable technology.

What's Not

- Can cost more than comparable conventional cars
- More complex than conventional cars, which could lead to higher repair costs.

Toyota **Prius**

Plug-in Hybrids

A newer type of hybrid, the plug-in hybrid electric vehicle (PHEV), has been developed in the past few years. It has a larger battery pack than a typical hybrid, which can be recharged by connecting it to an external electric power source. The larger battery packs allow PHEVs to go farther on electricity alone (typically 15 to 50 miles, depending on the vehicle and driving conditions) before they have to operate as conventional hybrids. That is, once the battery is depleted, the gasoline engine seamlessly kicks in, and drivers can travel until they need to stop for gas and/or recharge their battery pack.

Because PHEVs run solely on electricity more of the time, their overall fuel economy is better than a conventional hybrid's. In general, the cost of the electricity to recharge a PHEV or electric vehicle (EV) is significantly lower than the cost of gasoline or diesel fuel, especially for utilities that provide discounts for off-peak nighttime charging. Typically, PHEV batteries can easily be recharged overnight.

PHEV owners often buy their vehicles because they have short commutes and find the idea of driving without having to burn gasoline appealing (and less expensive). And of course, they're not plagued by the "range anxiety" that sometimes afflicts EV owners, because of the "safety net" their PHEV's gasoline engine provides.

The Chevrolet Volt, which came out in model year 2012, was the first PHEV. Cadillac, Ford, Honda, Mitsubishi, Porsche, and Toyota also make PHEVs. BMW's exotic i8 PHEV sports car is due out in mid-2014, and more automakers will likely produce PHEVs in the near future because of their convenience, range, and fuel efficiency.

What's Cool

- Higher fuel economy than standard hybrids
- Fewer greenhouse gas emissions
- Lower fuel costs (electricity costs much less than gasoline)
- No range anxiety.

What's Not

- Higher vehicle cost than hybrids
- Difficult for some people (apartment dwellers, those without a garage) to recharge
- Difficult to measure fuel economy accurately, since PHEVs can operate on electricity, gasoline, or a combination of both.

Ford
C-Max Energi

Electric Vehicles

Electric vehicles (EVs) are powered by an electric motor (or motors) that draws current from a rechargeable battery pack. EVs are appealing for a number of reasons. Electric motors are efficient, quiet, and powerful, and provide instant, smooth, and strong acceleration. They also offer the advantage to manufacturers (who must sell a certain number to meet emissions regulations) and consumers of burning no fossil fuel and therefore producing zero emissions at the tailpipe.

The overall "cleanliness" of EVs (or plug-in hybrids), however, depends on how clean the electricity is that powers them. In some states, that electricity comes largely from hydro, nuclear, and renewable sources, which are relatively nonpolluting. However, electricity generated by coal-fired power plants, commonly used in many states, is much dirtier, and produces measurably higher levels of smog-forming pollutants.

Most EVs suffer from a single significant drawback: the lack of a small, light, inexpensive battery with a large storage capacity, plus the related challenge of high recharge times. Most battery packs produce only enough electricity for an EV to travel 75–100 miles, and although battery charge times are coming down, most EV batteries require 4 to 8 hours at 240 volts to recharge fully, sometimes longer. Even a "quick charge" to 80 percent capacity can take a half hour. And battery replacement, when needed, is likely to be expensive.

All this minimizes EVs' appeal and reduces their practical utility to that of a second car, mainly because of what's come to be known as "range anxiety": *What if my plans unexpectedly change and I need to drive 50 miles farther today than I thought I would?*

Nevertheless, in addition to Nissan and Tesla, a number of carmakers—BMW, Chevrolet, Fiat, Ford, Honda, Mitsubishi, smart, Toyota, and Volkswagen—have already produced EVs or will bring them to market soon.

What's Cool

- Cost of electricity less than cost of gasoline or diesel fuel
- No fossil fuel burned, therefore no CO_2 produced by the vehicle
- Clean running—zero tailpipe emissions
- Strong initial acceleration
- Smooth and quiet to operate
- Low lease prices often available
- EVs reduce dependence on imported oil.

What's Not

- Higher vehicle cost (even with tax breaks, rebates, and other incentives)
- Limited range—typically 75–100 miles—before a recharge is needed
- Slow "fill-up" (i.e., long recharging times), especially on a 110-volt outlet
- Not so clean to drive if your electricity source is a coal-fired power plant
- Limited places to recharge, especially for apartment dwellers
- Cold and hot weather reduce their range
- Expensive to replace the battery.

Clean-Diesel Vehicles

Diesel-fueled passenger cars are extremely popular in Europe, where fuel prices are much higher than in the U.S., because of their high fuel efficiency, reduced CO_2 emissions, and durability. Diesel vehicles haven't sold as well in this country, though, with the exception of heavy-duty pickup trucks and SUVs, mainly because they have a reputation for being noisy, smelly, rough-running, and dirty.

None of these qualities applies to modern diesel cars, however—they're smooth and quiet and emit virtually no odors. Most people who drive them can't tell the difference from driving a gasoline-powered vehicle. Diesel engines offer snappy acceleration, are well suited for towing, and generally require less maintenance than gasoline engines. But even with low-sulfur diesel fuel and exhaust after-treatment, diesel vehicles are still among the highest-emitting new vehicles currently sold, meeting only California's LEV or ULEV standards.

Diesels often cost more than their gasoline-powered counterparts. Sometimes—though not always—that extra expense can be recouped in fuel savings and lower depreciation costs. But there's also the difference in fuel costs. Diesel fuel typically costs more than unleaded regular. In May 2014, for example, diesel fuel averaged about $4.00 a gallon nationally, compared with $3.70 for unleaded regular.

That kind of price differential has been fairly typical for the past decade, according to the U.S. Energy Information Administration (EIA), which states, "on-highway diesel fuel prices have been higher than regular gasoline prices almost continuously since September 2004." The main reasons, the EIA says, are high worldwide demand for diesel fuel, higher production costs transitioning to less-polluting, lower-sulfur diesel fuels in the U.S., and a higher federal excise tax on diesel fuel.

What's Cool

- High fuel economy
- Durable, powerful engines
- Less maintenance required, compared with gasoline-powered vehicles
- Ready availability of diesel fuel.

What's Not

- More expensive fuel
- "Dirtier" than most clean vehicles.

Audi **A7 TDI**

Honda **Civic GX**

CNG-powered Vehicles

Compressed natural gas (CNG) has some great advantages as a vehicle fuel. First, the U.S. has vast reserves of it, so we're not dependent on other countries for a supply. Second, CNG is relatively clean. When burned, it produces 60–90 percent fewer smog-producing emissions and 30–40 percent fewer global-warming gases than gasoline. CNG is also less expensive than gasoline. According to cngnow.com, from May 2013–May 2014, the equivalent average national price for CNG was consistently about $2.10 a gallon equivalent, compared with about $3.50 for gasoline.

Despite these compelling advantages, very few private passenger cars available in this country run on CNG—less than one tenth of one percent. Only Honda makes a natural gas–powered car for the public, the Civic NGV GX. It's built in Indiana and formerly was sold only in California, Utah, and New York. But because of increased demand, it's now sold in 38 states.

The GX looks and drives like a conventional Civic, but it costs upwards of $6,000 more than a comparable Civic sedan. The GX gets about the same mpg as a gasoline-powered Civic, but because its reinforced gas tank holds less fuel, its driving range is reduced to about 200 miles. (That bulky fuel tank also takes up extra trunk room.)

Chevrolet, Ford, GMC, and Dodge recently introduced CNG-powered pickup trucks or vans into their lineups—medium and heavy-duty vehicles that can also run on gasoline. Which brings up a related point: There are only about 500 CNG fueling stations in the U.S. open to the public. They're concentrated mostly in urban areas; their number may be expanding in the near future.

Honda offers a home refueling station (PHIL) that compresses the CNG piped into most homes for a "slow fill," which takes overnight. More information about CNG-powered vehicles is available at cngnow.com. A list of CNG fueling stations can be found at cnglocator.net.

What's Cool

- CNG is cheaper and cleaner than other motor fuels
- CNG is abundant and domestically produced.

What's Not

- Only one CNG-powered car—the Honda Civic GX—is produced in the U.S.
- CNG vehicles are more expensive than comparable gas-powered vehicles
- Fueling stations are scarce, especially outside of urban areas.

Hyundai **FC EV**

Hydrogen Fuel-Cell Vehicles

Hydrogen-powered fuel-cell cars, often considered "the cars of the future," are propelled by electric motors; they create their own electricity through a chemical process involving hydrogen fuel and oxygen from the air. They emit no pollutants—only water and heat. And the hydrogen they use can be produced from renewable sources, including solar power.

Honda has produced the FCX Clarity, a fuel-cell sedan, in limited numbers, since mid-2008. It's currently available mainly in Southern California, on a three-year lease, for $600 a month. Other companies—notably Hyundai, Mercedes-Benz, and Toyota—have promised to introduce fuel-cell vehicles for general use. (In fact, Hyundai is planning to release its Tucson-based FC EV as this edition of the *AAA Green Car Guide* goes to press.) Still, there are many hurdles to overcome before fuel-cell vehicles fill new-car showrooms. The technology is very expensive and unproven, and the infrastructure for hydrogen refueling is practically nonexistent.

In addition to hydrogen fuel-cell vehicles, several manufacturers—including BMW, Mazda, and Ford—have explored a "bridge" technology that uses hydrogen to power conventional ICEs in conventional or even hybrid vehicles; they produce fewer emissions than PZEVs. Their development may help familiarize motorists with hydrogen as a motor fuel and thus encourage further infrastructure development.

What's Cool

- The ultimate clean vehicle—zero tailpipe emissions and no electricity required.

What's Not

- High vehicle cost
- Lack of supportive infrastructure—extremely limited number of fueling stations.

EV Charging 101

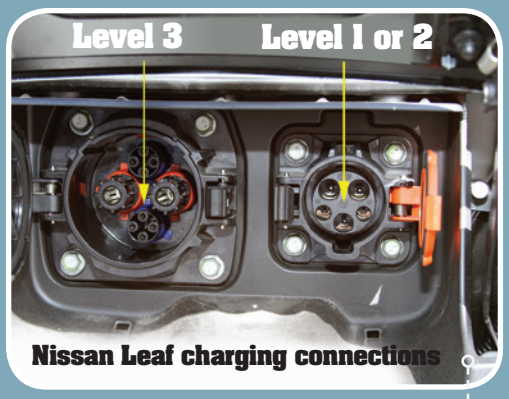
Because electrical chargers are an emerging technology, obtaining quick, convenient, and reliable charging remains a significant concern for EV owners. Information about public charging stations can be found at afdc.energy.gov/fuels/electricity_locations.html. The AAA Mobile App also provides public charging-station locations. There are three categories of EV chargers:

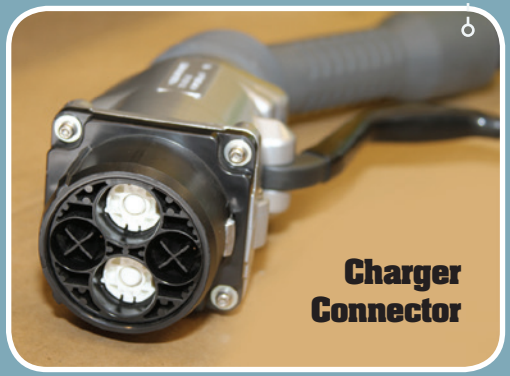
Level 1

This is a 110-volt charger. All currently produced electric cars come with a cable that can plug into a standard 110-volt outlet. Many motorists simply plug into any available outlet with good success. Recharging time can take as long as 44 hours, but most current models need about 20 hours.

Level 2

This 240-volt charger can be used by all currently produced electric cars. Most public charging stations are Level 2 (including stations at some AAA branches). When a motorist purchases an EV, most manufacturers offer to sell them a Level 2 charger for installation in their garage. Recharging time is generally 8 to 10 hours. Some cars (Nissan Leaf, smart electric drive, and Ford Focus Electric) have higher-capacity onboard chargers that can speed up Level 2 charging to 4 to 6 hours. If you choose a Level 2 charger, your garage (or other charging location) will need 30-amp, 240-volt electrical service. The cars listed above with higher-speed Level 2 capabilities will likely need a 50-amp-capacity circuit.





Level 3

A 480-volt charger converts 480-volt AC power to DC. Level 3 chargers are generally fixed-site "high-speed" units and cost as much as $50,000. They can recharge a battery pack to 80 percent in about 30 minutes (the final 20 percent of recharge must be "trickled" in to prevent battery overheating and takes a couple of hours, no matter which level charger is used). Most current Level 3 chargers use a CHADeMO connector, which is a Japanese standard. Only the Mitsubishi i-MiEV and some Nissan Leafs have this connector. SAE has developed a new Level 3 charger standard.

What's on the HORIZON?

2015 BMW **i8**

Automakers are expanding the selection and variety of **low-emitting, fuel-efficient vehicles** they offer. The following pages depict and describe many of the **green vehicles** that are becoming available or will be on the market in the next couple of years.

2015 BMW i8

In this chapter, we preview green cars of the future—those recently released but not available for testing and review in the *AAA Green Car Guide*, those planned for release in the next few years, and some that are still on the drawing board. AAA doesn't have a crystal ball regarding the green car technologies that will become the most successful nor the cars that will finally be produced, but we can make a few observations and educated guesses about the future of this emerging industry.

In the next few years, we should see a continuation of current progress and trends, including:

- Further improvements to traditional **gasoline-fueled engines,** including camless engines using solenoids to activate the valves, 42-volt electrical systems, and greater use of direct fuel injection, engine stop-start systems, turbocharging, and various other changes
- More **hybrid vehicles,** including more plug-in hybrids—and even some using alternative fuels such as natural gas, diesel, or hydrogen
- **More EVs,** from automakers like Tesla, as well as from the more established carmakers
- More use of **renewable fuels,** especially biodiesel and ethanol
- More **natural gas–fueled** vehicles
- Growth in the **diesel passenger-car** market
- Hydrogen-powered vehicles in demonstration fleets.

The mid- to long-term picture isn't as clear. A significant portion of our vehicle fleet for the foreseeable future will likely be traditional gasoline- or diesel-powered vehicles, simply because these petroleum-based fuels are relatively cheap and the infrastructure to deliver them is so well established.

Some forecasters predict networks of fast-charging stations for EVs, with charges possible in mere minutes. Others see a hydrogen pump on every corner, like today's gas stations, while still others expect an entirely new technology to provide clean, safe, and economical power for the cars we drive. But those developments are, as they say, farther down the road.

Hybrids

Acura NSX

The NSX is slated to go on sale in 2015. The latest version will feature a hybrid system with advanced AWD, a midengine twin-turbocharged V6, and three electric motors—one motor integrated with the gas engine and its dual-clutch transmission and driving the rear wheels, and two motors driving the front wheels. Power is rumored to be in the neighborhood of 550 horsepower. This powertrain setup is a high-performance version of the three-motor hybrid system introduced for the 2014 Acura RLX. Aluminum and composites will probably be used extensively in the body structure.

Acura RLX Sport Hybrid

The RLX is Acura's flagship sedan, and the 2014 Acura Sport Hybrid is the most powerful version of the RLX line, featuring AWD, a 3.5-liter V6, and three electric motors, which combined develop 377 horsepower. In front, a 35-kilowatt (47-hp) motor-generator is integrated with a 7-speed dual-clutch transmission, increasing engine performance and helping to recharge the car's lithium-ion battery. In addition, two 27-kilowatt (36-hp) electric motors supply power to the rear wheels. EPA fuel economy is rated at 28 MPG city/32 MPG highway/30 MPG combined.

Audi Q5 Hybrid Quattro

Released as a 2013 model, the Q5 Hybrid Quattro is Audi's first hybrid. Power is supplied by a 2.0-liter turbocharged engine and an electric motor that, combined, generate 245 horsepower and 354 lb-ft. of torque. The Q5 hybrid accelerates from 0-60 mph in 6.8 seconds and has an EPA-estimated fuel economy rating of 24 MPG city/30 MPG highway/26 MPG combined.

Hybrids cont.

BMW ActiveHybrid 3, 5, and 7 Series

BMW introduced hybrids into its 3, 5, and 7 series of sedans in the 2013, 2012, and 2011 model years, respectively. They now all share the same basic drivetrain: a 3.0-liter turbocharged inline 6-cylinder engine (also used in the 535i), an 8-speed automatic transmission, and a 54-hp rear-drive electric motor powered by a lithium-ion battery. The gasoline engine and electric motor produce 335 horsepower and 330 lb-ft. of torque. Fuel-economy figures are 28 MPG combined for the ActiveHybrid3 (pictured); 26 MPG combined for the ActiveHybrid5; and 25 MPG combined for the ActiveHybrid7.

Infiniti Q50 Hybrid

The Infiniti Q50 Hybrid is new for model year 2014. It's powered by a 3.5-liter V6 engine and a 50-kilowatt electric motor. Connected to a lithium-ion battery, the powertrain produces 360 horsepower. The Q50 is equipped with a 7-speed automatic transmission and is available with either RWD or AWD. The Q50 earns a fuel-economy rating of 29 MPG city/36 MPG highway/31 MPG combined for the RWD version.

Infiniti Q70 Hybrid

The Q70 is the former M sedan, renamed for 2014 but only minimally changed. It's equipped with the same 3.5-liter V6, 50-kilowatt electric motor, and 7-speed automatic transmission as the Q50 Hybrid, but it's available only with RWD. The Q70's MPG figures are slightly improved from 2013 at 29 MPG city/35 MPG highway/31 MPG combined.

Infiniti QX60 Hybrid

Essentially, the 2014 QX60 is a renamed 2013 JX35, but for 2014 a hybrid version is available. It features a supercharged 2.5-liter 4-cylinder engine joined to a 15-kilowatt electric motor and a lithium-ion battery pack. Combined output is 250 horsepower and 243 lb-ft of torque. It's available with FWD or AWD; the transmission is a CVT. EPA fuel-economy numbers are 25 MPG city/28 MPG highway/26 MPG combined for the FWD version.

Mercedes-Benz E 400 Hybrid

Introduced for the 2013 model year, the E 400 Hybrid is powered by a 3.5-liter V6 that generates 302 horsepower, a 27-hp electric motor, and a lithium-ion battery pack that's mated to a 7-speed automatic transmission. Fuel economy is 24 MPG city/30 MPG highway/26 MPG combined.

Nissan Pathfinder Hybrid

The new 2014 Nissan Pathfinder Hybrid is powered by a supercharged 2.5-liter 4-cylinder engine, a CVT transmission, a 15-kilowatt electric motor, and a lithium-ion battery pack that produce a combined 250 horsepower and 243 lb-ft of torque. It's available in both FWD or AWD versions. Fuel economy is 25 MPG city/28 MPG highway/26 MPG combined for the FWD version. That's 24 percent better than the standard Pathfinder. Highway range is estimated at nearly 550 miles.

Plug-In Hybrids

Audi A3 e-tron

Audi will introduce its first plug-in hybrid, the A3 e-tron (a version of the A3 Sportback) to the U.S in early to mid- 2015. It will use a modified 1.4-liter turbocharged inline-4 engine combined with a 75-kilowatt electric motor, a new 6-speed S tronic transmission, and an 8.8-kWh lithium-ion battery. Total system power is 204 horsepower and 258 lb-ft. of torque. The A3 e-tron can run in all-electric mode, all-gas mode, or a combination of both. The all-electric range is 31 miles; top speed in electric mode is 81 mph; MPGe rating is expected to be above 100.

BMW i8

In the past few years, arguably two green cars have generated more excitement than any others. One is the Tesla Model S; the other is BMW's i8, a stunning carbon fiber and aluminum PHEV sports car with a turbocharged inline-5 engine driving the rear wheels and a 131-hp electric motor powered by an 8-kWh lithium-ion battery pack turning the front ones. Top speed is 155 mph; it launches from 0–60 mph in 4.4 seconds; and it has an all-electric cruising range of up to 22 miles. The drivetrain generates 362 horsepower and 420 lb-ft of torque. The i8 is expected to go on sale in the summer of 2014.

Mercedes-Benz S 500

In the fall of 2013, Mercedes-Benz announced development of an S 500 plug-in hybrid. Its drivetrain consists of a 3.0-liter, 329-hp V6 engine, a 107-hp electric motor, and a 10-kWh battery pack capable powering the car up to 18 miles on electricity alone. It has four operating modes: Hybrid (gas and electric), E-Mode (all electric), E-Save (all gas), and Charge (in which the battery is charged while driving). Top speed is 155 mph; the car can accelerate from 0–60 in 5.4 seconds. Look for it in showrooms in the first half of 2015.

Mitsubishi Outlander Plug-in Hybrid

The Outlander PHEV crossover is equipped with a 1.6-liter inline-4 gasoline engine and two 60-kilowatt electric motors (one at the front of the vehicle and another at the rear). Its electric motors provide the Outlander with fulltime 4WD and are powered by a 12-kWh lithium-ion battery. The Outlander PHEV can operate as a parallel hybrid, a series hybrid, or as an all-electric vehicle; in EV mode, it has a range of about 30 miles. The Outlander PHEV went on sale in Japan and Europe in 2013, but its entry into the U.S. has been delayed at least until early 2015.

Porsche Panamera S E-Hybrid

For 2014, the Panamera S E-Hybrid, a plug-in version, replaces the previous S Hybrid, offering a more powerful electric motor (95 horsepower versus 47 horsepower) and a higher-performance rechargeable lithium-ion battery (9.4 kWh versus 1.7 kWh). The new supercharged 333-hp V6 and electric motor combine to produce 416 horsepower and 435 lb-ft of torque; they're mated to an 8-speed automatic transmission. Available only in RWD, the S E-Hybrid can accelerate from 0–60 mph in an estimated 5.2 seconds; its top speed is 167 mph.

Porsche 918 Spyder

An entirely different animal, the Porsche 918 Spyder is a limited-edition PHEV sports car equipped with a midengine 4.6-liter, 476-hp V8 and a pair of electric motors (one in the front, one in the rear) that produce 215 horsepower. Top speed is estimated at 198 mph, and 0-60 time is said to be less than 3.2 seconds. The 918 will sell for around $850,000.

Diesel Vehicles

BMW 328d

BMW's popular, iconic 3 Series gets a diesel engine for 2014, a twin-turbo 2.0-liter inline-4 that delivers 180 horsepower and 280 lb-ft of torque. It's available as a sedan or wagon; both are equipped with an 8-speed automatic transmission and offer strong performance and excellent fuel economy. The RWD sedan gets ratings of 32 MPG city/45 MPG highway/37 MPG combined, and the AWD sedan gets 31 MPG city/ 43 MPG highway/35 MPG combined. BMW claims a 0–60 time of just over 7 seconds.

BMW 535d

BMW's 5 Series has added a new diesel-powered variant, the 535d, to its 2014 lineup. It features a turbocharged 3.0-liter 6-cylinder engine that produces 255 horsepower and 413 lb-ft of torque; it's mated to an 8-speed automatic transmission. Automatic engine stop-start is standard. EPA-estimated fuel economy is 26 MPG city/38 MPG highway/30 MPG combined for RWD and 26 MPG city/37 MPG highway/30 MPG combined for AWD.

BMW X3 xDrive28d

For 2014, the new X3 xDrive28d is available with a twin-turbo 2.0-liter inline-4 diesel engine that produces 180 horsepower and 280 lb-ft of torque. It's paired with an 8-speed automatic transmission and, according to BMW, can accelerate from 0–60 in just under 8 seconds.

BMW X5 xDrive35d

The newly redesigned 2014 X5 xDrive35d gets a slightly less powerful diesel engine than it had in 2013: a 3.0-liter inline 6 that produces 255 horsepower and 413 lb-ft of torque (versus 265 and 425). It now gets an 8-speed automatic transmission, however, compared with the 6-speed automatic of 2013. Automatic engine stop-start is standard. Fuel economy is expected to be 23 MPG city/31 MPG highway/26 MPG combined.

Volkswagen Beetle, Beetle Convertible, Golf, and Jetta Sportwagen

These vehicles all share the same basic drivetrain in 2014: a 2.0-liter inline-4 engine that produces 140 horsepower and 236 lb-ft of torque. All are available with either a 6-speed manual or 6-speed DSG (automated manual) transmission. Fuel economy for the Beetle (pictured) and Beetle Convertible is 32 MPG combined. For the Golf, the number is 34 MPG combined. The Jetta Sportwagen achieves 33 MPG combined.

Volkswagen Touareg

The Touareg's diesel engine, bumped up in power in 2013, remains the same for 2014: a turbocharged 3.0-liter V6 that produces 240 horsepower and 406 lb-ft of torque. An 8-speed automatic transmission and AWD are standard. EPA-estimated fuel-economy figures for the Touareg TDI are 20 MPG city/29 MPG highway/23 MPG combined.

Electric Vehicles

BMW i3

BMW's first production EV, a four-passenger subcompact, features a carbon-fiber body on an aluminum chassis. Its 22-kWh battery pack delivers power to a 125-kW (170-hp) electric motor, good for a range of 80–100 miles and a top speed of 93 mph. An optional range-extender package is available—a 2-cylinder gasoline engine that generates electricity and maintains the lithium–ion battery's charge effectively doubling the i3's range. The i3's battery can be recharged in 20 hours on 110 volts and in three to four hours on 240 volts. The first i3 was delivered to an East-Coast customer in early May 2014.

Infiniti LE

Infiniti has produced the LE, a five-passenger luxury concept sedan. About the size of the company's G Series sedan, the LE is based on the Leaf platform. The LE is equipped with a 100-kilowatt electric motor powered by a 24-kWh lithium-ion battery pack; range is expected to be about 100 miles. In addition to its normal charging port, the LE can be equipped with a wireless charging system that connects inductively to a charger pad located on the owner's garage floor. On-sale date for the LE will be 2015 at the earliest.

Kia Soul EV

The Soul EV, an all-electric version of Kia's popular Soul small wagon, comes equipped with an 81-kilowatt (110-hp) electric motor with 210 lb-ft of torque powered by a 27-kWh battery pack. EPA-estimated range will be about 80–100 miles; top speed is 90 mph; 0–60 time is 11 seconds. The Soul EV can be recharged in five hours on a 240-volt charger. The estimated purchase price is about $39,000, minus applicable incentives. The Kia Soul EV will likely go on sale in late 2014.

Mercedes-Benz SLS AMG E-Cell

This limited-production sports car is powered by four electric motors located near the wheels. They generate 740 horsepower and 738 lb-ft of torque and also provide the E-Cell with a sophisticated AWD system—each motor can vary the amount of power or braking it delivers to its wheel. Power comes from a 60-kWh lithium-ion battery pack. Top speed is limited to 155 mph, and the E-Cell rockets from a standstill to 60 mph in 3.6 seconds. The quick-charge time is estimated at three hours, or about 20 hours on a 110-volt charger.

Tesla Model X

The Model X is a three-row, seven-adult-passenger crossover that blends "the best of an SUV with the benefits of a minivan," in the automaker's words. Based on the Model S platform, the Model X will be available with a 60- or 85-kWh battery pack and will accelerate from 0–60 mph in 4.4 seconds. Among the car's noteworthy features are rear "falcon wings" (a kind of hinged gullwing door), dual-motor AWD, and front and rear trunks. At press time, pricing had not been finalized. Tesla has stated that deliveries will begin in summer 2015.

Volkswagen e-Golf

VW's new e-Golf, which looks almost identical to the gasoline version, is powered by a 115-hp electric motor with 199 lb-ft of torque that gets power from a 24.2-kWh lithium-ion battery. Top speed is limited to 87 mph, and the 0–60 time is about 10 seconds. Depending on driving style and charging behavior, VW says the average driving range is 70–90 miles. The VW e-Golf is due to go on sale in the U.S. at the end of 2014.

Fuel-Cell Vehicles

Honda FCEV

Honda delivered its first limited-production fuel-cell vehicle, the FCX Clarity, in 2008—a zero exhaust-emission vehicle, with water as its only byproduct. In 2015, the automaker plans to introduce its second-generation, five-passenger fuel-cell vehicle. Technological advancements to the fuel-cell stack have yielded more than 100-kilowatts of power output. The power density is now 3kW/L, an increase of 60 percent, with the stack size reduced 33 percent compared to the FCX Clarity. The next-generation Honda FCEV is expected to deliver a driving range of more than 300 miles.

Hyundai Tucson Fuel-Cell EV

Hyundai plans to lease the fuel-cell version of its Tucson crossover to customers in Southern California in spring 2014 for $499 a month; that fee includes complimentary hydrogen refueling and the use of a loaner car should the Tucson FCEV require service or repairs. The vehicle features a 100-kilowatt stack (fuel cell) that converts hydrogen into electricity, which then runs the vehicle's 134-hp electric motor. Top speed is reported to be 100 mph; range is up to 367 miles on a single-tank 10,000-psi fill of hydrogen.

Kia Borrego Fuel-Cell EV

Where parent Hyundai goes, Kia usually follows. The company has been testing its own version of the jointly developed fuel-cell system and had been expected to launch a Borrego SUV powered by a fuel cell in 2015. More recently, though, Hyundai has said that it intends to be the fuel-cell leader and leave EV battery development to Kia. If that is the case, Kia may cancel the Borrego FCEV.

Mercedes-Benz F-Cell

Mercedes-Benz has been testing hydrogen fuel-cell vehicles for more than a decade and presently is running demonstration programs in the U.S. and Europe. The company pledged in 2011 to have mass-market fuel-cell cars ready by 2015, but recently said it plans to sell the F-Cell, a fuel-cell electric vehicle based on the Mercedes B-Class, a year earlier. The F-Cell, in limited release throughout California, has a 136-hp electric motor, a 1.4kW lithium-ion battery, and an EPA-estimated range of 190 miles. A hydrogen fill-up takes just three minutes.

Toyota FCV

Toyota has been running a fleet of fuel-cell electric Highlander SUVs for several years. Its first retail fuel-cell model, however, will likely be a midsize four-passenger sedan similar to the concept vehicle unveiled at the 2014 Consumer Electronics Show. Prototypes have consistently delivered a driving range of about 300 miles and zero-to-60 times of about 10 seconds, with no emissions except water vapor. Total power output is more than 100 kilowatts. Toyota has said it hopes to price the car at about $50,000.


Volkswagen e-Golf

More Ways to Drive Green

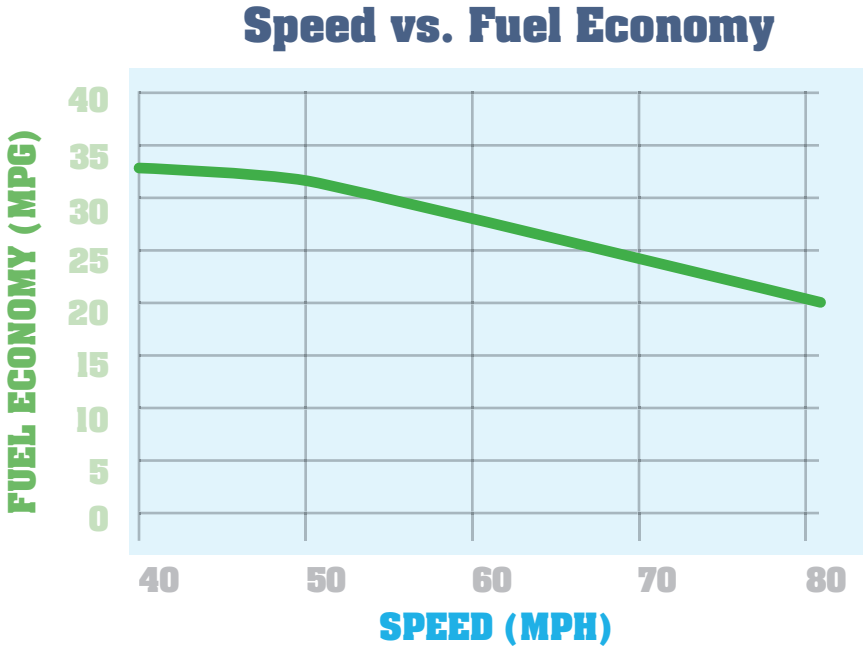
Buying a green car isn't the only way to reduce your fuel consumption and minimize your carbon footprint. Anyone can drive more efficiently—saving fuel, money, and reducing emissions—regardless of the vehicle they own.

The Automobile Club of Southern California's Automotive Research Center has researched fuel consumption, recording the mileage motorists achieve driving the way they normally do (or, in several cases, driving more aggressively) and comparing that to their mileage when they employed the following techniques. Mileage improvements ranged from a low of 25 percent to as much as 100 percent (from 10 MPG to 20 MPG).

Following these tips will help improve your car's fuel economy.

Avoid "jackrabbit" starts. Instead, accelerate smoothly. Accelerating uses more fuel than any other single facet of driving.

Slow down. The faster you go, the more fuel you burn because aerodynamic drag increases exponentially with your speed. Driving at 75 mph instead of 65 mph can reduce your fuel economy by about 10 percent, according to the American Council for an Energy-Efficient Economy, and aggressive driving can lower your MPG by up to a third, according to the EPA. Consider driving in one of the slower freeway lanes—besides saving gas, it's less stressful. (Of course, don't drive so slowly that you create a safety hazard.)



Anticipate slower traffic and traffic lights. When you see stopped or slowed traffic or a red light ahead of you, take your foot off the accelerator and coast. There's no benefit to zooming up to the light and then slamming on the brakes. Cars use very little fuel when coasting, and if you're driving a hybrid or battery-electric vehicle, coasting will typically recharge the battery, further improving your mileage.

Just drive off. Unless you're driving a pre-1980 car, there's no need to let it warm up before you start driving. That just wastes gas. Follow the starting instructions in your owner's manual; most likely, it will tell you to start the car, put it in gear, and drive off at a moderate speed until it warms up.

Put it in "Eco." Many newer cars (even the new Corvette Stingray) have an "Eco" mode, which enables you to save fuel when you drive. Many hybrids have an EV mode, which enables drivers to use only electricity for power, though usually only for a few miles at low speeds.

Use your air-conditioner wisely. Air-conditioning use in newer cars can reduce gas mileage by about 5 percent (and on older cars, even more). On warm days, open your windows when you're driving slowly (under 45 mph); close them and turn on the air conditioner at higher speeds. (Driving with the windows open increases aerodynamic drag, which increases the faster you drive.)

Keep it smooth. When you drive on the highway (especially on level ground), use cruise control. Maintaining a uniform speed helps save gas.

Stay on schedule. Keep your vehicle maintained according to the manufacturer's service schedule. (You can find this information in your owner's manual or online.) Regular oil and filter changes, plus other services, will keep your vehicle running smoothly, prolong its life, and save fuel. Even simple things like keeping your tires properly inflated will save gas. You can find a list of AAA Approved Auto Repair facilities at AAA.com. Each shop is inspected on a regular basis to verify that the repair facility meets strict AAA quality standards.

Keep a log. Track your fuel economy; if it drops suddenly, find out why and fix the problem.

Factor in MPG. Make high fuel economy a deal-breaker consideration the next time you buy a new car. "Just say no" to cars that get poor gas mileage.

Choose wisely. If you own more than one vehicle, when you take a trip, select the one best suited to it. Don't automatically jump into your big SUV when the more economical sedan will do.

Check out a rental. Consider renting a fuel-efficient car for vacations and long trips, putting the wear on a rental car instead of your daily driver. Similarly, consider renting a pickup truck instead of buying one if you need a truck only occasionally.

Get the junk out of your trunk. Reducing extra weight in your car can save up to 2 percent in fuel economy for every 100 pounds you remove.

Ditch the rack. If you carry luggage or sporting equipment on top of your car, take the roof rack off when you're not using it. Roof racks increase aerodynamic drag and can reduce fuel economy by as much as 5 MPG even when empty.

Plan your route efficiently and combine trips. Choose a shopping center where you can park and walk to most of the stores you need.

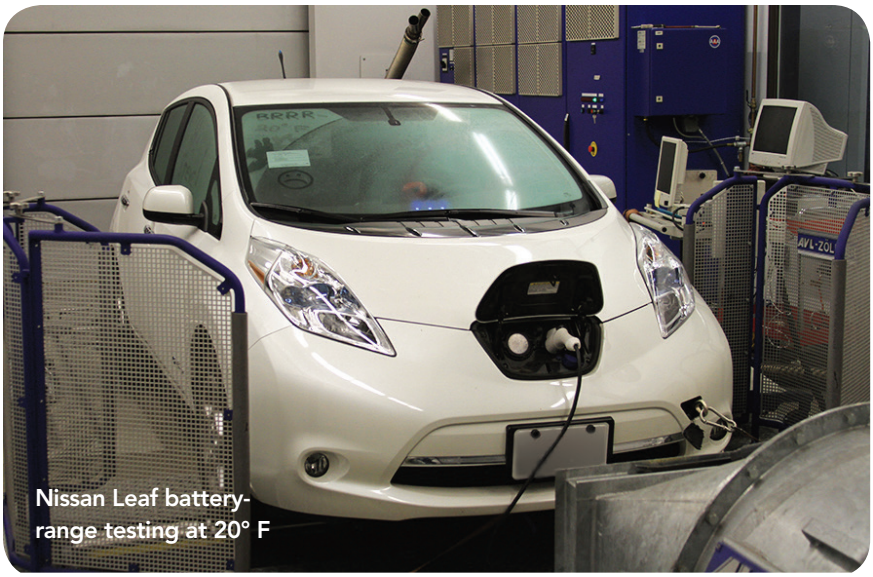
Plan your trips to avoid driving in rush hour. Stop-and-go driving burns more gas and increases pollution.

Review your work schedule. Can you change your working hours to avoid sitting in bumper to bumper traffic? Can you carpool a day or two a week? Both save fuel and reduce vehicle wear.

Avoid excessive idling. When you get out of your car, turn it off. Park and walk into a fast food restaurant or bank instead of using the drive through.

Don't upgrade needlessly. Check your owner's manual for the recommended grade of fuel. Most cars are designed to run on regular unleaded gasoline; using anything else is a waste of money. If your owner's manual says "premium required," use that. But if it says midgrade or premium is recommended, read carefully; sometimes you can use regular unleaded, although you may experience reduced power or slightly reduced fuel economy.

Green Initiatives



Nissan Leaf battery-range testing at 20° F

EV Battery Testing

AAA's initiatives regarding green technology include more than just producing the *AAA Green Car Guide*. AAA is interested in the technologies themselves: how they operate and what shortcomings they may have, if any. For example, AAA conducted tests of EV battery pack performance in cold, moderate, and hot conditions to help motorists better understand the fluctuations in EV battery range. The study was conducted using a Nissan Leaf, Ford Focus Electric, and Mitsubishi i MiEV.

All the vehicles evaluated at the Automotive Research Center demonstrated reduced driving range in both hot and cold conditions. The vehicle's air conditioning systems were set for "automatic control" at 72°F. throughout all range tests. The average EV battery range was 105 miles at 75°F, but it dropped to an average of 69 miles per full charge at 95°F. Cold weather had a more dramatic impact, dropping the range to an average of only 43 miles when the temperature was held steady at 20°F. This is valuable practical information that motorists who own EVs might not otherwise be aware of.

Tips for maximizing EV battery range in hot or cold weather:

- Store your vehicle in a garage. In winter, a garage is usually a few degrees warmer than the outside temperature, especially if it's attached to a house. In hot climates, garages offers shade to keep internal vehicle temperatures lower.
- Monitor recharge times in colder weather. If your car's charging system is using electric current from the grid to keep the battery warm, it could take longer than usual to fully charge the car.
- Before driving, preheat or precool the car while it's plugged in to reduce the drain on the battery.
- Use electric seat and steering-wheel heaters to keep warm; they use less energy from the battery than heating the air in the cabin.
- Check the tire pressure frequently. Tire pressure falls slightly as weather turns colder, which creates more rolling resistance.

In the near future, AAA and the Automotive Research Center will conduct further research on electric vehicles as well as on fuel economy, hybrid-electric vehicles, and even hydrogen fuel-cell powered vehicles.

Automotive Research

Throughout its history, AAA has provided automotive and road safety information to its members. Recently, AAA has expanded its efforts by conducting independent research and providing members with more information on automotive trends and technology. AAA has also used this research to be an advocate for motorists with government agencies and with the automotive industry.

These initiatives include testing and evaluating everything from alternative vehicles to advanced drivers-safety systems such as adaptive cruise control and automated braking.

As motorists become more connected with smartphones and tablets, and as vehicles themselves become more connected, there is a greater risk that motorists will become distracted from their primary task, safe driving. As a result, the AAA Foundation for Traffic Safety has sponsored distracted-driving research by Dr. David Strayer at the University of Utah.

AAA's analysis of research on E15 identified reasons to be concerned that the ethanol blend could damage a vehicle not built to run on more than 10 percent ethanol. AAA took an unprecedented stand on the issue, urging regulators and the industry to suspend sales of E15 and educate motorists on its use.

These are just some examples on how AAA is dedicated to protecting the best interests of its members and the motoring public.

Electric Vehicle Charging

AAA is also evaluating several approaches to EV recharging. The first is fixed-site Level 2, 240-volt charging. A number of public charging stations have been installed at AAA branches, including: six locations in Arizona; two locations in New York; three locations in Michigan; two locations in Pennsylvania; two locations in California; five locations in Florida; and one location each in New Jersey, Wisconsin, Ohio, and Massachusetts. There are also four chargers in Canada operated by the Canadian Automobile Association. AAA has teamed up with the U.S. Department of Energy to provide the locations of public charging stations to travelers on AAA TripTiks.

Additionally, AAA is evaluating supplementing our Emergency Roadside Service with vehicles equipped with high-speed electric chargers that can respond to members calling about a discharged or low EV battery. These mobile charging trucks carry generators on board to provide an electrical boost, like providing a gallon of gasoline to a motorist who has run out of fuel.

Trucks can supply Level 2 (240-volt) and Level 3 (480-volt) fast charges, with the goal of providing 10 to 15 miles of charge in 15 to 20 minutes. However, this is possible only for EVs with Level 3 capability. Most EVs have only Level 2 inputs, so they can get 4 to 5 miles worth of boost in 20 minutes.

AAA has deployed seven charging trucks that use several different charging technologies. The trucks are operating in California, Arizona, Oregon, Washington, Tennessee, and Florida. Several trucks use generators powered by CNG. AAA is also investigating the possibility of supplying CNG to motorists who run out of it from the same truck, since it has a tank of CNG onboard anyway. Initial demand for this service has been understandably low, since there are relatively few EVs on the road to date. As experience with these trucks grows, the service will be expanded to meet members' needs.

Electric-Vehicle Fleet Testing

The Automobile Club of Southern California is undertaking an extensive research program into the usefulness of EVs. Beginning in 2011, we leased 20 second-generation smart EVs; after two years, they were exchanged for 10 third-generation smart EVs. The vehicles have been used in a number of ways in California and several other states: to provide light roadside assistance (lockout, tire changes, jump starts, etc.), by insurance claims adjusters in the field, and by Auto Club employees under a wide range of conditions to evaluate their usefulness and durability. The Auto Club is considering adding additional zero-emission vehicles to our fleet and has adopted a policy requiring that all new passenger vehicles added to our fleet be PZEVs.

The Auto Club tested a third-generation smart EV for the 2014 *AAA Green Car Guide*. The results are on page 111. We found that the Gen3 smart electric drive's powertrain was a vast improvement over the previous version's. Zero-to-60 mph times improved from more than 20 seconds to just over 10 seconds. The Gen2 version had a top speed limited to 62 mph, which annoyed other drivers and was dangerous to drive on the freeway. The speed limit on the latest version has been raised to over 80 mph, making the car safe to drive on any U.S. road. We will update our experience with the fleet of 10 Gen3 electric drives in the 2015 *AAA Green Car Guide*.

Hydrogen Production and Dispensing

The Auto Club supported the design and construction of the public hydrogen production and distribution facility on the campus of California State University Los Angeles (CSULA). The facility dispenses high-pressure (10,000 psi) hydrogen gas produced from water using electricity generated from renewable sources, primarily wind and solar. At the urging of the Auto Club, CSULA added two Level 2 EV charging stations to the hydrogen facility.

Fuel-Economy Ratings

Ford Fusion start-stop testing on dynamometer, AAA Automotive Research Center

We used ratings published by the U.S. EPA to obtain the scores in this guide. Miles per gallon accounts for 8 of the 10 possible points. If a vehicle uses regular fuel, it receives 2 additional points (1 for midgrade). We also list the high, low, and average on-the-road fuel economy obtained during our evaluation of the test vehicle.

The EPA develops its fuel-economy ratings by performing tests on a dynamometer (a treadmill-like device for cars). Up until model year 2007, the EPA used only tests called the Federal Test Procedure (FTP for urban or "city" MPG) and the Highway Fuel Economy Test (HFET for "highway" mileage). These tests were developed in the early 1970s, when the speed limit was 55 mph. In the 1980s, the EPA determined that the tests did not accurately predict the MPG motorists would get, so they adjusted the ratings downward 10 percent for city driving and 22 percent for highway driving. These adjusted numbers are what were listed on the window sticker through model year 2007.

In the 1980s, the adjustments mentioned above provided mileage ratings that fairly accurately predicted on-road performance. Since then, however, cars and the way we drive have changed. Freeway driving is often more congested, but when it is free-flowing, people typically drive faster than they did in earlier decades. They tend to accelerate more rapidly, and vehicles are generally larger and more aerodynamic. All these changes combined to make EPA's fuel economy ratings optimistic. This problem was especially severe for hybrid vehicles, probably because hybrids achieve different fuel-economy ratings depending on the battery's initial state of charge.

Based in large part on scientific input from AAA, the EPA adopted new, more accurate methods for estimating MPG ratings. Three newer dynamometer tests had recently been developed to more accurately measure emissions under real-world driving conditions, but the EPA was not using the fuel economy that was measured as part of these tests. By incorporating the "US06" (higher speeds and more aggressive driving), "SC03" (high temperature with A/C on), and "Low-Temp CO" (start up at low temperature) tests with the FTP and HFET, a new method of estimating MPG was developed and implemented for 2008 and later model-year vehicles.

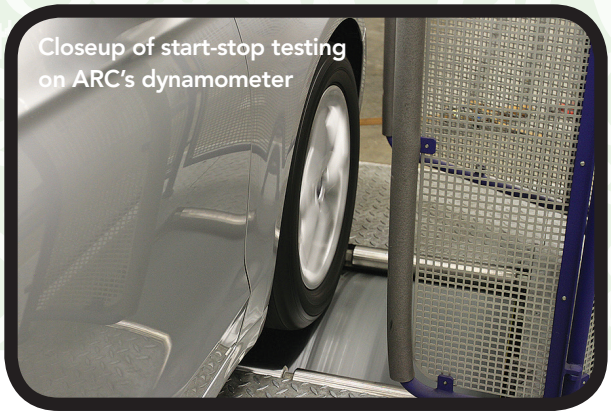
Virtually all our MPG measurements fell between the EPA city and highway estimates. Our test procedures include at least one day of testing at the Auto Club Speedway (unusually aggressive driving), so it's clear that most motorists should be able to achieve in-use MPG in the range EPA now predicts.

Fuel economy ratings for alternative-fueled vehicles: Each fuel has a different energy density, and the most common way to measure how much petroleum or gasoline is displaced by using an alternative fuel is to apply a conversion factor to it. This is done by converting the energy density of an alternative fuel "unit" to the energy density in a gallon of gasoline. The Gasoline Gallon Equivalent (GGE) conversion factor is used in calculating the fuel economy of an alternative-fuel vehicle.

Measuring a Mini Countryman's turning circle

Slalom course, Auto Club Speedway

Brake testing, Mini Countryman, Auto Club Speedway



Closeup of start-stop testing on ARC's dynamometer

Testing and Scoring in the AAA Green Car Guide

The Automobile Club of Southern California's Automotive Research Center engineers and specialists evaluated each of the vehicles in this report. A list of candidate vehicles was selected, based on fuel-economy ratings from EPA (fueleconomy.gov) and a listing of emission certifications from the California Air Resources Board (CARB). The list included vehicles with the following characteristics:

- Vehicles that met ZEV or PZEV emission standards
- Hybrids, including plug-in hybrids
- Battery-electric vehicles
- Vehicles that run on diesel and meet California's emission standards
- Vehicles that run on CNG or hydrogen
- Vehicles with category-leading fuel economy

In total, AAA engineers and specialists tested 83 vehicles. Most were from model year 2014, with a few "carryovers" from 2013 and 2012. (Carryovers are earlier versions of the vehicles with the same body, chassis, and powertrain as the 2014 version.) Some test cars were prototypes, but all are representative of planned production models. Similarly, some of the data for the prototypes is preliminary or estimated, since production vehicles were not available. The group of vehicles tested is representative of the green vehicles on the market in the second quarter of 2014, although not all green car models were available for testing.

Setting up test equipment to measure acceleration and braking

Tests were performed at the **Automotive Research Center**; the Auto Club Speedway in Fontana, California; and on Southern California roads. Testing procedures were based on those developed by the Society of Automotive Engineers (SAE), EPA, and the Automobile Club of Southern California. Most of the test vehicles were obtained from the automobile manufacturers; some were rented from Enterprise Rent-A-Car and Hertz car rentals.

The **ARC evaluated** vehicles based on the following **qualities:**

- ☒ **Emissions**
- ☒ **Fuel economy**
- ☒ **Crashworthiness**
- ☒ **Braking**
- ☒ **Acceleration**
- ☒ **Handling**
- ☒ **Cargo-carrying capacity**
- ☒ **Ride quality**
- ☒ **Interior noise**
- ☒ **Ease of entry and exit**
- ☒ **Maneuverability**
- ☒ **Roominess**
- ☒ **Visibility**

Scoring

After testing was completed, the scores for each test area were ranked on a 0-to-10 point basis. The best-scoring vehicle received 10 points; the lowest received 0 points. The scores from all the tests were then totaled to determine the overall score for a vehicle. The total points were divided by the price as tested to determine the "cost per point" to see which green car provided the best green car value.

As part of the crashworthiness score, we counted the number of air bags, but we treated side curtain air bags a little differently. Manufacturers use side curtain air bags in different configurations—either a single air bag that extends along the roofline from the front (driver) to the rear passenger, or two air bags, one for each occupant. Both configurations will protect two people, although the air bag count may vary between one and two for each side of the vehicle.

For our purposes and scoring, we are more concerned with the number of people who are protected. Therefore, a side curtain air bag on each side of the vehicle—whether it's a single-bag configuration for front and rear or an individual air bag for each seating position—will result in a score of four air bags just for the side curtain count because they protect a total of four people.

Green Car Scores

Test Results and Rankings The green cars tested by the ARC are evaluated on the basis of 13 categories: emissions, fuel economy, crashworthiness, braking, acceleration, handling, cargo-carrying capacity, ride quality, interior noise, ease of entry and exit, maneuverability, roominess, and visibility. The scores for the categories are totaled, and the cars are ranked from high to low.

CLEAN-DIESEL VEHICLE | CNG-POWERED VEHICLE | ELECTRIC VEHICLE | FLEX-FUEL VEHICLE
HYBRID | NON-HYBRID HIGH MPG | PLUG-IN HYBRID | PZEV

RANKING	YEAR	MAKE	MODEL	VEHICLE TYPE	SCORE
1	2013	TESLA	**S P85**	LARGE 4-DOOR SEDAN	**94.30**
2	2012	TOYOTA	**RAV4 EV**	SMALL 4-DOOR SUV	**84.52**
3	2014	AUDI	**A7 TDI Quattro Tiptronic**	MIDSIZED 5-DOOR HATCHBACK	**84.09**
4	2013	LEXUS	**GS 450h**	MIDSIZED 4-DOOR SEDAN	**83.51**
5	2013	NISSAN	**Leaf**	MIDSIZED 5-DOOR HATCHBACK	**82.12**
6	2014	HONDA	**Accord Hybrid**	MIDSIZED 4-DOOR SEDAN	**81.80**
7	2014	AUDI	**Q5 TDI Quattro Tiptronic**	SMALL 4-DOOR SUV	**81.53**
8	2014	AUDI	**A8 L TDI Quattro Tiptronic**	MIDSIZED 4-DOOR SEDAN	**81.49**
9	2014	MERCEDES-BENZ	**E250 BlueTEC 4MATIC**	MIDSIZED 4-DOOR SEDAN	**80.64**
10	2014	AUDI	**A6 TDI Quattro Tiptronic**	MIDSIZED 4-DOOR SEDAN	**80.59**
11	2012	TOYOTA	**Camry Hybrid LE**	MIDSIZED 4-DOOR SEDAN	**80.00**
12	2014	LEXUS	**RX 450h**	SMALL 4-DOOR SUV	**79.10**
13	2014	HONDA	**Accord Plug-in Hybrid**	MIDSIZED 4-DOOR SEDAN	**78.98**
14	2014	MAZDA	**3S Grand Touring**	COMPACT 5-DOOR HATCHBACK	**78.70**
15	2014	LEXUS	**CT 200h**	COMPACT 5-DOOR HATCHBACK	**78.56**
16	2014	SUBARU	**Forester 2.5i Touring**	SMALL 4-DOOR SUV	**78.40**
17	2013	LEXUS	**ES 300h**	MIDSIZED 4-DOOR SEDAN	**77.68**
18	2014	CHEVROLET	**Spark EV 2LT**	SUBCOMPACT 5-DOOR HATCHBACK	**77.51**
19	2014	FORD	**F-150**	STANDARD 4-DOOR PICKUP	**76.90**
20	2013	FORD	**C-Max Hybrid SE**	LARGE 5-DOOR HATCHBACK	**76.81**
21	2013	FORD	**C-Max Energi SEL**	MIDSIZED 5-DOOR HATCHBACK	**76.55**
22	2013	HONDA	**Fit EV**	SMALL 5-DOOR WAGON	**76.47**
23	2014	LEXUS	**LS 600h L**	MIDSIZED 4-DOOR SEDAN	**76.31**
24	2013	VOLKSWAGEN	**Jetta Hybrid SEL Premium**	COMPACT 4-DOOR SEDAN	**76.19**
25	2012	TOYOTA	**Prius v**	MIDSIZED STATION WAGON	**76.08**
26	2013	TOYOTA	**Prius Plug-in**	MIDSIZED 5-DOOR HATCHBACK	**75.73**
27	2013	TOYOTA	**Prius**	MIDSIZED 5-DOOR HATCHBACK	**75.56**
28	2013	MAZDA	**5 Grand Touring**	4-DOOR MINIVAN	**75.27**
29	2013	TOYOTA	**Avalon XLE Touring Hybrid**	MIDSIZED 4-DOOR SEDAN	**75.27**
30	2013	HONDA	**Accord Sport**	MIDSIZED 4-DOOR SEDAN	**75.03**
31	2013	SUBARU	**Outback 2.5i Limited**	SMALL 4-DOOR SUV	**74.94**
32	2014	TOYOTA	**Highlander Hybrid Limited**	STANDARD 4-DOOR SUV	**74.73**
33	2014	FORD	**Fusion Energi Titanium**	MIDSIZED 4-DOOR SEDAN	**74.61**
34	2014	BUICK	**LaCrosse**	MIDSIZED 4-DOOR SEDAN	**74.57**
35	2013	HONDA	**CR-Z EX NAVI**	TWO-SEATER COUPE	**74.26**
36	2013	SUBARU	**Legacy 2.5i Limited**	MIDSIZED 4-DOOR SEDAN	**74.22**
37	2013	FORD	**Fusion SE Hybrid**	MIDSIZED 4-DOOR SEDAN	**74.20**

RANKING	YEAR	MAKE	MODEL	VEHICLE TYPE	SCORE
38	2014	MAZDA	CX-5 Touring AWD	SMALL 4-DOOR SUV	74.15
39	2014	SUBARU	XV Crosstrek Hybrid	SMALL 4-DOOR SUV	74.01
40	2014	HONDA	Civic EX-L NAVI	COMPACT 4-DOOR SEDAN	73.65
41	2014	JEEP	Grand Cherokee Summit 4x4	STANDARD 4-DOOR SUV	73.51
42	2014	KIA	Soul +	SMALL STATION WAGON	73.49
43	2012	TOYOTA	Prius c Three	COMPACT 5-DOOR HATCHBACK	73.34
44	2014	CHEVROLET	Silverado 1500 LT	STANDARD 4-DOOR PICKUP	72.81
45	2014	HYUNDAI	Sonata GLS	LARGE 4-DOOR SEDAN	72.50
46	2014	MAZDA	6i Grand Touring	MIDSIZED 4-DOOR SEDAN	72.46
47	2014	FORD	Focus Electric	COMPACT 5-DOOR HATCHBACK	72.32
48	2013	FORD	Escape SE FWD	SMALL 4-DOOR SUV	72.12
49	2013	TOYOTA	Avalon Limited	MIDSIZED 4-DOOR SEDAN	72.02
50	2013	KIA	Sportage EX FWD	SMALL 4-DOOR SUV	71.86
51	2013	SUBARU	XV Crosstrek 2.0i Premium	SMALL 4-DOOR SUV	71.74
52	2014	VOLKSWAGEN	Jetta TDI Premium Nav	COMPACT 4-DOOR SEDAN	71.57
53	2014	RAM	1500 SLT Outdoorsman Crew Cab 4x4	STANDARD 4-DOOR PICKUP	71.39
54	2014	KIA	Forte EX	MIDSIZED 4-DOOR SEDAN	70.86
55	2014	CADILLAC	ELR	MIDSIZED 2-DOOR COUPE	70.77
56	2012	TOYOTA	Camry XLE	MIDSIZED 4-DOOR SEDAN	70.71
57	2012	SUBARU	Impreza 2.0i Sport Limited AWD	COMPACT 5-DOOR HATCHBACK	70.30
58	2012	MITSUBISHI	i-MiEV SE	SUBCOMPACT 5-DOOR HATCHBACK	70.11
59	2014	FORD	Fiesta	SUBCOMPACT 5-DOOR HATCHBACK	69.97
60	2014	TOYOTA	Corolla LE Eco	MIDSIZED 4-DOOR SEDAN	69.60
61	2012	HYUNDAI	Elantra GLS	MIDSIZED 4-DOOR SEDAN	69.38
62	2013	NISSAN	Sentra SL	MIDSIZED 4-DOOR SEDAN	69.36
63	2014	MITSUBISHI	Outlander ES	SMALL 4-DOOR SUV	68.99
64	2014	NISSAN	Versa Note SV	COMPACT 5-DOOR HATCHBACK	68.20
65	2012	FORD	Focus SEL	COMPACT 4-DOOR SEDAN	67.97
66	2012	CHEVROLET	Volt	COMPACT 4-DOOR SEDAN	67.94
67	2013	FORD	Taurus SEL	LARGE 4-DOOR SEDAN	67.88
68	2013	SMART	electric drive	MINICOMPACT 2-SEAT COUPE	67.87
69	2013	ACURA	ILX Tech Hybrid	COMPACT 4-DOOR SEDAN	67.71
70	2013	HONDA	Civic IMA Hybrid	COMPACT 4-DOOR SEDAN	67.00
71	2014	NISSAN	Versa SV	COMPACT 4-DOOR SEDAN	66.28
72	2014	MINI	Cooper Countryman	COMPACT 5-DOOR HATCHBACK	65.83
73	2013	HYUNDAI	Accent GLS	COMPACT 4-DOOR SEDAN	65.79
74	2014	HYUNDAI	Tucson SE	SMALL 4-DOOR SUV	65.64
75	2012	SCION	iQ	MINICOMPACT 3-DOOR HATCHBACK	65.40
76	2013	BUICK	Encore AWD Premium	SMALL 4-DOOR SUV	65.18
77	2012	TOYOTA	Yaris SE	COMPACT 5-DOOR HATCHBACK	64.90
78	2012	KIA	Rio5 EX Eco	COMPACT 5-DOOR HATCHBACK	64.45
79	2013	CHEVROLET	Spark 1LT	SUBCOMPACT 5-DOOR HATCHBACK	63.97
80	2012	HYUNDAI	Veloster	COMPACT 3-DOOR HATCHBACK	63.82
81	2013	FIAT	500 Pop	MINICOMPACT 3-DOOR HATCHBACK	62.63
82	2012	HONDA	Civic NGV GX	COMPACT 4-DOOR SEDAN	60.64
83	2014	MITSUBISHI	Mirage ES	COMPACT 5-DOOR HATCHBACK	60.11

Green Car Scores

Cost-Per-Point Scores To determine the best value in a green car, each car's total score (see previous table) is divided by the car's price as tested to determine a cost-per-point score.

CLEAN-DIESEL VEHICLE | CNG-POWERED VEHICLE | ELECTRIC VEHICLE | FLEX-FUEL VEHICLE
HYBRID | NON-HYBRID HIGH MPG | PLUG-IN HYBRID | PZEV

RANKING	YEAR	MAKE	MODEL	POINTS	PRICE AS TESTED	COST PER POINT
1	2013	CHEVROLET	**Spark 1LT**	63.97	$14,670	**$229**
2	2012	HYUNDAI	**Elantra GLS**	69.38	$16,575	**$239**
3	2014	NISSAN	**Versa SV**	66.28	$16,050	**$242**
4	2012	SCION	**iQ**	65.40	$16,000	**$245**
5	2014	NISSAN	**Versa Note SV**	68.20	$16,800	**$246**
6	2013	HYUNDAI	**Accent GLS**	65.79	$16,450	**$250**
7	2014	KIA	**Soul +**	73.49	$19,160	**$261**
8	2012	TOYOTA	**Yaris SE**	64.90	$17,340	**$267**
9	2014	FORD	**Fiesta**	69.97	$18,785	**$268**
10	2013	FIAT	**500 Pop**	62.63	$16,995	**$271**
11	2014	MITSUBISHI	**Mirage ES**	60.11	$16,890	**$281**
12	2014	TOYOTA	**Corolla LE Eco**	69.60	$19,735	**$284**
13	2012	KIA	**Rio5 EX Eco**	64.45	$18,745	**$291**
14	2014	HYUNDAI	**Sonata GLS**	72.50	$22,385	**$309**
15	2012	TOYOTA	**Prius c Three**	73.34	$23,245	**$317**
16	2013	HONDA	**CR-Z EX NAVI**	74.26	$24,595	**$331**
17	2013	HONDA	**Accord Sport**	75.03	$24,980	**$333**
18	2012	TOYOTA	**Camry Hybrid LE**	80.00	$26,750	**$334**
19	2012	HYUNDAI	**Veloster**	63.82	$21,395	**$335**
20	2012	FORD	**Focus SEL**	67.97	$22,885	**$337**
21	2014	HONDA	**Civic EX-L NAVI**	73.65	$25,030	**$340**
22	2013	MAZDA	**5 Grand Touring**	75.27	$25,620	**$340**
23	2013	NISSAN	**Sentra SL**	69.36	$23,655	**$341**
24	2014	MITSUBISHI	**Outlander ES**	68.99	$23,820	**$345**
25	2014	CHEVROLET	**Spark EV 2LT**	77.51	$27,820	**$359**
26	2013	SUBARU	**XV Crosstrek 2.0i Premium**	71.74	$25,790	**$359**
27	2014	KIA	**Forte EX**	70.86	$25,515	**$360**
28	2012	SUBARU	**Impreza 2.0i Sport Limited**	70.30	$25,345	**$361**
29	2013	NISSAN	**Leaf**	82.12	$29,650	**$361**
30	2013	FORD	**C-Max Hybrid SE**	76.81	$27,990	**$364**
31	2014	HONDA	**Accord Hybrid**	81.80	$29,945	**$366**
32	2014	MINI	**Cooper Countryman**	65.83	$24,145	**$367**
33	2012	TOYOTA	**Prius v**	76.08	$27,925	**$367**
34	2014	HYUNDAI	**Tucson SE**	65.64	$24,375	**$371**
35	2014	MAZDA	**3S Grand Touring**	78.70	$29,485	**$375**
36	2013	SMART	**electric drive**	67.87	$25,750	**$379**
37	2014	FORD	**F-150**	76.90	$30,045	**$391**

RANKING	YEAR	MAKE	MODEL	POINTS	PRICE AS TESTED	COST PER POINT
38	2013	FORD	Escape SE FWD	72.12	$28,255	$392
39	2014	VOLKSWAGEN	Jetta TDI Premium Nav	71.57	$28,235	$394
40	2014	MAZDA	CX-5 Touring AWD	74.15	$29,375	$396
41	2014	SUBARU	XV Crosstrek Hybrid	74.01	$30,120	$407
42	2013	KIA	Sportage EX FWD	71.86	$29,300	$408
43	2014	SUBARU	Forester 2.5i Touring	78.40	$32,220	$411
44	2013	HONDA	Civic IMA Hybrid	67.00	$27,850	$416
45	2013	SUBARU	Legacy 2.5i Limited	74.22	$30,905	$416
46	2012	TOYOTA	Camry XLE	70.71	$29,510	$417
47	2013	FORD	Fusion S 47 E Hybrid	74.20	$30,975	$417
48	2013	VOLKSWAGEN	Jetta Hybrid SEL Premium	76.19	$32,010	$420
49	2014	MAZDA	6i Grand Touring	72.46	$31,490	$435
50	2013	SUBARU	Outback 2.5i Limited	74.94	$33,835	$452
51	2014	CHEVROLET	Silverado 1500 LT	72.81	$34,000	$467
52	2013	TOYOTA	Prius	75.56	$35,345	$468
53	2012	HONDA	Civic NGV GX	60.64	$28,425	$469
54	2013	HONDA	Fit EV	76.47	$37,415	$489
55	2014	BUICK	LaCrosse	74.57	$36,630	$491
56	2013	FORD	C-Max Energi SEL	76.55	$37,930	$495
57	2012	MITSUBISHI	i-MiEV SE	70.11	$34,765	$496
58	2013	BUICK	Encore AWD Premium	65.18	$32,425	$497
59	2014	LEXUS	CT 200h	78.56	$39,095	$498
60	2013	TOYOTA	Avalon XLE Touring Hybrid	75.27	$38,045	$505
61	2014	FORD	Focus Electric	72.32	$36,990	$511
62	2014	HONDA	Accord Plug-in Hybrid	78.98	$40,570	$514
63	2013	FORD	Taurus SEL	67.88	$35,180	$518
64	2013	ACURA	ILX Tech Hybrid	67.71	$35,295	$521
65	2013	TOYOTA	Prius Plug-in	75.73	$40,545	$535
66	2014	FORD	Fusion Energi Titanium	74.61	$42,485	$569
67	2012	TOYOTA	RAV4 EV	84.52	$49,800	$589
68	2013	TOYOTA	Avalon Limited	72.02	$42,494	$590
69	2013	LEXUS	ES 300h	77.68	$47,944	$617
70	2014	RAM	1500 SLT Outdoorsman	71.39	$45,150	$632
71	2012	CHEVROLET	Volt	67.94	$45,170	$665
72	2014	TOYOTA	Highlander Hybrid Limited	74.73	$50,650	$678
73	2014	AUDI	Q5 TDI Quattro Tiptronic	81.53	$55,445	$680
74	2014	LEXUS	RX 450H	79.10	$57,145	$722
75	2013	LEXUS	GS 450H	83.51	$62,060	$743
76	2014	JEEP	Grand Cherokee Summit 4x4	73.51	$57,190	$778
77	2014	MERCEDES-BENZ	E250 BlueTEC 4MATIC	80.64	$64,295	$797
78	2014	AUDI	A6 TDI Quattro Tiptronic	80.59	$66,795	$829
79	2013	TESLA	S P85	94.30	$89,900	$953
80	2014	AUDI	A7 TDI Quattro Tiptronic	84.09	$81,395	$968
81	2014	CADILLAC	ELR	70.77	$82,135	$1,161
82	2014	AUDI	A8 L TDI Quattro Tiptronic	81.49	$99,445	$1,220
83	2014	LEXUS	LS 600h L	76.31	$135,025	$1,769

Acura ILX Tech Hybrid

Green Car Scores

Score For This Vehicle
67.71

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$34,400
Price as Tested:	$35,295

Cost per Point for this Vehicle
$521

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

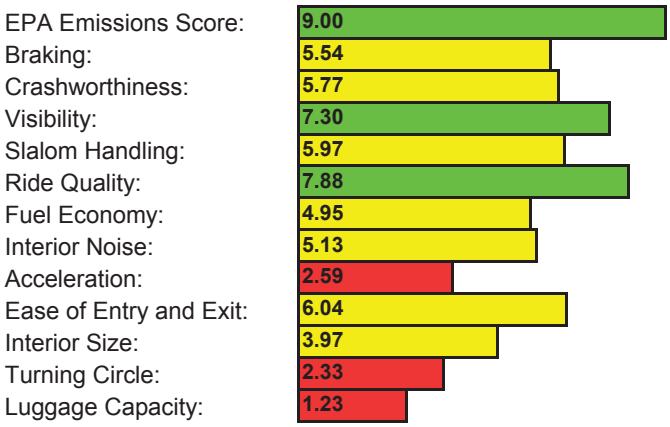
Fuel Type:	Unleaded Premium
Fuel Capacity (gal):	13.2
EPA Urban MPG:	39
EPA Highway MPG:	38
Auto Club Highest MPG:	44.1
Auto Club Average MPG:	39.8
Auto Club Lowest MPG:	36.3

MODEL YEAR TESTED - 2013

The Acura ILX Hybrid is based on the Honda Civic Hybrid (although it has different sheet metal). Both use a 1.5-liter gasoline engine combined with an electric motor, taking advantage of the strengths of both to provide excellent fuel economy and low emissions (AT PZEV). The ILX doesn't seem like a Civic on the inside, either. Instead, the interior is quite luxurious, and the heated leather front seats are very comfortable. The ILX rides well, yet still was quite fast through our slalom course. Like other hybrids we've tested, the rear seats don't fold down, and the trunk is small because of the placement of the battery pack. The ILX is Acura's first shot at a hybrid, but with Honda's hybrid experience to lean on, it should prove to be a success.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Excellent fuel economy
- Trunk security (lockable interior release)
- Comfortable front seats
- Smooth ride while maintaining good handling
- Quality of fit and finish
- Certified as an AT PZEV

Weak Points

- Cramped rear seat
- Expensive premium fuel recommended
- Small trunk (rear seat doesn't fold down)
- When using cruise control on a downgrade, regenerative braking cycles on and off, so it feels like the brakes are being applied

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	2980	**Tire Manufacturer:**	Continental P205/55R16
Exterior Length (in):	179.1	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.6	**Transmission Type:**	CVT
Exterior Height (in):	55.6	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	105.1	**Engine Size:**	1.5L SOHC 8V i-VTEC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	111 @ 5500
Restraint Type:	8 Air Bags		

Audi A6 TDI Quattro Tiptronic

Green Car Scores

Score For This Vehicle
80.59

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$57,500**
Price as Tested:	**$66,795**

Cost per Point for this Vehicle
$829

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Diesel #2**
Fuel Capacity (gal):	**19.2**
EPA Urban MPG:	**24**
EPA Highway MPG:	**38**
Auto Club Highest MPG:	**33.1**
Auto Club Average MPG:	**27.6**
Auto Club Lowest MPG:	**18.5**

A luxury/sports car as a green machine? Audi has one for you, the A6. Our test car was very sporty, even though it featured a turbodiesel engine. It ran 0–60 mph acceleration times under 7 seconds, stopped from 50 mph in 80 feet (the best we've tested to date), and handled responsively. You get all of this fun stuff and 29 MPG, too. The diesel engine is nothing like the diesels of old. It's powerful, starts instantly, is virtually odorless, and has only a hint of clatter at idle. The $67,000 purchase price buys you lots of goodies, including Quattro AWD, adaptive cruise control with stop and go, lane assist, top-view camera, side assist, and adaptive Xenon headlights. The A6 is simply a great midsized luxury/sport sedan.

MODEL YEAR TESTED - 2014

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	10.00
Crashworthiness:	7.48
Visibility:	7.80
Slalom Handling:	7.72
Ride Quality:	7.84
Fuel Economy:	4.25
Interior Noise:	5.35
Acceleration:	7.54
Ease of Entry and Exit:	6.59
Interior Size:	5.52
Turning Circle:	1.43
Luggage Capacity:	2.06

Strengths and Weaknesses

Strong Points
- Fuel economy (29 MPG)
- Torque from turbocharged diesel
- Loaded with comfort, convenience, and safety features, including both rear and front cameras
- Powerful ABS brakes provide short stops
- Large trunk

Weak Points
- High purchase price ($67,000)
- High cost of diesel fuel
- Idle stop-start is jerky and abrupt
- Complicated steering wheel controls can be bumped when turning
- Rear windows don't open fully

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4220	**Tire Manufacturer:**	Pirelli P255/35R20
Exterior Length (in):	193.9	**Towing Cap. (lbs) W/WO Brakes**	1653
Exterior Width (in):	82.1	**Transmission Type:**	Auto 8 Speed
Exterior Height (in):	57.8	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	114.7	**Engine Size:**	3.0L TDI Clean Diesel V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	240 @ 3500-3750
Restraint Type:	8 Air Bags		

Audi A7 TDI Quattro Tiptronic

Green Car Scores

Score For This Vehicle
84.09

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$67,795**
Price as Tested: **$81,395**

Cost per Point for this Vehicle
$968

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Diesel #2**
Fuel Capacity (gal):	**19.3**
EPA Urban MPG:	**24**
EPA Highway MPG:	**38**
Auto Club Highest MPG:	**31.6**
Auto Club Average MPG:	**28.9**
Auto Club Lowest MPG:	**26.8**

MODEL YEAR TESTED - 2014

Here's another luxury/sports car as a green machine from Audi, the A7. Our test car was very sporty, even though it featured a diesel engine. Like the A6 it ran 0 - 60 mph acceleration times under 7 seconds, stopped from 50 mph in about 80 feet, has even more responsive handling, and gets 29 MPG, too. The diesel engine is powerful, starts instantly, is virtually odorless, and has only a hint of clatter at idle. The $81,000 purchase price buys you lots of goodies on the A7, too, including Quattro AWD, adaptive cruise with stop and go, lane assist, front and rearview cameras, side assist, adaptive HID headlights, and a fantastic B&O sound system with motorized popup tweeters. Like the A6, the A7 is a great luxury/sport sedan.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	9.55
Crashworthiness:	8.43
Visibility:	7.50
Slalom Handling:	9.80
Ride Quality:	7.59
Fuel Economy:	4.25
Interior Noise:	5.96
Acceleration:	7.34
Ease of Entry and Exit:	5.91
Interior Size:	5.30
Turning Circle:	1.37
Luggage Capacity:	4.09

Strengths and Weaknesses

Strong Points

- High-fidelity sound from the optional ($5,900) Bang and Olufsen system
- Very good fuel economy (29 MPG)
- AWD traction, nimble handling, and high-torque diesel make for a fun-to-drive car
- Powerful brakes
- Loaded with safety/convenience equipment

Weak Points

- Rear visibility
- Cup holders too small
- Rear windows don't open fully
- High purchase price
- High price of diesel fuel

Vehicle Specifications

Midsized 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4540	**Tire Manufacturer:**	Yokohama 265/35R20
Exterior Length (in):	195.6	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	84.2	**Transmission Type:**	Auto 8 Speed
Exterior Height (in):	55.9	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	114.7	**Engine Size:**	3.0L 24V DOHC DI V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	240 @ 3500-3750
Restraint Type:	9 Air Bags or more		

Audi A8 L TDI Quattro Tiptronic

Green Car Scores

Score For This Vehicle
81.49

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$83,395**
Price as Tested: **$99,445**

Cost per Point for this Vehicle
$1,220

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Diesel #2**
Fuel Capacity (gal):	**23.8**
EPA Urban MPG:	**24**
EPA Highway MPG:	**36**
Auto Club Highest MPG:	**34.9**
Auto Club Average MPG:	**33.9**
Auto Club Lowest MPG:	**21.0**

MODEL YEAR TESTED - 2014

The Audi A8 is the automaker's top-of-the-line luxury car. With a 3-liter diesel engine and an 8-speed automatic transmission, it gets an impressive 28 MPG. The A8 costs almost $100,000, but that gets you a lot, including Quattro AWD; adaptive cruise with stop and go; lane assist; front, rear, and top-view cameras; side assist; adaptive HID headlights; and a fantastic B&O sound system. The A8 is a large car, so its turning radius is also quite large, but it's comfortable, front and rear, has good acceleration, great ride quality without sacrificing handling, and amazing brakes. The A8 can compete favorably with the top-of-the-line luxury cars from the U.S., Japan, and Germany.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	9.73
Crashworthiness:	8.73
Visibility:	7.60
Slalom Handling:	7.36
Ride Quality:	8.04
Fuel Economy:	4.10
Interior Noise:	6.01
Acceleration:	7.02
Ease of Entry and Exit:	7.27
Interior Size:	6.74
Turning Circle:	0.00
Luggage Capacity:	1.89

Strengths and Weaknesses

Strong Points

- High-fidelity sound from the optional ($6,300) Bang and Olufsen system
- Ride quality
- Excellent MPG (28) for a large car
- Roomy and comfortable seats
- AWD traction, nimble handling, high torque, and powerful brakes make for a fun-to-drive car
- Loaded with safety/convenience equipment including front and rearview cameras

Weak Points

- Unusual shifter operation
- High purchase price
- Jerky shifts under wide open throttle
- High price of diesel fuel
- Rear seats don't fold down

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4760	**Tire Manufacturer:**	Goodyear 265/40R20
Exterior Length (in):	207.4	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	83.1	**Transmission Type:**	Auto 8 Speed
Exterior Height (in):	57.9	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	122.9	**Engine Size:**	3.0L 24V DOHC DI V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	240 @ 3550
Restraint Type:	9 Air Bags or more		

Audi Q5 TDI Quattro Tiptronic

Green Car Scores

Score For This Vehicle
81.53

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$47,395**
Price as Tested: **$55,445**

Cost per Point for this Vehicle
$680

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Diesel #2**
Fuel Capacity (gal):	**19.8**
EPA Urban MPG:	**24**
EPA Highway MPG:	**31**
Auto Club Highest MPG:	**25.2**
Auto Club Average MPG:	**25.1**
Auto Club Lowest MPG:	**25.0**

MODEL YEAR TESTED - 2014

Audi has been marketing its Quattro AWD system on a wide variety of vehicles for years. They supplied us a loaded Q5 SUV equipped with a 240-hp 3.0-liter V6 diesel engine. The high-torque engine and AWD provided responsive acceleration, excellent handling, good ride quality, and short stops. Its tall profile makes the Q5 easy to see out of, so that driving in traffic is easier. All of this costs money, of course. Our test vehicle listed for more than $55,000 (for this, you get navigation, Bluetooth, heated leather seats, a rearview camera, and satellite radio, among other amenities). If you can afford it, the Q5 is an impressive vehicle. And it gets 27 MPG, which is really good for a 4,500- pound SUV.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	9.43
Crashworthiness:	7.87
Visibility:	7.80
Slalom Handling:	6.91
Ride Quality:	7.59
Fuel Economy:	3.68
Interior Noise:	5.79
Acceleration:	6.81
Ease of Entry and Exit:	6.19
Interior Size:	5.17
Turning Circle:	2.30
Luggage Capacity:	4.98

Strengths and Weaknesses

Strong Points
- Utility and flexibility
- Strong torque
- Good MPG
- AWD traction
- Powerful ABS brakes
- Easy to see out of
- Well equipped

Weak Points
- High purchase price (over $55,000)
- High price of diesel fuel
- High step-in
- Audio system and other controls can be confusing
- Engine noise

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4500	**Tire Manufacturer:**	Goodyear 255/45R20
Exterior Length (in):	182.6	**Towing Cap. (lbs) W/WO Brakes**	4400/1650
Exterior Width (in):	82.2	**Transmission Type:**	Auto 8 Speed
Exterior Height (in):	65.2	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	110.5	**Engine Size:**	3.0L 24V DOHC DI V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	240 @ 3750-4000
Restraint Type:	8 Air Bags		

Buick Encore AWD Premium

Green Car Scores

Score For This Vehicle
65.18

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$29,690**
Price as Tested: **$32,425**

Cost per Point for this Vehicle
$497

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

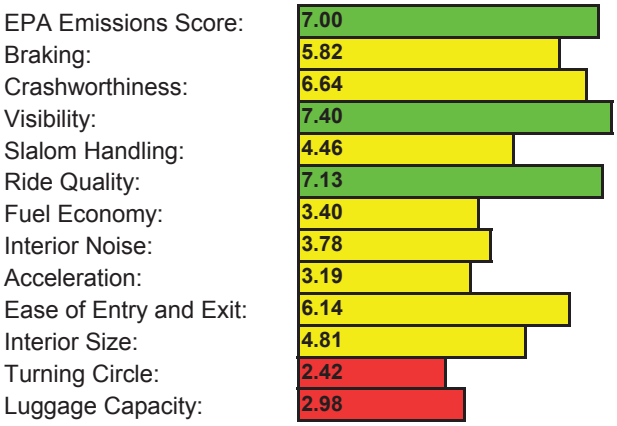
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**14.0**
EPA Urban MPG:	**23**
EPA Highway MPG:	**30**
Auto Club Highest MPG:	**26.7**
Auto Club Average MPG:	**24.3**
Auto Club Lowest MPG:	**21.8**

The upscale Encore, relatively new to the Buick lineup, is equipped with some standard luxury features other compact crossovers lack. It has a quiet, comfortable ride and AWD traction, although it could use a bit more power on the low end. The Encore handled pretty well on our slalom course, and we averaged 24 MPG overall. The rearview camera is a must-have because of the Encore's limited rear visibility. The forward-collision alert and lane-departure warning systems are great safety items. You can get all these features for an MSRP under $33,000. Overall, Buick did a nice job with this addition to the crossover market.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Comfortable ride
- Rearview camera
- Forward-collision alert
- Navigation and Bluetooth connectivity

Weak Points
- Limited cargo space
- Cramped backseat
- Lacks low-end power
- Large rear headrests limit visibility

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	3250	**Tire Manufacturer:**	Continental P215/55R18
Exterior Length (in):	168.5	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.9	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	65.2	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	100.6	**Engine Size:**	1.4L DOHC I4 Turbo
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	138 @ 4900
Restraint Type:	9 Air Bags or more		

Buick LaCrosse

Green Car Scores

Score For This Vehicle
74.57

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$36,135**
Price as Tested: **$36,630**

Cost per Point for this Vehicle
$491

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**18.6**
EPA Urban MPG:	**18**
EPA Highway MPG:	**28**
Auto Club Highest MPG:	**22.3**
Auto Club Average MPG:	**20.2**
Auto Club Lowest MPG:	**18.6**

MODEL YEAR TESTED - 2014

The bread and butter of the auto industry is the midsized sedan. GM's entries lagged behind the competition for years, but their most recent models are dramatically improved. We tested a 2014 Buick LaCrosse equipped with the base 3.6-liter V6. Acceleration was surprisingly brisk, even though the powertrain meets PZEV emission standards. The brakes are powerful and the sedan is roomy, comfortable, and quiet, with the exception of some road noise at higher speeds. The steep rake of the rear of the cabin makes it hard to see out of the back and to the sides, but the rearview camera helps when you are backing up. All in all, the LaCrosse compares well with the competing midsized sedans and deserves a look.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	6.56
Crashworthiness:	7.87
Visibility:	6.90
Slalom Handling:	5.73
Ride Quality:	7.53
Fuel Economy:	2.23
Interior Noise:	6.32
Acceleration:	6.72
Ease of Entry and Exit:	6.65
Interior Size:	5.61
Turning Circle:	1.63
Luggage Capacity:	1.81

Strengths and Weaknesses

Strong Points

- Roomy, comfortable front seats
- Meets stringent PZEV emission standards
- Good ride quality
- Strong performance
- Well equipped, including Bluetooth, satellite radio, and automatic climate control
- Rearview camera works well

Weak Points

- Difficult to see to the rear and sides
- Too much road noise
- Vague steering feel
- Mushy brake-pedal feel
- Start-stop button is hidden behind steering wheel

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4140	**Tire Manufacturer:**	Goodyear P235/50R18
Exterior Length (in):	196.9	**Towing Cap. (lbs) W/WO Brakes**	1000/1000
Exterior Width (in):	73.1	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	59.2	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	111.7	**Engine Size:**	3.6L DOHC 24V VVT V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	304 @ 6800
Restraint Type:	9 Air Bags or more		

Cadillac ELR

Green Car Scores

Score For This Vehicle
70.77

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$75,995**
Price as Tested: **$82,135**

Cost per Point for this Vehicle
$1,161

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

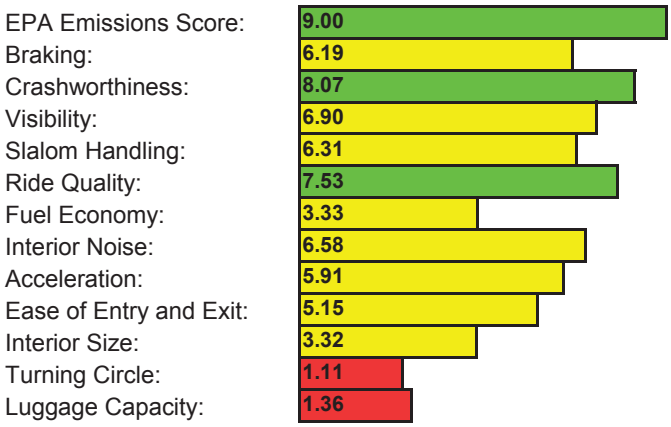
Fuel Type:	**Unleaded Premium**
Fuel Capacity (gal):	**9.3**
EPA Combined Electric:	**82**
EPA Urban/Highway Gas:	**31/35**
Auto Club Highest MPG:	**67.2**
Auto Club Average MPG:	**40.9**
Auto Club Lowest MPG:	**29.7**

MODEL YEAR TESTED - 2014

The Cadillac ELR takes the basic extended-range EV technology from the Chevrolet Volt, adds a little more oomph, and puts it into a stylish new shell. It operates as an EV for the first 35-40 miles (with fully charged batteries). Then a gas engine comes on and operates a generator to supply electricity for the motor that powers the vehicle. This mode of operation continues as long as there is fuel in the tank, eliminating the "range anxiety" many EV owners feel. The ELR is categorized as a subcompact by EPA, but there's plenty of room in the comfortable front seats. The rear seats, however, serve better as package shelves. Our test car had plenty of luxury touches, befitting its $82,000 price tag.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Efficient use of energy. Uses no gasoline in EV mode, but eliminates range anxiety
- Stylish inside and out
- Loaded with safety/convenience features
- Certified as an AT PZEV
- Comfortable front seats can adjust to fit anyone

Weak Points

- Requires expensive premium fuel
- Hard to see out of
- Mushy brake pedal
- Touch-screen controls can be distracting
- Rear seat cramped; hard to enter/exit
- High purchase price ($82,000)

Vehicle Specifications

Midsized 2-door Coupe

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4280	**Tire Manufacturer:**	Bridgestone 245/40R20
Exterior Length (in):	186.0	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	72.7	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	55.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.1	**Engine Size:**	1.4L Ecotec
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	207 Total System Power
Restraint Type:	9 Air Bags or more		

Chevrolet Silverado 1500 LT

Green Car Scores

Score For This Vehicle
72.81

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$34,000**
Price as Tested: **$34,000**

Cost per Point for this Vehicle
$467

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**26.0**
EPA Urban MPG:	**17**
EPA Highway MPG:	**22**
Auto Club Highest MPG:	**19.2**
Auto Club Average MPG:	**16.0**
Auto Club Lowest MPG:	**14.7**

MODEL YEAR TESTED - 2014

The Chevrolet Silverado 1500 LT, equipped with a 4.3-liter V6, is rated at 20 MPG overall by EPA for the 2WD version. Our test vehicle was a flex-fuel-capable 4x4 and was rated at 19 MPG. The Silverado's cabin is huge and comfortable, and its ride quality is surprisingly good. Full-size trucks have the best instrumentation layouts in the industry, and the Silverado's controls are especially easy to use. This truck sits high off the ground, providing excellent distance visibility, but it's virtually impossible to see anything close to the truck below the hood line. Like other full-size 4x4s, the Silverado is hard to get into, hard to execute U-turns with, and won't fit in many of today's parking spots. Full-size trucks sell in high quantities, and the Silverado has earned its ranking near the top.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	6.00
Braking:	3.50
Crashworthiness:	9.39
Visibility:	7.30
Slalom Handling:	2.02
Ride Quality:	6.94
Fuel Economy:	1.54
Interior Noise:	6.85
Acceleration:	5.28
Ease of Entry and Exit:	6.80
Interior Size:	9.07
Turning Circle:	0.00
Luggage Capacity:	8.11

Strengths and Weaknesses

Strong Points

- Roomy interior with tremendous cargo capacity and utility
- Quiet
- Easy-to-use full instrumentation
- Good ride quality for a 4x4 truck
- Flex-fuel vehicle

Weak Points

- Poor visibility to the rear; lacks rearview camera/sensor
- Entry/exit difficult due to ride height. Could use running boards
- Large turning radius; difficult to park

Vehicle Specifications

Standard 4-door Pickup

Number of Passengers (F/R):	3/3
Curb Weight (lbs):	5600
Exterior Length (in):	239.6
Exterior Width (in):	80.0
Exterior Height (in):	73.8
Wheelbase (in):	153.0
Anti-lock Braking System:	4 Wheel ABS
Restraint Type:	8 Air Bags

Payload (lbs): 1875

Warranty (Months/Miles):	36/36,000
Tire Manufacturer:	Bridgestone LT255/70R17
Towing Cap. (lbs) W/WO Brakes:	6600
Transmission Type:	Auto 6 Speed
Drivetrain Type:	All Wheel - Part Time
Engine Size:	4.3L EcoTec3 V6
Horsepower @ RPM:	285 @ 5300

Chevrolet Spark 1LT

Green Car Scores

Score For This Vehicle
63.97

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$14,083**
Price as Tested:	**$14,670**

Cost per Point for this Vehicle
$229

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**9.2**
EPA Urban MPG:	**28**
EPA Highway MPG:	**37**
Auto Club Highest MPG:	**34.0**
Auto Club Average MPG:	**31.7**
Auto Club Lowest MPG:	**29.8**

MODEL YEAR TESTED - 2013

The Chevrolet Spark is priced under $15,000 and averages about 30 MPG, making it a very affordable green vehicle. With just 84 hp on tap, though, the Spark's 1.2-liter 4-cylinder engine definitely lacks power. But it's fun to drive and has enough power for someone who mainly needs to get around in the city. On the downside, the cabin is short on space and noisy, the ride is just so-so, and the Spark's low price means it's not equipped with some amenities we've seen on other green vehicles. But if a low-priced, high-MPG vehicle is what you're looking for, consider the Spark.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	6.47
Crashworthiness:	5.23
Visibility:	6.40
Slalom Handling:	6.79
Ride Quality:	6.08
Fuel Economy:	4.99
Interior Noise:	3.93
Acceleration:	1.52
Ease of Entry and Exit:	5.41
Interior Size:	3.24
Turning Circle:	5.36
Luggage Capacity:	1.54

Strengths and Weaknesses

Strong Points
- Price
- Small size makes it a good city car
- Easy to drive
- Instrument cluster moves up and down with steering wheel

Weak Points
- Lots of engine and wind noise
- Underpowered
- Radio touch controls difficult to use
- Insufficient number of gauges
- Seats only four

Vehicle Specifications

Subcompact 5-door Hatchback

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2230	**Tire Manufacturer:**	Goodyear 185/55R15
Exterior Length (in):	144.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	62.9	**Transmission Type:**	Auto 4 Speed
Exterior Height (in):	61.0	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	94.0	**Engine Size:**	1.2L DOHC 16V VVT I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	84 @ 6400
Restraint Type:	9 Air Bags or more		

Chevrolet Spark EV 2LT

Green Car Scores

Score For This Vehicle
77.51

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$27,820**
Price as Tested: **$27,820**

Cost per Point for this Vehicle
$359

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Electricity**
Battery Capacity (KWH):	**21.0**
Equivalent EPA Urban MPG:	**128**
Equivalent EPA Highway MPG:	**109**
Charger Input (VAC):	**110**
Charger Charge Time (Hours):	**17**
Charger #2 Input (VAC):	**240**
Charger #2 Charge Time (Hours):	**7**

MODEL YEAR TESTED - 2014

The Chevrolet Spark EV is an all-electric version of the Spark. Like most other EVs, it's easy to drive and produces zero emissions, but it's not practical for long commutes or extensive road trips. The motor produces 140 hp and 400 lb-ft of torque, which provides surprisingly quick acceleration (0–60 mph in 8 seconds). Our test vehicle (the 2LT model) was well equipped, including Bluetooth, XM, heated seats, and a DC fast-charging port. Because of the low cost of electricity, the Spark EV has extremely low operating costs. With an MSRP under $28,000 (not including federal and state incentives), it's one of the most economical EVs on the market today. It's currently available only in California and Oregon.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	10.00
Braking:	4.75
Crashworthiness:	5.72
Visibility:	6.40
Slalom Handling:	6.11
Ride Quality:	6.00
Fuel Economy:	10.00
Interior Noise:	5.72
Acceleration:	6.94
Ease of Entry and Exit:	5.55
Interior Size:	3.80
Turning Circle:	5.34
Luggage Capacity:	1.19

Strengths and Weaknesses

Strong Points

- Energy efficient (119 MPG combined)
- Zero tailpipe emissions
- Good power, especially at low speeds
- Quiet powertrain
- Easy to drive and park
- Standard equipment includes XM, Bluetooth, and cruise control

Weak Points

- Long recharging time (20 hours @110 volts)
- Range anxiety
- Small trunk
- Cramped rear seat
- Lacks rear center armrest
- Driver's fold-down armrest blocks seat-belt buckle

Vehicle Specifications

Subcompact 5-door Hatchback

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2940	**Tire Manufacturer:**	Bridgestone 185/55R15
Exterior Length (in):	146.5	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	64.0	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	62.6	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	93.5	**Engine Size:**	140 HP Electric Motor
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	140
Restraint Type:	8 Air Bags		

Chevrolet Volt

Green Car Scores

Score For This Vehicle
67.94

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$39,145**
Price as Tested: **$45,170**

Cost per Point for this Vehicle
$665

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

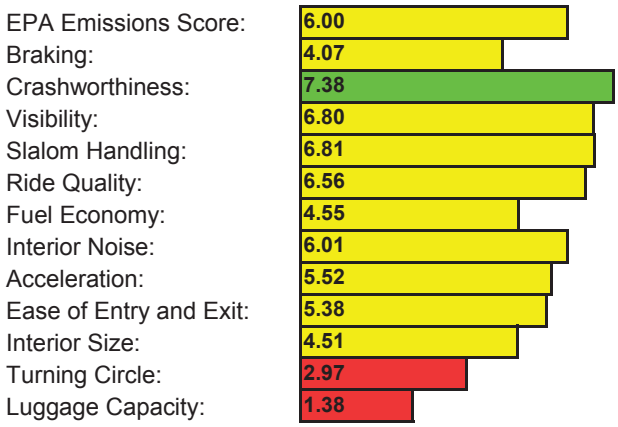
Fuel Type:	**Unleaded Premium**
Fuel Capacity (gal):	**9.3**
EPA Combined Electric:	**94**
EPA Urban/Highway Gas:	**35/40**
Auto Club Highest MPG:	**67.2**
Auto Club Average MPG:	**51.5**
Auto Club Lowest MPG:	**43.0**

The Chevrolet Volt is one of today's most innovative cars. Chevy calls it "an extended range EV," but it's really a plug-in hybrid. With fully charged batteries, it operates as an electric vehicle for the first 35 to 40 miles; then a gasoline engine seamlessly kicks in and powers a generator that supplies electricity for the motor that propels the vehicle. This mode of operation can continue as long as there's fuel in the tank, eliminating the "range anxiety" that owners of purely electric vehicles sometimes experience. And if you recharge the car nightly and typically drive less than 40 miles a day, the gasoline might sit in the tank unused for months. The Volt has responsive handling and a quiet ride, but its large battery limits the seating capacity to four.

MODEL YEAR TESTED - 2012

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Efficient use of energy
- Technologically innovative plus "green image"
- Well equipped
- AT PZEV now available
- Uses no gasoline in EV mode, but eliminates range anxiety
- Quiet interior, although tire noise is noticeable in EV mode

Weak Points

- Requires expensive premium fuel
- High purchase price
- Air dam can scrape driveways
- Rear seat is cramped; hard to enter/exit
- Too many controls on flat panel

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3780	**Tire Manufacturer:**	Goodyear 215/55R17
Exterior Length (in):	177.1	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	70.4	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	56.6	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	105.7	**Engine Size:**	1.4L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	83 @ 4800
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	149

Fiat 500 Pop

Green Car Scores

Score For This Vehicle
62.63

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$16,995**
Price as Tested: **$16,995**

Cost per Point for this Vehicle
$271

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**10.5**
EPA Urban MPG:	**27**
EPA Highway MPG:	**34**
Auto Club Highest MPG:	**39.5**
Auto Club Average MPG:	**33.2**
Auto Club Lowest MPG:	**28.6**

MODEL YEAR TESTED - 2013

After many years away, Fiat is finally selling cars in the U.S. again. Its first entry is the diminutive Fiat 500 mini compact. This 2-door hatchback is undeniably cute and averages an excellent 34 MPG (manual transmission; 30 MPG with an automatic). Our tester was the Pop model, with an MSRP under $17,000. Like many other cars in this size category, it handles nimbly, has a small turning radius, and can fit in any parking spot. However, the rear seats are basically useless, the engine could use more power, the interior is noisy, and the ride is bumpy. If most of your driving is solo, and you live and work in a congested city, the Fiat 500 might just be the cute and economical car for you.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	6.00
Braking:	7.91
Crashworthiness:	5.58
Visibility:	6.90
Slalom Handling:	6.66
Ride Quality:	5.75
Fuel Economy:	4.52
Interior Noise:	1.94
Acceleration:	2.07
Ease of Entry and Exit:	5.51
Interior Size:	2.58
Turning Circle:	6.04
Luggage Capacity:	1.17

Strengths and Weaknesses

Strong Points

- Good MPG
- Cute styling
- Easy to park
- Fun to drive (responsive handling, tight turning radius)
- Low purchase price ($17,000)
- ABS brakes provide short, straight stops
- Window washer has 6 streams

Weak Points

- Underpowered, noisy engine
- Poor build quality
- Rough ride; unstable on bad roads
- Small trunk
- Cramped rear seat
- Awkward seat controls

Vehicle Specifications

Minicompact 2-door Hatchback

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	2480	**Tire Manufacturer:**	Firestone 185/55R15
Exterior Length (in):	139.6	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	64.1	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	59.8	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	90.6	**Engine Size:**	1.4L I4 Multiair
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	101 @ 6500
Restraint Type:	9 Air Bags or more		

Ford C-Max Energi SEL

Green Car Scores

Score For This Vehicle
76.55

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$33,745**
Price as Tested: **$37,930**

Cost per Point for this Vehicle
$495

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**14.0**
EPA Combined Electric:	**100**
EPA Urban/Highway Gas:	**44/41**
Auto Club Highest MPG:	**54.7**
Auto Club Average MPG:	**45.1**
Auto Club Lowest MPG:	**32.1**

MODEL YEAR TESTED - 2013

The C-Max Energi is Ford's first plug-in hybrid. It's suitable as a commuter car, but it has limited trunk space because of its large battery. The battery takes up so much space that EPA lowers the size classification of the Energi from the full-sized rating of the C-Max Hybrid down to mid-sized. Our test vehicle's price was nearly $38,000, which is high for a small car. But federal and state tax incentives (as much as $10,000 in California) can help reduce the price. We averaged 45 MPG overall. What's more, its 20-mile all-electric range can lower operating costs further. The C-Max Energi rides well but is a bit underpowered. It handled well on our slalom course, but it has a large turning radius for such a small car.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	3.76
Crashworthiness:	7.43
Visibility:	7.40
Slalom Handling:	3.93
Ride Quality:	7.04
Fuel Economy:	10.00
Interior Noise:	5.24
Acceleration:	5.59
Ease of Entry and Exit:	7.05
Interior Size:	6.75
Turning Circle:	0.29
Luggage Capacity:	3.06

Strengths and Weaknesses

Strong Points
- Certified as AT PZEV; qualifies for solo HOV lane use in California
- Good headroom
- Rearview camera
- Comfortable seating

Weak Points
- Poor rearward visibility
- Very small trunk
- Insufficient instrumentation
- Radio controls
- Large turning radius

Vehicle Specifications

Midsized 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3820	**Tire Manufacturer:**	Michelin P225/50R17
Exterior Length (in):	173.6	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	72.0	**Transmission Type:**	CVT
Exterior Height (in):	63.8	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.3	**Engine Size:**	2.0L ATK IVCT I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	141 @ 6000 (188 Total)
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	118 @ 6000

Ford C-Max Hybrid SE

Green Car Scores

Score For This Vehicle
76.81

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$25,995**
Price as Tested: **$27,990**

Cost per Point for this Vehicle
$364

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.5**
EPA Urban MPG:	**43**
EPA Highway MPG:	**43**
Auto Club Highest MPG:	**37.8**
Auto Club Average MPG:	**35.2**
Auto Club Lowest MPG:	**32.7**

MODEL YEAR TESTED - 2013

The C-Max is Ford's first hybrid-only vehicle line. Our test vehicle had a base price of $25,200, including electronic power-assisted steering and remote keyless entry. This version of the C-Max—as opposed to the C-Max Energi plug-in hybrid—has a good-sized cargo compartment. Fuel economy is rated at 43 MPG. Options on our test car included reverse sensors, power liftgate, and the MyFord Touch infotainment system, which brought the price up to just over $28,000. But because of its good acceleration, ride quality, and excellent fuel economy, we consider the C-Max a good buy.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.14
Crashworthiness:	7.20
Visibility:	7.20
Slalom Handling:	4.43
Ride Quality:	7.33
Fuel Economy:	8.18
Interior Noise:	6.10
Acceleration:	5.81
Ease of Entry and Exit:	6.79
Interior Size:	7.11
Turning Circle:	0.44
Luggage Capacity:	4.09

Strengths and Weaknesses

Strong Points
- Great forward visibility
- Power rear liftgate
- Great cargo space
- Excellent fuel economy

Weak Points
- Limited rearward visibility
- Interior controls are not user-friendly nor well marked
- Lack of instruments and warning lights
- Large turning radius for a small car

Vehicle Specifications

Large 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3650	**Tire Manufacturer:**	Michelin P225/50R17
Exterior Length (in):	173.6	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.0	**Transmission Type:**	CVT
Exterior Height (in):	63.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.3	**Engine Size:**	2.0L I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	141 @ 6000 (188 Total)
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	118 @ 6000

Ford Escape SE FWD

Green Car Scores

Score For This Vehicle
72.12

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$25,895**
Price as Tested: **$28,255**

Cost per Point for this Vehicle
$392

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.1**
EPA Urban MPG:	**23**
EPA Highway MPG:	**33**
Auto Club Highest MPG:	**24.7**
Auto Club Average MPG:	**23.6**
Auto Club Lowest MPG:	**22.4**

MODEL YEAR TESTED - 2013

The Ford Escape SE is a compact SUV that's easy to drive. Overall visibility is good, but the small rear window limits the view out the back. That could be an issue if you don't get a rearview camera. The EPA rates the Escape at 26 MPG combined city/highway, excellent for a conventional SUV. We averaged about 24 MPG overall with our test car. It handled well in the slalom course and had good ride quality as well. It lacked some of the comforts we've become accustomed to, such as power seats and a backup camera. Even then, it was priced at $28,000. If your budget allows, it would be worthwhile to add these features.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.54
Crashworthiness:	7.02
Visibility:	7.20
Slalom Handling:	4.84
Ride Quality:	7.31
Fuel Economy:	3.66
Interior Noise:	4.76
Acceleration:	4.66
Ease of Entry and Exit:	6.68
Interior Size:	5.97
Turning Circle:	1.49
Luggage Capacity:	5.99

Strengths and Weaknesses

Strong Points
- Good headroom
- Versatility
- Easy to drive
- Good visibility

Weak Points
- Gauges and controls are too small
- Manual seat controls
- Excess engine noise

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3520	**Tire Manufacturer:**	Continental 235/55R17
Exterior Length (in):	178.1	**Towing Cap. (lbs) W/WO Brakes**	2000/1000
Exterior Width (in):	72.4	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	66.3	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	105.9	**Engine Size:**	1.6L I4 Ecoboost
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	173 @ 5700
Restraint Type:	9 Air Bags or more		

Ford F-150

Green Car Scores

Score For This Vehicle
76.90

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$30,045**
Price as Tested: **$30,045**

Cost per Point for this Vehicle
$391

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**26.0**
EPA Urban MPG:	**17**
EPA Highway MPG:	**23**
Auto Club Highest MPG:	**17.8**
Auto Club Average MPG:	**16.6**
Auto Club Lowest MPG:	**15.9**

The Ford F-150, equipped with a 3.7-liter V6, is rated at 19 MPG by EPA, placing it in the top three for full-sized trucks. The Ford F-Series has been the top-selling vehicle for many years, and for good reason. The V6 engine performs more like a V8, accelerating our 5,400-pound test truck from 0 to 60 mph in about 8.5 seconds. The interior is capacious, and the rear seats can be folded, leaving SUV-like storage inside the cab. It's also surprisingly quiet at cruising speeds. However, given that it's a full-sized truck, it's very hard to get into, U-turns are a challenge, and it won't fit in many of today's parking spots. There's already lots of hype out there about the aluminum-bodied 2015 Ford F-150, but you don't need to wait until 2015 to get a good truck.

MODEL YEAR TESTED - 2014

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	4.56
Crashworthiness:	9.09
Visibility:	7.00
Slalom Handling:	2.12
Ride Quality:	6.78
Fuel Economy:	1.63
Interior Noise:	7.20
Acceleration:	5.78
Ease of Entry and Exit:	6.95
Interior Size:	8.80
Turning Circle:	0.00
Luggage Capacity:	10.00

Strengths and Weaknesses

Strong Points

- Roomy interior with tremendous cargo capacity and utility
- Rear windows open fully
- Good visibility, especially to the front
- Lots of interior storage
- Full instrumentation
- Flex-fuel

Weak Points

- Entry/exit difficult due to ride height; could use running boards
- Large turning radius; difficult to park
- Rides like a truck
- Fuel economy (we averaged under 17 MPG)

Vehicle Specifications

Standard 4-door Pickup

Payload (lbs): 1620

Number of Passengers (F/R):	3/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	5380	**Tire Manufacturer:**	Michelin LT255/65R17
Exterior Length (in):	231.9	**Towing Cap. (lbs) W/WO Brakes:**	10000
Exterior Width (in):	97.0	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	75.0	**Drivetrain Type:**	Rear Wheel
Wheelbase (in):	144.5	**Engine Size:**	3.7L V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	302 @ 6500
Restraint Type:	8 Air Bags		

Ford Fiesta

Green Car Scores

Score For This Vehicle
69.97

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$16,080**
Price as Tested: **$18,785**

Cost per Point for this Vehicle
$268

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**12.4**
EPA Urban MPG:	**32**
EPA Highway MPG:	**45**
Auto Club Highest MPG:	**31.1**
Auto Club Average MPG:	**31.0**
Auto Club Lowest MPG:	**31.0**

Ford has talked about building “world cars” for quite some time. Its Fiesta has been a perennial favorite in Europe; since 2011, it’s been available in the U.S. In many ways, the Fiesta raises the bar for the subcompact category, coming equipped with seven airbags, Sync, satellite radio, heated seats and side mirrors, and a host of comfort and convenience features. Our test car had the 1.0-liter 3-cylinder Ecoboost, engine, which gets 37 MPG. This turbocharged engine has decent power—once you get the revs up. Unfortunately, it suffers a subcompact’s limitations—the rear seat is both cramped and hard to get in and out of. But if a small, reasonably priced car is on your radar, the Fiesta deserves a hard look.

MODEL YEAR TESTED - 2014

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.61
Crashworthiness:	5.75
Visibility:	7.10
Slalom Handling:	6.38
Ride Quality:	6.75
Fuel Economy:	6.46
Interior Noise:	5.23
Acceleration:	5.55
Ease of Entry and Exit:	5.54
Interior Size:	2.74
Turning Circle:	3.65
Luggage Capacity:	2.22

Strengths and Weaknesses

Strong Points
- Good fuel economy
- Easy-to-operate manual transmission
- Fun and easy to drive
- Equipped with blind-spot mirrors on both sides
- Well equipped for the price, including Sync, Sirius radio, and heated seats and mirrors
- Responsive steering
- Bright green metallic exterior finish option

Weak Points
- Cramped rear seat; hard to enter/exit
- Visibility, especially to the rear
- Available only with a manual transmission
- Lacks rear center armrest

Vehicle Specifications

Subcompact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2600	**Tire Manufacturer:**	Hankook 185/60R15
Exterior Length (in):	159.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	62.8	**Transmission Type:**	Manual 5 Speed
Exterior Height (in):	58.1	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	98.0	**Engine Size:**	1.0 L Ecoboost I3
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	123 @ 6000
Restraint Type:	9 Air Bags or more		

Ford Focus Electric

Green Car Scores

Score For This Vehicle
72.32

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$35,995**
Price as Tested: **$36,990**

Cost per Point for this Vehicle
$511

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Electricity**
Battery Capacity (KWH):	**23.0**
Equivalent EPA Urban MPG:	**110**
Equivalent EPA Highway MPG:	**99**
Charger Input (VAC):	**110**
Charger Charge Time (Hours):	**20**
Charger #2 Input (VAC):	**240**
Charger #2 Charge Time (Hours):	**4**

MODEL YEAR TESTED - 2014

The Ford Focus Electric is the all-electric version of the Ford Focus. While it's easy to drive and produces zero emissions, it's not practical for long commutes or driving vacations because of its short range (76 miles). Our test vehicle was well equipped, including the Ford SYNC–MyFord Touch systems and a rearview camera. If your home or workplace is equipped only with a Level 1 charging system (110 volts), it could take as much as 22 hours to charge the car. The Focus Electric is a fine around-town car and has extremely favorable operating costs because of the low price of electricity. But at a base price of $37,000, it may not be the most practical choice. Federal and state tax credits (as much as $10,000) can help, however.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	10.00
Braking:	2.60
Crashworthiness:	7.46
Visibility:	7.50
Slalom Handling:	3.16
Ride Quality:	7.19
Fuel Economy:	10.00
Interior Noise:	7.13
Acceleration:	4.97
Ease of Entry and Exit:	5.79
Interior Size:	3.91
Turning Circle:	0.47
Luggage Capacity:	2.14

Strengths and Weaknesses

Strong Points
- Well equipped, including rearview camera
- Quiet ride
- Zero emissions from the tailpipe
- Low cost of electricity compared to gasoline
- Easy to drive

Weak Points
- Much more expensive than gas version
- Insufficient range (76 miles)
- Essentially no trunk space
- Long 110-volt charging time
- Braking effort is inconsistent
- Cramped rear seat
- Poor traction on wet road

Vehicle Specifications

Compact 4-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3840	**Tire Manufacturer:**	Michelin P225/50R17
Exterior Length (in):	172.9	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	71.8	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	58.2	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.3	**Engine Size:**	107 kW Electric Motor
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	141
Restraint Type:	9 Air Bags or more		

Ford Focus SEL

PZEV

Green Car Scores

Score For This Vehicle
67.97

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$20,500**
Price as Tested: **$22,885**

Cost per Point for this Vehicle
$337

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

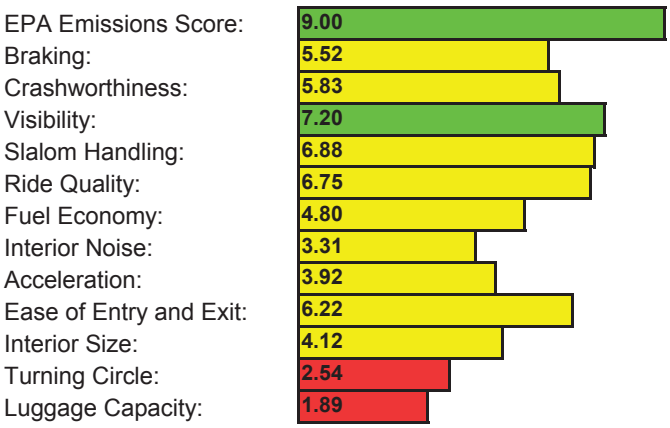
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**12.4**
EPA Urban MPG:	**27**
EPA Highway MPG:	**37**
Auto Club Highest MPG:	**35.7**
Auto Club Average MPG:	**31.7**
Auto Club Lowest MPG:	**20.9**

MODEL YEAR TESTED - 2012

The Focus is Ford's attempt to compete with the successful Japanese/Korean entry-level compacts, and it does so quite well. We tested a Focus SEL with several options. Its quality is equal to any of the competition, and its standard and optional features, including a PZEV emission rating, Sync infotainment system, automatic climate control, and navigation, made it seem more like a luxury car, all for less than $23,000. The 2.0-liter engine and 6-speed automatic transmission provided almost 32 MPG with decent acceleration. Furthermore, its responsive handling made it fun to drive, as well. The Focus is one of Ford's most popular cars, and its recent redesign is even more stylish.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Economical with reasonable purchase price, good MPG and abundant standard features
- Handling and ease-of-use in day-to-day driving
- Certified as a PZEV
- Easy-to-use power-window controls with auto up/down for all
- Equipped with blind-spot mirrors

Weak Points

- Quirky shifting at low speeds
- Cramped rear seat
- Lacks rear center armrest
- Rear windows don't open fully

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3020	**Tire Manufacturer:**	Continental 215/55R16
Exterior Length (in):	178.5	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	71.8	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.3	**Engine Size:**	2.0L DOHC GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	160 @ 6500
Restraint Type:	8 Air Bags		

Ford Fusion Energi Titanium

Green Car Scores

Score For This Vehicle
74.61

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$41,295**
Price as Tested: **$42,485**

Cost per Point for this Vehicle
$569

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

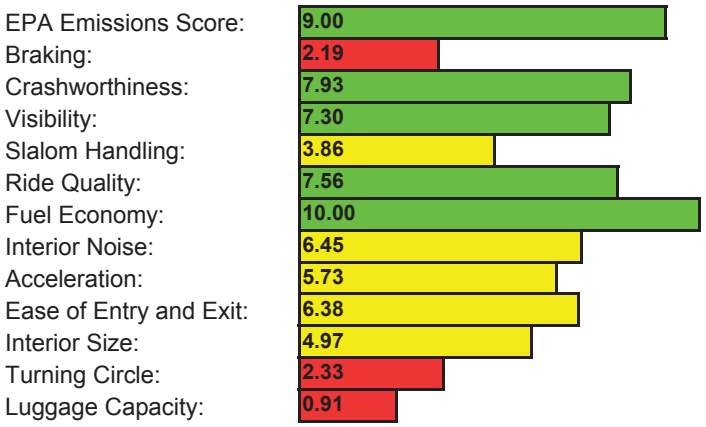
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**14.0**
EPA Combined Electric:	**100**
EPA Urban/Highway Gas:	**44/41**
Auto Club Highest MPG:	**45.1**
Auto Club Average MPG:	**40.2**
Auto Club Lowest MPG:	**33.5**

MODEL YEAR TESTED - 2014

The Ford Fusion is a popular midsized sedan with excellent design inside and out. The plug-in hybrid Energi version features a large battery pack that allows for all-electric operation of about 20 miles, providing low operating costs because of the comparatively low cost of electricity. Like the Fusion Hybrid, acceleration is good. The battery pack takes up substantial space in the trunk, giving it much less capacity than a standard Fusion. Our test car was well equipped, easy to drive, and very comfortable. The MSRP was high (over $42,000), but federal and state tax credits can offset some of the cost. Overall, this is a stylish and comfortable sedan with low emissions and a small carbon footprint.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Excellent fuel economy
- Meets AT PZEV requirements
- Quality fit and finish
- Very comfortable and quiet ride
- Well equipped, including rearview camera

Weak Points
- Limited trunk size
- A/C and radio controls hard to use
- Rear seat backfold opens only a tiny slot
- Nose can drag when exiting a steep driveway

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	4180	**Tire Manufacturer:**	Michelin P225/50R17
Exterior Length (in):	191.8	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	83.5	**Transmission Type:**	CVT
Exterior Height (in):	58.0	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	112.2	**Engine Size:**	2.0L IVCT I4 HEV
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	141 @ 6000
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	47

Ford Fusion SE Hybrid

Green Car Scores

Score For This Vehicle
74.20

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$27,995**
Price as Tested:	**$30,975**

Cost per Point for this Vehicle
$417

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

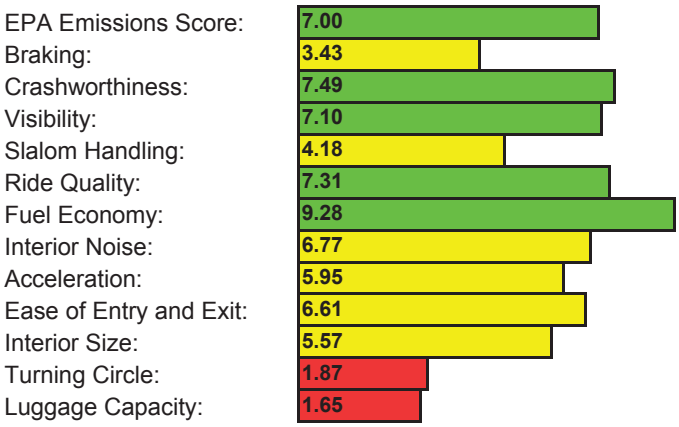
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**14.0**
EPA Urban MPG:	**47**
EPA Highway MPG:	**47**
Auto Club Highest MPG:	**42.4**
Auto Club Average MPG:	**40.6**
Auto Club Lowest MPG:	**37.8**

MODEL YEAR TESTED - 2013

The Ford Fusion Hybrid we tested was a prototype vehicle. It was easy to drive and very comfortable on the highway; on top of that, we averaged a very good 40 MPG overall. The Fusion's acceleration was noticeably better than that of many other hybrids we've tested. Its design inside and out gets high marks, too. The hybrid battery pack takes up a good deal of space in the trunk, reducing its cargo capacity compared with a standard Fusion. But unlike most hybrid sedans, the Fusion's rear seat folds down. A price of about $30,000, coupled with its styling and amenities, makes the Fusion Hybrid a great choice among green cars.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Rearview camera
- Adaptive cruise control
- Very comfortable ride
- Convenient, useful Ford SYNC system

Weak points
- Limited trunk size
- Sun reflection off of center console
- Inconvenient A/C and radio controls
- Limited headroom and legroom

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3860	**Tire Manufacturer:**	Michelin 225/50R17
Exterior Length (in):	191.8	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.9	**Transmission Type:**	CVT
Exterior Height (in):	58.2	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	112.2	**Engine Size:**	2.0L IVCT I4 HEV
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	141 @ 6000
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	118 @ 6000

Ford Taurus SEL

Green Car Scores

Score For This Vehicle
67.88

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$29,595**
Price as Tested: **$35,180**

Cost per Point for this Vehicle
$518

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**19.0**
EPA Urban MPG:	**22**
EPA Highway MPG:	**32**
Auto Club Highest MPG:	**22.7**
Auto Club Average MPG:	**20.2**
Auto Club Lowest MPG:	**17.5**

MODEL YEAR TESTED - 2013

The Ford Taurus SEL has good fuel economy for a nonhybrid large sedan. Our test vehicle, which had an MSRP of $35,000, averaged just over 20 MPG and had good acceleration from its Ecoboost engine. (MPG with these engines varies dramatically depending on your driving style.) The Taurus has a large trunk with lots of room in the cabin. Handling is competent and reasonably responsive. With a smooth, quiet ride and stylish exterior, the Taurus SEL is worth considering.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	4.35
Crashworthiness:	6.72
Visibility:	7.10
Slalom Handling:	6.27
Ride Quality:	7.42
Fuel Economy:	3.38
Interior Noise:	5.45
Acceleration:	5.66
Ease of Entry and Exit:	6.25
Interior Size:	4.84
Turning Circle:	0.21
Luggage Capacity:	3.23

Strengths and Weaknesses

Strong Points
- Rides well on the highway
- Decent fuel economy for a large sedan
- Stylish and roomy
- Adjustable pedal cluster

Weak Points
- Limited rear visibility
- Insufficient number of gauges
- Wide center console limits front legroom
- Low ground clearance makes it difficult to park and clear driveways
- Large turning radius

Vehicle Specifications

Large 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3670	**Tire Manufacturer:**	Goodyear P255/45R19
Exterior Length (in):	202.9	**Towing Cap. (lbs) W/WO Brakes**	1000/1000
Exterior Width (in):	76.2	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	60.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	112.0	**Engine Size:**	2.0L DOHC 16V Ecoboost
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	240 @ 5500
Restraint Type:	8 Air Bags		

Honda Accord Hybrid

Green Car Scores

Score For This Vehicle
81.80

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$29,945**
Price as Tested: **$29,945**

Cost per Point for this Vehicle
$366

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.9**
EPA Urban MPG:	**50**
EPA Highway MPG:	**45**
Auto Club Highest MPG:	**45.5**
Auto Club Average MPG:	**41.0**
Auto Club Lowest MPG:	**29.5**

MODEL YEAR TESTED - 2014

For 2014, Honda takes its second shot at an Accord Hybrid. This time around, the automaker seems to have hit the nail on the head. The Accord Hybrid combines excellent fuel economy (47 MPG combined) with good acceleration (0–60 mph in under 8 seconds). On the road, the midsize sedan feels composed, with good ride quality and handling. The hybrid operation is relatively seamless, too, except when the engine has to kick on while you're stopped to keep the battery charged. Like other hybrids we've tested, the rear seats don't fold down and the trunk is small because of the battery-pack placement. The Accord comes well equipped (we especially liked the "lane-watch" side-view camera), with an MSRP under $30,000.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	5.37
Crashworthiness:	6.85
Visibility:	7.30
Slalom Handling:	7.56
Ride Quality:	7.44
Fuel Economy:	9.45
Interior Noise:	6.33
Acceleration:	6.51
Ease of Entry and Exit:	6.78
Interior Size:	5.99
Turning Circle:	1.43
Luggage Capacity:	1.79

Strengths and Weaknesses

Strong Points
- Good fuel economy
- Excellent on-the-road feel
- Standard rear and right side-view cameras
- Combines SULEV emissions with good acceleration
- Trunk security (interior release is lockable)

Weak Points
- Small trunk
- Rear seat doesn't fold down
- Auto start-stop is startling
- Lacks spare tire
- Rear windows don't open fully
- "Expanded view" driver side mirror can be disorienting

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3760	**Tire Manufacturer:**	Michelin 225/50R17
Exterior Length (in):	192.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.8	**Transmission Type:**	CVT
Exterior Height (in):	57.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	109.3	**Engine Size:**	2.0L DOHC 16V i-VTEC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	141 @ 6200
Restraint Type:	8 Air Bags	**Electric Motor Horsepower:**	166 @ 3900-8000

Honda Accord Plug-in Hybrid

Green Car Scores

Score For This Vehicle
78.98

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$40,570**
Price as Tested: **$40,570**

Cost per Point for this Vehicle
$514

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

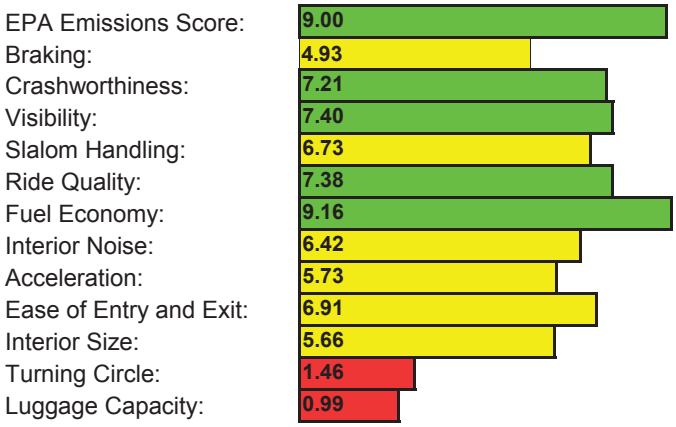
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**12.2**
EPA Combined Electric:	**115**
EPA Urban/Highway Gas:	**47/46**
Auto Club Highest MPG:	**85.0**
Auto Club Average MPG:	**45.2**
Auto Club Lowest MPG:	**42.3**

MODEL YEAR TESTED - 2014

For 2014, Honda released its first plug-in hybrid electric vehicle (PHEV), the Accord, which shares many components with the Accord Hybrid. The Accord PHEV combines excellent fuel economy (47 MPG city), with the ability to run 10 -15 miles in all-electric mode. Like the Accord Hybrid, it has good acceleration. On the road it's composed, with good ride quality and handling. The hybrid operation is relatively seamless except when the engine has to kick on to keep the battery charged while the car is stopped. The rear seats don't fold down, and the trunk is small because of the battery-pack placement. The Accord comes well equipped (we especially liked the adaptive cruise control with collision warning and the "lane-watch" side-view camera).

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Good fuel economy
- Well equipped, including adaptive cruise control with forward collision warning
- Standard rear and right-side-view cameras
- Quiet and comfortable ride on the freeway
- Large display monitor
- Combines AT PZEV emissions with good acceleration

Weak Points

- Small trunk; rear seat does not fold down
- Abrupt auto start-stop is startling
- Perhaps too many high-tech distractions
- High MSRP
- Engine noise when battery is low
- Rear windows don't open fully

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	4020	**Tire Manufacturer:**	Michelin 225/50R17
Exterior Length (in):	193.3	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	67.7	**Transmission Type:**	CVT
Exterior Height (in):	57.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	109.3	**Engine Size:**	2.0L DOHC 16V i-VTEC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	141 @ 6200
Restraint Type:	8 Air Bags	**Electric Motor Horsepower:**	55

Honda Accord Sport

Green Car Scores

Score For This Vehicle
75.03

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$24,980**
Price as Tested:	**$24,980**

Cost per Point for this Vehicle
$333

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**17.2**
EPA Urban MPG:	**26**
EPA Highway MPG:	**35**
Auto Club Highest MPG:	**26.8**
Auto Club Average MPG:	**24.7**
Auto Club Lowest MPG:	**23.9**

MODEL YEAR TESTED - 2013

The Honda Accord is extremely popular, routinely finishing in the top three cars for nationwide sales year after year. The standard 189-hp 2.4-liter I4 engine is available as a PZEV. This means that you can experience all the qualities that make the Accord so popular (reputation for good build quality and reliability, powerful brakes, smooth but taut ride, good handling, roomy and comfortable interior) in an eco-friendly car. At the same time you can get 29 MPG, as well as a 5-star NHTSA crash-test rating, for under $25,000 well equipped.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	6.01
Crashworthiness:	6.16
Visibility:	7.10
Slalom Handling:	8.65
Ride Quality:	6.88
Fuel Economy:	4.43
Interior Noise:	4.97
Acceleration:	6.12
Ease of Entry and Exit:	7.04
Interior Size:	5.91
Turning Circle:	0.38
Luggage Capacity:	2.39

Strengths and Weaknesses

Strong Points
- Well-executed CVT transmission
- Good power and high MPG
- Certified as a PZEV
- Standard rearview camera
- Excellent handling in slalom

Weak Points
- Long driver's door is hard to reach when fully open
- Noisy at wide-open throttle
- Extended-view driver's mirror difficult to get used to
- Easy for tall passengers to hit their heads entering backseat

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3260	**Tire Manufacturer:**	Michelin 235/45R18
Exterior Length (in):	191.4	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.8	**Transmission Type:**	CVT
Exterior Height (in):	57.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	109.3	**Engine Size:**	2.4L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	189 @ 6400
Restraint Type:	8 Air Bags		

Honda Civic EX-L NAVI

Green Car Scores

Score For This Vehicle
73.65

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$25,030**
Price as Tested: **$25,030**

Cost per Point for this Vehicle
$340

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

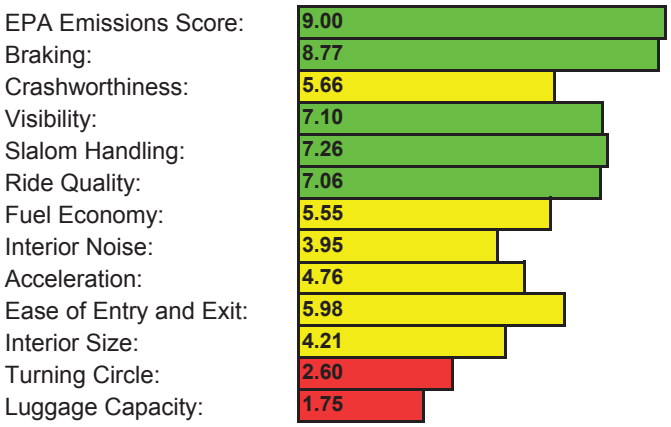
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.2**
EPA Urban MPG:	**30**
EPA Highway MPG:	**39**
Auto Club Highest MPG:	**31.9**
Auto Club Average MPG:	**28.7**
Auto Club Lowest MPG:	**24.4**

MODEL YEAR TESTED - 2014

The Honda Civic has been one of the most popular small cars in the U.S. for years. We tested the top-of-the-line Civic EX-L Navi, and it was loaded, including voice-activated navigation, Bluetooth, XM radio, heated front seats and side mirrors, rearview and side-view cameras, power moonroof, and lots more. All this for just over $25,000, and it gets an average of 33 MPG too. The Civic's ABS brakes provide emergency stop distances that rival those of sports cars. The 1.8-liter engine and CVT transmission provide above-average acceleration, but the cabin is noisy at wide-open throttle. The Civic is popular, and it deserves to be. PZEV emissions, good MPG, and high value make for a quality compact sedan.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Good fuel economy
- Certified as a PZEV
- Strong brakes provide short stops
- Lane-watch and rearview cameras
- Easy to drive
- XM radio, navigation, and Bluetooth

Weak Points

- Radio controls are on the touchscreen; no knobs
- Minimal rear-seat headroom
- Limited instrumentation
- Restricted rear visibility (rearview camera helps)

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2900	**Tire Manufacturer:**	Michelin P215/45R17
Exterior Length (in):	179.4	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.0	**Transmission Type:**	CVT
Exterior Height (in):	56.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	105.1	**Engine Size:**	1.8L SOHC 16V i-VTEC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	143 @ 6500
Restraint Type:	8 Air Bags		

Honda Civic IMA Hybrid

Green Car Scores

Score For This Vehicle
67.00

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$27,850**
Price as Tested: **$27,850**

Cost per Point for this Vehicle
$416

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

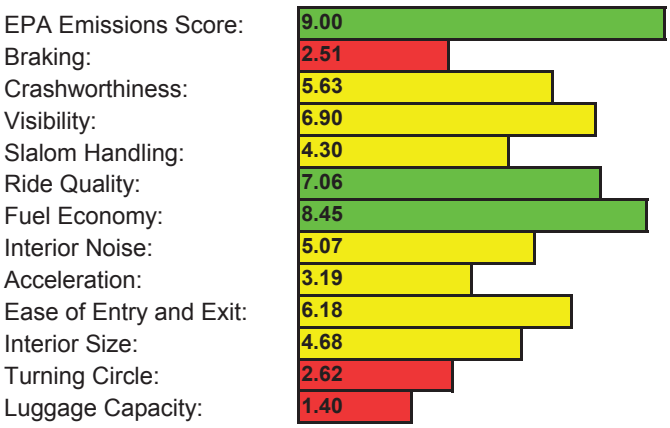
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.2**
EPA Urban MPG:	**44**
EPA Highway MPG:	**44**
Auto Club Highest MPG:	**45.0**
Auto Club Average MPG:	**39.3**
Auto Club Lowest MPG:	**33.0**

MODEL YEAR TESTED - 2013

Significantly refreshed for 2013, the Honda Civic Hybrid combines a 1.5-liter 4-cylinder gas engine with an electric motor, taking advantage of the strengths of both and providing excellent fuel economy (44 MPG) and low emissions. But even with both power plants going full tilt, acceleration is weak. Standard safety features include a rearview camera and front side and side curtain airbags; Bluetooth connectivity and an audio system with a 7-inch touch-screen are also standard. The battery pack is located in the trunk, so the rear seatback doesn't fold down and the trunk is small. The Insurance Institute for Highway Safety (IIHS) gave the Civic (when equipped with optional front-crash prevention) its top safety award, Top Safety Pick +.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- 3-position rearview camera
- Heated seats
- Collision and lane-departure warning systems
- Voice-controlled navigation system
- Good fuel economy

Weak Points
- Underpowered
- Overly assisted steering
- Small trunk
- Tiny radio controls
- Jerky acceleration from a stop

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2880	**Tire Manufacturer:**	Bridgestone P195/65R15
Exterior Length (in):	179.4	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.0	**Transmission Type:**	CVT
Exterior Height (in):	56.3	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	105.1	**Engine Size:**	1.5L SOHC 8V I4 IMA
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	110 @ 5500
Restraint Type:	8 Air Bags	**Electric Motor Horsepower:**	23 @ 1546-3000

Honda Civic NGV GX

Green Car Scores

Score For This Vehicle
60.64

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$27,655
Price as Tested:	$28,425

Cost per Point for this Vehicle
$469

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

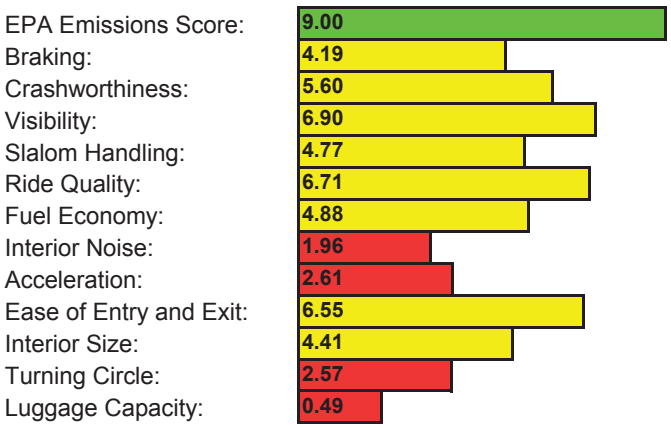
Fuel Type:	Natural Gas
Fuel Capacity (gal):	8.0
EPA Urban MPG:	27
EPA Highway MPG:	38
Auto Club Highest MPG:	39.3
Auto Club Average MPG:	32.5
Auto Club Lowest MPG:	24.7

MODEL YEAR TESTED - 2012

The Honda Civic GX is the only conventional passenger car that runs on clean-burning compressed natural gas (CNG). Honda claims the 1.8-liter 4-cylinder engine is the cleanest internal combustion engine available. The 240-mile range and sparse population of CNG fuel stations can cause trepidation for some, but for those with normal commutes and a home refueling system, visits to the gas station can become a thing of the past. The CNG-fueled engine is somewhat underpowered; otherwise, the car has a refined driving feel, just like other Civics. You'd never know that a nonpetroleum fuel was powering it.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Certified as an AT PZEV
- Equipped with XM radio, navigation, and Bluetooth
- CNG is less expensive than gasoline
- Refined and easy to drive

Weak Points
- Lack of CNG stations, especially outside of California
- Underpowered
- Small trunk; rear seat doesn't fold down
- Lacks rear seat center armrest, cupholders

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2860	**Tire Manufacturer:**	Firestone P195/65R15
Exterior Length (in):	177.3	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.0	**Transmission Type:**	Auto 5 Speed
Exterior Height (in):	56.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	1.8L SOHC 16V I4 NGV
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	110 @ 6300
Restraint Type:	8 Air Bags		

Honda CR-Z EX NAVI

Green Car Scores

Score For This Vehicle
74.26

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$24,595**
Price as Tested:	**$24,595**

Cost per Point for this Vehicle
$331

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

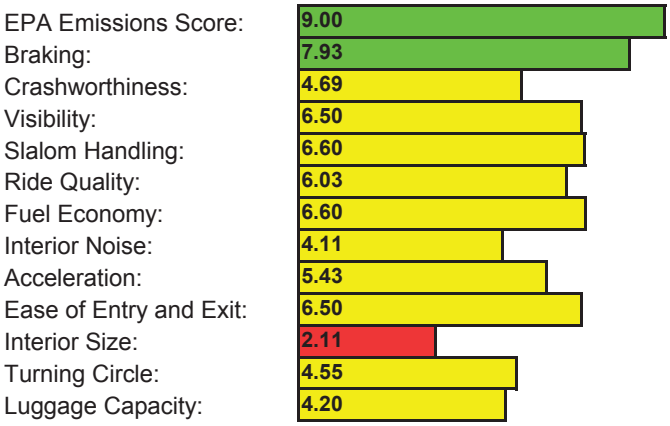
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**10.6**
EPA Urban MPG:	**36**
EPA Highway MPG:	**39**
Auto Club Highest MPG:	**37.8**
Auto Club Average MPG:	**35.1**
Auto Club Lowest MPG:	**28.5**

Honda's CR-Z is the carmaker's second attempt to produce a small, 2-seat sporty hybrid. Its first was the original Insight (the first hybrid in the U.S. market). The CR-Z represents a dramatic improvement. It looks and feels sporty, gets 37 MPG, has above-average acceleration, is loaded with safety and convenience features (the Insight was rather Spartan), and is a well-executed modern car. However it's still a small 2-seater, which limits its utility. But if a low-emission, sporty 2-seater with cutting-edge technology, excellent fuel economy, and a reasonable price tag sounds appealing, the CR-Z fits the bill.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong points
- Fuel economy (37 MPG combined)
- Certified as an AT PZEV
- Easy to drive and park
- Sporty/modernistic styling
- Priced lower than many hybrids ($25,000)
- Loaded with useful features (navigation, Bluetooth, rearview camera, HID headlights)

Weak Points
- Poor rearward visibility
- Road and engine noise when accelerating
- Difficult to enter and exit
- Choppy ride
- Lacks center armrest

Vehicle Specifications

Two Seater Coupe

Number of Passengers (F/R):	2	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2920	**Tire Manufacturer:**	Dunlop P195/55R14
Exterior Length (in):	160.6	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	68.5	**Transmission Type:**	CVT
Exterior Height (in):	54.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	95.9	**Engine Size:**	1.5L IMA SOHC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	130 @ 6000
Restraint Type:	6 Air Bags		

Honda Fit EV

Green Car Scores

Score For This Vehicle
76.47

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$37,415**
Price as Tested: **$37,415**

Cost per Point for this Vehicle
$489

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Electricity**
Battery Capacity (KWH):	**20.0**
Equivalent EPA Urban MPG:	**132**
Equivalent EPA Highway MPG:	**105**
Charger Input (VAC):	**110**
Charger Charge Time (Hours):	**15**
Charger #2 Input (VAC):	**240**
Charger #2 Charge Time (Hours):	**3**

The Fit is a small, versatile station wagon. The EV version's 123-hp electric motor provides surprisingly good acceleration but no tailpipe emissions. Like other EVs, the Fit benefits from the higher efficiency of the electric powertrain, the lower cost of electricity, and reduced required maintenance, resulting in dramatically lower operating costs. The Fit EV comes in one well-equipped trim level, and the interior is quite roomy for a small car (even the backseat). However, the trunk is smaller because the battery pack takes up considerable space. EPA's estimated range between recharges is 82 miles, so the Fit EV makes a great short-range commuter car. Downsides: It's available only as a lease vehicle.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	10.00
Braking:	5.07
Crashworthiness:	5.99
Visibility:	6.80
Slalom Handling:	5.00
Ride Quality:	6.88
Fuel Economy:	10.00
Interior Noise:	3.78
Acceleration:	5.70
Ease of Entry and Exit:	6.61
Interior Size:	4.64
Turning Circle:	4.34
Luggage Capacity:	1.65

Strengths and Weaknesses

Strong Points
- Zero-emissions vehicle
- Low cost of electricity compared to gasoline
- Smooth powertrain; drives like a conventional car
- Heated front seats
- Good power
- Rear seats fold down

Weak Points
- Limited range (82 miles per EPA)
- Cramped rear seat also lacks center armrest
- Front seats have only fore/aft/recline adjustments
- Small trunk
- Restricted visibility over the hood

Vehicle Specifications

Small 5-door Wagon

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3140	**Tire Manufacturer:**	Michelin 185/65R15
Exterior Length (in):	162.0	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	67.7	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	62.2	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	98.4	**Engine Size:**	92 kW Electric Motor
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	123
Restraint Type:	8 Air Bags	**Electric Motor Horsepower:**	92 kW

Hyundai Accent GLS

Green Car Scores

Score For This Vehicle
65.79

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$16,340**
Price as Tested: **$16,450**

Cost per Point for this Vehicle
$250

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**11.4**
EPA Urban MPG:	**28**
EPA Highway MPG:	**37**
Auto Club Highest MPG:	**36.8**
Auto Club Average MPG:	**32.0**
Auto Club Lowest MPG:	**28.9**

The Accent is Hyundai's entry-level car. We tested the GLS 4-door sedan. The 1.6-liter 4-cylinder engine could use more power; on the other hand, we averaged 32 MPG. The Accent is easy to drive, fits in small parking spaces, and, like all Hyundais, has an excellent warranty. However, the rear seat is cramped, the trunk is small, the inside is noisy, and the ride is bumpy. Only the driver has a center armrest, and there are no cupholders for the backseat. Still, the Accent has an MSRP of just $16,450, and with the good MPG and warranty, operating costs should be low.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.33
Crashworthiness:	5.16
Visibility:	6.90
Slalom Handling:	5.79
Ride Quality:	5.69
Fuel Economy:	4.99
Interior Noise:	4.63
Acceleration:	4.37
Ease of Entry and Exit:	6.18
Interior Size:	4.65
Turning Circle:	3.12
Luggage Capacity:	1.98

Strengths and Weaknesses

Strong Points
- Good fuel economy (31 MPG combined)
- Fits in small parking places
- Easy to drive
- Affordable purchase price
- Large trunk for a small car
- XM radio

Weak Points
- Underpowered
- Blows around in the wind
- Cramped rear seat
- Lacks rear and front passenger armrests
- Noisy
- Lacks rear-seat cupholders

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	2540	**Tire Manufacturer:**	Hankook P175/70R14
Exterior Length (in):	172.0	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	66.9	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.1	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	101.2	**Engine Size:**	1.6L DOHC GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	138 @ 6300
Restraint Type:	8 Air Bags		

PZEV

Hyundai Elantra GLS

Green Car Scores

Score For This Vehicle
69.38

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$15,195**
Price as Tested: **$16,575**

Cost per Point for this Vehicle
$239

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**12.7**
EPA Urban MPG:	**28**
EPA Highway MPG:	**38**
Auto Club Highest MPG:	**53.6**
Auto Club Average MPG:	**36.2**
Auto Club Lowest MPG:	**29.1**

MODEL YEAR TESTED - 2012

The Hyundai Elantra has a lot going for it. It's available as a PZEV, so its emissions can be as clean as any hybrid. It averages almost 33 MPG and has an excellent factory warranty. In addition, power is significantly improved from previous models. Handling is responsive, but a lot of engine noise enters the cabin when the car is first started. Many cite the Elantra as a modern example of excellent styling, but the downside is poor visibility over the hood and deck. Like other small cars, the rear seat is cramped. Our test car was a well-equipped midsize sedan with XM radio, 6 airbags, ABS, power everything, and heated side mirrors—all for under $17,000.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.58
Crashworthiness:	5.44
Visibility:	6.70
Slalom Handling:	6.61
Ride Quality:	6.88
Fuel Economy:	5.08
Interior Noise:	3.59
Acceleration:	5.78
Ease of Entry and Exit:	6.78
Interior Size:	4.19
Turning Circle:	3.56
Luggage Capacity:	2.20

Strengths and Weaknesses

Strong Points

- Affordable purchase price
- Well equipped for the price
- Good fuel economy
- Excellent warranty
- XM radio has easy-to-use controls
- Attractive styling

Weak Points

- Poor visibility front and rear
- Engine is noisy when first started
- Cramped rear seats

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	2740	**Tire Manufacturer:**	Continental P205/55R16
Exterior Length (in):	178.3	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.9	**Transmission Type:**	Manual 6 Speed
Exterior Height (in):	56.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	1.8L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	148 @ 6500
Restraint Type:	8 Air Bags		

Hyundai Sonata GLS

Green Car Scores

Score For This Vehicle
72.50

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$22,260
Price as Tested:	$22,385

Cost per Point for this Vehicle
$309

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	Unleaded Regular
Fuel Capacity (gal):	18.5
EPA Urban MPG:	24
EPA Highway MPG:	35
Auto Club Highest MPG:	26.9
Auto Club Average MPG:	25.9
Auto Club Lowest MPG:	24.1

MODEL YEAR TESTED - 2014

The Hyundai Sonata is a loaded near-luxury full-sized car with a surprisingly low MSRP—just over $22,000. Our test vehicle, a GLS, had the PZEV 2.4-liter 4-cylinder engine with a 6-speed automatic transmission. It's rated at 28 MPG but still accelerates from 0–60 mph in a respectable 8.7 seconds. The modern styling is noteworthy, but the downside is poor visibility close to the vehicle, especially to the rear. For value and security (because of an excellent warranty) the Sonata is definitely worth consideration.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	5.20
Crashworthiness:	6.16
Visibility:	7.10
Slalom Handling:	5.01
Ride Quality:	6.88
Fuel Economy:	4.03
Interior Noise:	6.33
Acceleration:	5.63
Ease of Entry and Exit:	6.62
Interior Size:	5.17
Turning Circle:	2.86
Luggage Capacity:	2.51

Strengths and Weaknesses

Strong Points
- Lots of useful features for the price
- Large, secure trunk
- PZEV rating
- Fuel economy (28 MPG combined)
- Balance of power and MPG
- Modern styling

Weak Points
- Poor visibility close to the car, front and rear
- Sloppy handling
- When using the remote to unlock, the doors relock if you don't open one within 30 seconds
- Push on/push off parking brake

Vehicle Specifications

Large 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	3260	**Tire Manufacturer:**	Kumho P205/65R16
Exterior Length (in):	189.8	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.2	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	110.0	**Engine Size:**	2.4L DOHC 16V GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	190 @ 6300
Restraint Type:	8 Air Bags		

Hyundai Tucson SE

Green Car Scores

Score For This Vehicle
65.64

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$24,375**
Price as Tested: **$24,375**

Cost per Point for this Vehicle
$371

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

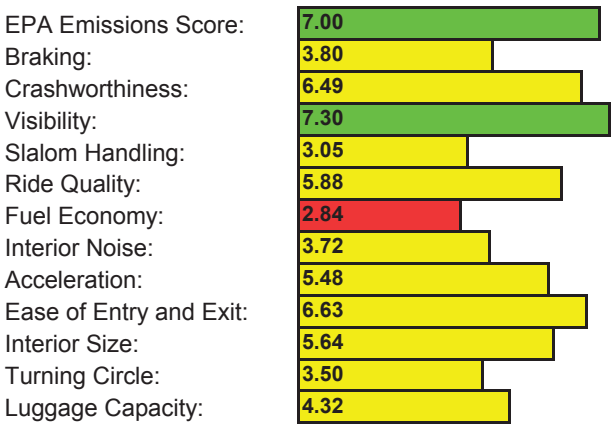
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.3**
EPA Urban MPG:	**21**
EPA Highway MPG:	**28**
Auto Club Highest MPG:	**23.0**
Auto Club Average MPG:	**22.5**
Auto Club Lowest MPG:	**21.7**

MODEL YEAR TESTED - 2014

The Hyundai Tucson is the automaker's entry into the crowded compact SUV field. It has a lot going for it, chiefly the Hyundai strategy of equipping its vehicles with more features for comparable or less money than the competition. Add to that the Tucson's available PZEV emission rating, 25-MPG fuel economy (with the 2.0-liter engine), and Hyundai's excellent warranty program, and you have a winner. On the down side, the Tucson could use more power, the electrically assisted power steering is vague, and handling through our slalom course was slow. The Tucson is well equipped for a $24,000 SUV, and Hyundai has made great strides in quality improvement. So if a compact SUV is what you want, check out the Tucson.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Utility, versatility
- Well equipped for the price, including heated front seats, satellite radio, and Bluetooth
- Good visibility to the front and sides
- Tall roof makes for roomy interior and easy entry/exit
- Backup camera (but small display)
- Rear windows open fully
- PZEV available; can get up to 25 MPG

Weak Points

- Sluggish handling with a bouncy ride
- Vague steering feel
- Push on-push off parking brake
- Items in trunk are visible

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	3500	**Tire Manufacturer:**	Kumho P225/60R17
Exterior Length (in):	173.2	**Towing Cap. (lbs) W/WO Brakes**	1000
Exterior Width (in):	71.7	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	66.3	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	103.9	**Engine Size:**	2.4L 16V DOHC GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	182 @ 6000
Restraint Type:	8 Air Bags		

Hyundai Veloster

Green Car Scores

Score For This Vehicle
63.82

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$17,300**
Price as Tested:	**$21,395**

Cost per Point for this Vehicle
$335

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.2**
EPA Urban MPG:	**27**
EPA Highway MPG:	**37**
Auto Club Highest MPG:	**36.8**
Auto Club Average MPG:	**29.4**
Auto Club Lowest MPG:	**26.5**

Hyundai has been trying to gain a toehold in the sporty compact market for years. Its latest offering is the Veloster, a decidedly sporty-looking 2-door hatchback. Unfortunately, not all of the Veloster's performance characteristics match its looks. Handling is nimble, but the 1.6-liter engine with a 6-speed manual transmission provides below-average acceleration, and the engine is noisy. Our test car was equipped with the Style and Tech packages, and with an MSRP just over $21,000, it's a good value. We averaged almost 30 MPG overall. Considering Hyundai's excellent warranty, the Veloster should be economical to operate and to own.

MODEL YEAR TESTED - 2012

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.25
Crashworthiness:	5.44
Visibility:	6.60
Slalom Handling:	6.58
Ride Quality:	6.31
Fuel Economy:	4.80
Interior Noise:	3.04
Acceleration:	3.62
Ease of Entry and Exit:	5.40
Interior Size:	3.64
Turning Circle:	3.82
Luggage Capacity:	2.34

Strengths and Weaknesses

Strong Points
- Good MPG
- Well equipped for the price
- Easy-to-use manual transmission
- Rearview video camera
- Good front leg room
- Nimble handling

Weak Points
- Underpowered
- Cramped rear seats with limited head room
- Rear seats difficult to get in and out of
- Limited visibility to the rear
- Lots of engine noise
- Uncomfortable front seats

Vehicle Specifications

Compact 3-door Hatchback

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	2740	**Tire Manufacturer:**	Kumho P215/40R18
Exterior Length (in):	166.0	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.5	**Transmission Type:**	Manual 6 Speed
Exterior Height (in):	55.0	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.3	**Engine Size:**	1.6L DOHC GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	138 @ 6300
Restraint Type:	8 Air Bags		

Jeep Grand Cherokee Summit 4X4

Green Car Scores

Score For This Vehicle
73.51

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$52,190**
Price as Tested: **$57,190**

Cost per Point for this Vehicle
$778

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

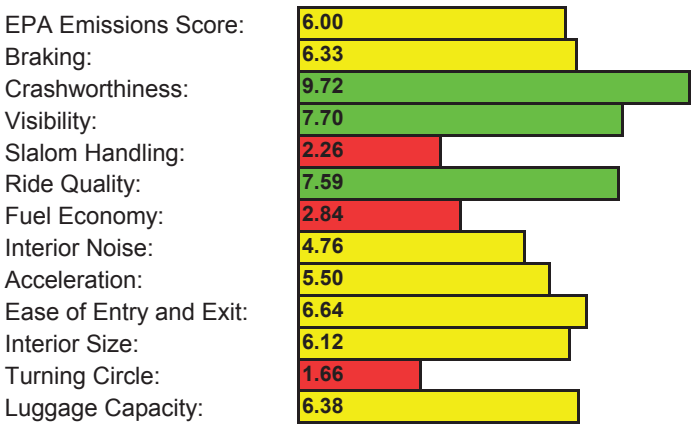
Fuel Type:	**Diesel #2**
Fuel Capacity (gal):	**24.6**
EPA Urban MPG:	**21**
EPA Highway MPG:	**28**
Auto Club Highest MPG:	**27.2**
Auto Club Average MPG:	**23.3**
Auto Club Lowest MPG:	**20.7**

The Jeep Grand Cherokee was a prototypical "tough" SUV when it disappeared from the market several years ago, but the reintroduced 2014 model turns that image around. Our Summit test vehicle was tough but also plush. It came with adaptive cruise control, rearview camera, heated/ventilated front seats, heated rear seats, heated steering wheel, and a high-fidelity sound system with 19 speakers. Jeep's new 240-hp 3-liter V6 diesel engine achieves 24 MPG for this 5,500-pound SUV. The Grand Cherokee has plenty of room for passengers and their stuff, and it carries them with a surprisingly smooth ride. You pay for all of this, of course - the MSRP is more than $57,000 - but the new Grand Cherokee has come a long way.

MODEL YEAR TESTED - 2014

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Utility and flexibility
- Good MPG for the size of the vehicle
- Loaded with safety/convenience features
- Plush interior
- Strong torque
- AWD traction
- Tall, good visibility
- Rear seats recline

Weak Points

- High purchase price ($57,000 plus)
- High cost of diesel fuel
- Sloppy handling in our slalom test
- High step-in
- Unusual shifter
- No CD player

Vehicle Specifications

Standard 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	5480	**Tire Manufacturer:**	Goodyear P265/50R20
Exterior Length (in):	189.8	**Towing Cap. (lbs) W/WO Brakes**	7200 Max.
Exterior Width (in):	76.5	**Transmission Type:**	Auto 8 Speed
Exterior Height (in):	69.3	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	114.8	**Engine Size:**	3.0L ECO-Diesel V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	240 @ 3600
Restraint Type:	9 Air Bags or more		

Kia Forte EX

PZEV

Green Car Scores

Score For This Vehicle
70.86

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$20,200**
Price as Tested:	**$25,515**

Cost per Point for this Vehicle
$360

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

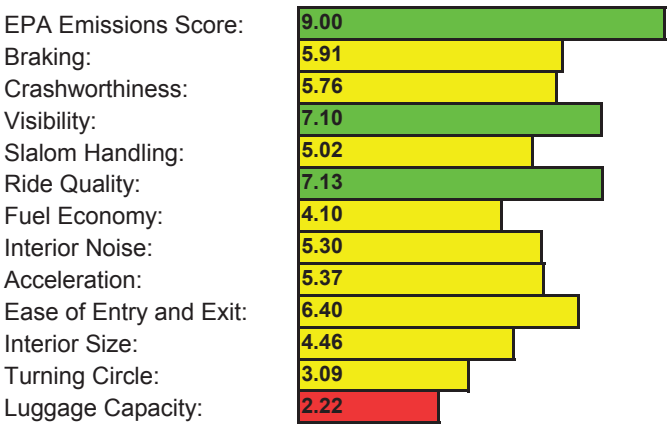
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.2**
EPA Urban MPG:	**24**
EPA Highway MPG:	**36**
Auto Club Highest MPG:	**33.9**
Auto Club Average MPG:	**26.0**
Auto Club Lowest MPG:	**23.8**

MODEL YEAR TESTED - 2014

The Kia Forte is certified as a PZEV and achieved a combined 28 MPG. Our test vehicle was equipped with the Premium package, which includes a sunroof, heated and cooled seats, and an HD radio. Although the Forte rides well, the roofline is low, making entry and exit difficult. The general exterior fit is good, but some materials inside the vehicle lack quality. Nevertheless, the Forte is a good example of how Kia has greatly improved its styling and quality, while maintaining excellent affordability ($25,000).

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Nimble handling
- Front and rear heated seats
- Rearview camera
- Active ECO mode for improved fuel economy
- Three different steering modes

Weak Points
- Low roofline restricts entry and exit
- Small steering wheel controls
- Insufficient number gauges/warning lights

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	2970	**Tire Manufacturer:**	Nexen P215/45R17
Exterior Length (in):	179.5	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.1	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	56.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	2.0L DOHC GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	173 @ 6500
Restraint Type:	8 Air Bags		

Kia Rio5 EX Eco

Green Car Scores

Score For This Vehicle
64.45

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$16,500**
Price as Tested: **$18,745**

Cost per Point for this Vehicle
$291

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

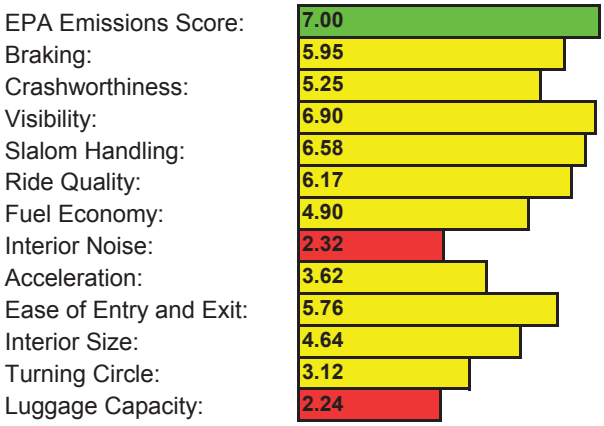
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**11.4**
EPA Urban MPG:	**28**
EPA Highway MPG:	**36**
Auto Club Highest MPG:	**37.6**
Auto Club Average MPG:	**34.0**
Auto Club Lowest MPG:	**31.4**

MODEL YEAR TESTED - 2012

The Rio is Kia's entry-level car. We tested the Rio5 EX Eco, the top-of-the-line 5-door hatchback (with added Eco and Convenience packages), and it was still priced under $19,000. On top of that, it got 34 MPG, had nimble handling, and some testers even called it fun to drive. The ABS brakes were a dramatic improvement over previous Rios we've tested. Like all Kias, the Rio has an excellent warranty. On the downside, the rear seat is cramped, the trunk is small, and it has a bumpy ride. All in all, though, the Rio5 provides good value in the compact field.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Affordable purchase price
- Good fuel economy
- Engine start-stop technology
- Rearview camera on low-priced car
- Rear windows open fully
- Sliding sun visors

Weak Points
- Bumpy ride with lots of body roll
- Cramped, uncomfortable rear seat
- Small back window limits rear visibility
- No spare tire, even though there's room for one
- Small trunk, but individually folding rear seats provide extra cargo room
- Lacks rear center armrest and cupholders

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	2600	**Tire Manufacturer:**	Kumho P185/65R15
Exterior Length (in):	159.3	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	67.7	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.3	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	101.2	**Engine Size:**	1.6L DOHC GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	138 @ 6300
Restraint Type:	8 Air Bags		

Kia Soul +

Green Car Scores

Score For This Vehicle
73.49

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$18,995**
Price as Tested: **$19,160**

Cost per Point for this Vehicle
$261

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**14.2**
EPA Urban MPG:	**23**
EPA Highway MPG:	**31**
Auto Club Highest MPG:	**27.5**
Auto Club Average MPG:	**24.8**
Auto Club Lowest MPG:	**20.9**

MODEL YEAR TESTED - 2014

Jelly beans or cubes? Some pundits predicted that all cars would eventually look the same (like jelly beans) for aerodynamic reasons, but if recent trends continue, they'll be proven wrong. One of the more popular trends is cube-shaped cars. The Soul is Kia's entry into this field, and the redesigned 2014 version has a lot going for it. Like many Kias, it comes well equipped, with a surprisingly low $19,000 MSRP. Add to that a 10-year/100,000-mile powertrain warranty, and you have a good deal. Even though the 2.0-liter engine needs a little more power and is noisy at full bore, and the steering feels overboosted, the youth-oriented styling creates a roomy interior, and you still get 26 combined MPG (27 for the Eco version).

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	7.53
Crashworthiness:	5.74
Visibility:	7.30
Slalom Handling:	6.26
Ride Quality:	6.59
Fuel Economy:	3.49
Interior Noise:	5.42
Acceleration:	5.17
Ease of Entry and Exit:	6.17
Interior Size:	5.14
Turning Circle:	3.65
Luggage Capacity:	4.03

Strengths and Weaknesses

Strong Points

- Economical with reasonable price, good MPG, and well equipped
- Good forward visibility
- Cute box shape, roomy interior
- Easy-to-use controls
- Rear windows roll down fully
- ABS brakes provide short stops

Weak Points

- Lacks a CD player
- Noisy engine during acceleration
- Overassisted "twitchy" steering, especially on rough roads

Vehicle Specifications

Small Station Wagon

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	2960	**Tire Manufacturer:**	Kumho 215/55R17
Exterior Length (in):	163.0	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.9	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	63.0	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	101.2	**Engine Size:**	2.0L DOHC GDI I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	164 @ 6200
Restraint Type:	8 Air Bags		

PZEV

Kia Sportage EX FWD

Green Car Scores

Score For This Vehicle
71.86

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$25,000**
Price as Tested: **$29,300**

Cost per Point for this Vehicle
$408

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.3**
EPA Urban MPG:	**21**
EPA Highway MPG:	**30**
Auto Club Highest MPG:	**22.8**
Auto Club Average MPG:	**21.3**
Auto Club Lowest MPG:	**19.4**

MODEL YEAR TESTED - 2013

The Kia Sportage is a 4-door crossover equipped with a 2.4-liter 4-cylinder engine. Dual-zone temperature control, a backup warning system, and Bluetooth connectivity are standard. Although the Sportage handled well on our slalom course, it lacks power and acceleration. On the other hand, it averaged just over 21 MPG overall and is certified as a PZEV. Crossovers are often purchased for their roominess and cargo capacity; unfortunately the Sportage falls short in these areas. With a 10-year/100,000-mile powertrain warranty, the Sportage EX, starting at $24,000, is a good value.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	6.17
Crashworthiness:	6.27
Visibility:	7.10
Slalom Handling:	5.51
Ride Quality:	6.83
Fuel Economy:	3.01
Interior Noise:	5.33
Acceleration:	3.94
Ease of Entry and Exit:	5.96
Interior Size:	4.34
Turning Circle:	3.99
Luggage Capacity:	4.40

Strengths and Weaknesses

Strong Points
- Certified PZEV
- Rearview camera and navigation system
- Sport shifter
- Heated and cooled front leather seats
- Power folding mirrors

Weak Points
- Ride quality
- Insufficient headroom for tall drivers
- Poor rearward visibility
- Underpowered
- Small rear window coupled with large C posts

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	3340	**Tire Manufacturer:**	Hankook 235/55R18
Exterior Length (in):	174.8	**Towing Cap. (lbs) W/WO Brakes**	2000/1000
Exterior Width (in):	73.0	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	64.4	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	103.9	**Engine Size:**	2.4L DOHC CVVT I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	176 @ 6000
Restraint Type:	8 Air Bags		

Lexus CT 200h

Green Car Scores

Score For This Vehicle
78.56

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$32,960**
Price as Tested: **$39,095**

Cost per Point for this Vehicle
$498

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**11.9**
EPA Urban MPG:	**43**
EPA Highway MPG:	**40**
Auto Club Highest MPG:	**37.8**
Auto Club Average MPG:	**35.8**
Auto Club Lowest MPG:	**32.1**

MODEL YEAR TESTED - 2014

A few years ago, you'd never have thought of a 42 - MPG Lexus sporty compact, but that changed in model year 2011. The CT 200h has been billed as the "highest MPG luxury car" and it may well be. Using a powertrain similar to that of a Prius, it has a controller that lets you set the mode (EV, Eco, Normal, or Sport) that suits you or the current driving conditions. The CT 200h's styling is sporty, its handling is nimble, and the brakes provide short, straight stops. The interior is quiet, but the backseat and trunk are small. There are also no cupholders for the backseat—odd for a modern luxury car. But if the CT 200h's style, build quality, and high MPG spark your interest, give it a look.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	7.78
Crashworthiness:	6.48
Visibility:	7.10
Slalom Handling:	7.50
Ride Quality:	7.03
Fuel Economy:	7.79
Interior Noise:	6.83
Acceleration:	3.59
Ease of Entry and Exit:	5.62
Interior Size:	3.86
Turning Circle:	3.88
Luggage Capacity:	2.10

Strengths and Weaknesses

Strong Points
- Excellent fuel economy (42 MPG)
- Rearview camera
- Equipped with lots of luxury features
- ABS brakes provide short stops
- Sporty styling, but retains green image

Weak Points
- Mushy brake pedal feel
- Backseat cramped; hard to enter/exit
- No backseat cupholders or center armrest
- Driver's sun visor interferes with grab handle
- Sound system and other controls operated by a joystick

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	3130	**Tire Manufacturer:**	Michelin P215/45R17
Exterior Length (in):	171.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.5	**Transmission Type:**	CVT
Exterior Height (in):	57.3	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	102.4	**Engine Size:**	1.8L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	134 @ 5200
Restraint Type:	9 Air Bags or more		

Lexus ES 300h

Green Car Scores

Score For This Vehicle
77.68

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$38,850**
Price as Tested: **$47,944**

Cost per Point for this Vehicle
$617

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**17.2**
EPA Urban MPG:	**40**
EPA Highway MPG:	**39**
Auto Club Highest MPG:	**49.1**
Auto Club Average MPG:	**31.5**
Auto Club Lowest MPG:	**26.0**

MODEL YEAR TESTED - 2013

The Lexus ES 300h is definitely a luxury hybrid, and as such is on the higher end regarding price. An ES equipped with a rearview camera, navigation system, heated and cooled front seats, blind-spot monitoring, and lane-departure warning is close to $50,000. The ES 300h is rated at 40 MPG for combined driving, which is great mileage, especially for a car its size. The 300h has a well-designed and comfortable interior, with one major downfall - the joystick used to control the radio, Bluetooth, and other features. Overall, however, the ES 300h is worth considering, especially if you're in the market for a vehicle that combines luxury, reliability, and great fuel economy.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	3.91
Crashworthiness:	7.22
Visibility:	7.60
Slalom Handling:	5.48
Ride Quality:	8.04
Fuel Economy:	7.22
Interior Noise:	7.38
Acceleration:	5.97
Ease of Entry and Exit:	6.76
Interior Size:	5.53
Turning Circle:	1.90
Luggage Capacity:	1.67

Strengths and Weaknesses

Strong Points
- Fuel economy
- Luxurious
- Very quiet ride
- Rearview camera
- Blind-spot monitoring system

Weak Points
- Rear seat doesn't fold
- Small trunk
- Joystick-controlled features
- Price
- Difficult rear entry/exit

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	3670	**Tire Manufacturer:**	Michelin P215/55R17
Exterior Length (in):	192.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	71.7	**Transmission Type:**	CVT
Exterior Height (in):	57.1	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	111.0	**Engine Size:**	2.5L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	156 @ 5700
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	200 Total System

Lexus GS 450h

Green Car Scores

Score For This Vehicle
83.51

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$58,950**
Price as Tested: **$62,060**

Cost per Point for this Vehicle
$743

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

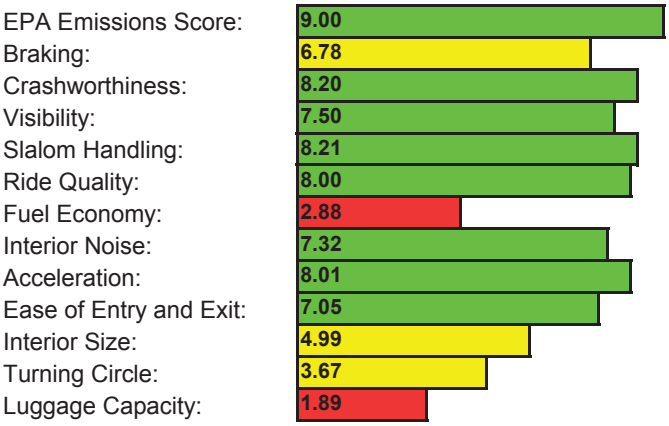
Fuel Type:	**Unleaded Premium**
Fuel Capacity (gal):	**17.4**
EPA Urban MPG:	**29**
EPA Highway MPG:	**34**
Auto Club Highest MPG:	**31.9**
Auto Club Average MPG:	**28.9**
Auto Club Lowest MPG:	**26.0**

MODEL YEAR TESTED - 2013

The Lexus GS series is a family of RWD luxury-sport sedans. Lexus takes advantage of hybrid powertrain characteristics (electric motors provide their peak torque at low speeds) to provide excellent performance, while still improving fuel economy. The GS 450h we tested gets 35 percent better fuel economy than the comparable nonhybrid GS 350 with equivalent or even better performance. Our test car was loaded with safety and convenience features including LED headlights, Bluetooth, voice-activated navigation, satellite radio, auto up/down (with pinch control) power windows and a long list of others. The bottom line: The GS 450h is a wonderful luxury-sport sedan. If you can afford an expensive car ($62,000), check it out.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Powerful engine; excellent acceleration
- High-fidelity sound system
- Quiet interior
- Good MPG for a sport sedan
- Comfortable seats
- Excellent rearview camera

Weak Points
- High purchase price ($62K)
- Requires expensive premium fuel
- Small trunk; rear seat doesn't fold down
- Poor rear visibility
- Cramped backseat; difficult to enter/exit

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4380	**Tire Manufacturer:**	Dunlop 235/45R18
Exterior Length (in):	190.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.4	**Transmission Type:**	CVT
Exterior Height (in):	57.3	**Drivetrain Type:**	Rear Wheel
Wheelbase (in):	112.2	**Engine Size:**	3.5L DOHC V6 Hybrid
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	286 @ 6000
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	200 HP Max

Lexus LS 600h L

Green Car Scores

Score For This Vehicle
76.31

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$135,025**
Price as Tested: **$135,025**

Cost per Point for this Vehicle
$1,769

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

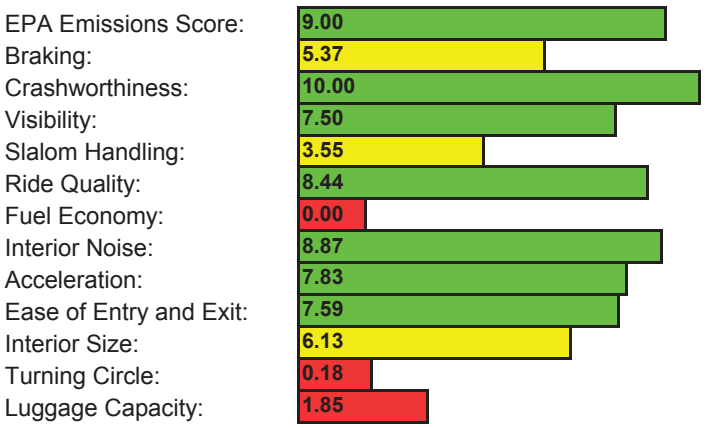
Fuel Type:	**Unleaded Premium**
Fuel Capacity (gal):	**22.2**
EPA Urban MPG:	**19**
EPA Highway MPG:	**23**
Auto Club Highest MPG:	**19.9**
Auto Club Average MPG:	**18.9**
Auto Club Lowest MPG:	**18.2**

MODEL YEAR TESTED - 2014

Most of the time, when you hear "hybrid" you think high-MPG, low-performing "greenmobile." Lexus, however thinks the notions of "green" and "performance" go together. The automaker decided to place its hybrid LS 600h L model at the top of its lineup. This is a marvelous luxury/performance sedan that's powerful, quiet, comfortable, and loaded with just about every convenience and safety feature you can imagine. All this and you still get a respectable 20 MPG while meeting strict SULEVII emission standards. This luxury and performance doesn't come cheap, but the LS 600h L can compete with offerings from the elite manufacturers of the world and still offer the environmental benefits of a hybrid.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Powerful, seamless hybrid powertrain
- Ride quality
- 20 MPG and SULEVII emissions from a 5,700-pound car
- Quiet, comfortable, roomy interior with a long list of comfort/convenience/safety features
- Equipped with a full-size spare tire on a matching wheel

Weak Points

- Small trunk; rear seat doesn't fold
- High purchase price
- Requires expensive premium fuel
- Seats only 4 people

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	5680	**Tire Manufacturer:**	Michelin 245/45R19
Exterior Length (in):	205.1	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	73.8	**Transmission Type:**	CVT
Exterior Height (in):	58.3	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	121.7	**Engine Size:**	5.0L 32V DOHC V8
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	389 @ 6400
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	49

Lexus RX 450h

Green Car Scores

Score For This Vehicle
79.10

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$47,320**
Price as Tested: **$57,145**

Cost per Point for this Vehicle
$722

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Premium**
Fuel Capacity (gal):	**17.2**
EPA Urban MPG:	**32**
EPA Highway MPG:	**28**
Auto Club Highest MPG:	**27.0**
Auto Club Average MPG:	**26.0**
Auto Club Lowest MPG:	**25.1**

MODEL YEAR TESTED - 2014

The Lexus RX 450h was the first luxury SUV on the market. It offers excellent V8-like performance but still provides fuel economy about 40 percent better than similar nonhybrid SUVs, and it meets SULEV2 emission standards to boot. It's loaded with the safety, comfort, and convenience features you'd expect from a modern luxury vehicle, including Bluetooth, rearview camera, reclining rear seats, heated and ventilated front seats, and side, side curtain, and driver's knee airbags. Even though it's a hybrid, it has the utility of an SUV. If you want to drive green with performance, luxury, and utility, the RX 450h may be for you.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	4.60
Crashworthiness:	8.56
Visibility:	7.70
Slalom Handling:	3.54
Ride Quality:	7.69
Fuel Economy:	2.61
Interior Noise:	7.61
Acceleration:	6.53
Ease of Entry and Exit:	6.51
Interior Size:	6.06
Turning Circle:	1.58
Luggage Capacity:	7.10

Strengths and Weaknesses

Strong Points
- Balance of good MPG and excellent power
- SUV utility
- Equipped with many safety/convenience systems, including rearview camera
- High-fidelity sound system with satellite radio

Weak Points
- Requires expensive premium fuel
- High purchase price
- Joystick control was awkward for some drivers
- Engine start when driving slowly can startle driver

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4640	**Tire Manufacturer:**	Dunlop P235/60R18
Exterior Length (in):	187.8	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	74.2	**Transmission Type:**	CVT
Exterior Height (in):	66.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	107.9	**Engine Size:**	3.5L DOHC 24V V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	245 @ 6000
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	50

PZEV

Mazda 3S Grand Touring

Green Car Scores

Score For This Vehicle
78.70

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$29,485
Price as Tested:	$29,485

Cost per Point for this Vehicle
$375

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	Unleaded Regular
Fuel Capacity (gal):	13.2
EPA Urban MPG:	28
EPA Highway MPG:	38
Auto Club Highest MPG:	36.8
Auto Club Average MPG:	28.4
Auto Club Lowest MPG:	23.5

MODEL YEAR TESTED - 2014

Mazda's 3 is their best-selling model worldwide, and thus was the first to see Mazda's new Skyactiv powertrain. This system is reputed to maximize efficiency of conventional gasoline engines while maintaining excellent performance. Our test car, the 3S Grand Touring, exemplified this well, with good acceleration, excellent handling, and an EPA combined rating of 33 MPG. It also can meet stringent PZEV emission standards. It was sporty and fun to drive, although the interior was noisy and, like many compacts, the rear seat is tiny. The Mazda 3 deserves a look if you're in the market for a compact.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	7.24
Crashworthiness:	5.94
Visibility:	7.20
Slalom Handling:	8.10
Ride Quality:	7.19
Fuel Economy:	5.08
Interior Noise:	4.75
Acceleration:	6.53
Ease of Entry and Exit:	6.19
Interior Size:	5.05
Turning Circle:	3.18
Luggage Capacity:	3.25

Strengths and Weaknesses

Strong Points
- Meets stringent PZEV emission standards
- Fun to drive
- Hi-fi Bose sound system with satellite radio
- Loaded with useful comfort/convenience features

Weak Points
- Lack of instrumentation
- Cramped rear seat
- Rear seat hard to enter/exit
- Pop-up HUD display flops down and must be readjusted after almost every bump
- Infotainment joystick control not intuitive

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3100	**Tire Manufacturer:**	Dunlop P215/45R18
Exterior Length (in):	175.6	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.7	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	2.5L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	184 @ 5700
Restraint Type:	8 Air Bags		

Mazda 5 Grand Touring

Green Car Scores

Score For This Vehicle
75.27

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$24,470**
Price as Tested: **$25,620**

Cost per Point for this Vehicle
$340

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

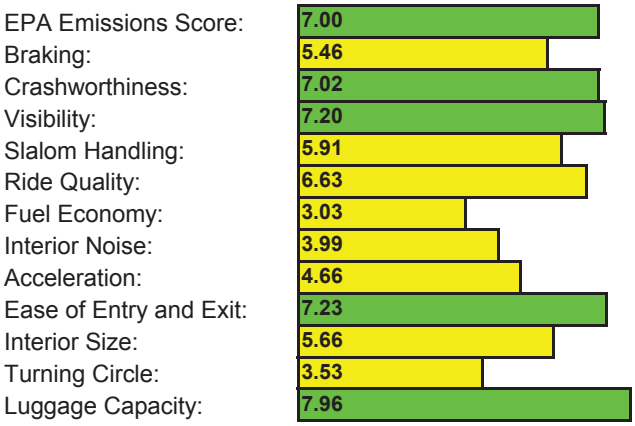
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.9**
EPA Urban MPG:	**22**
EPA Highway MPG:	**28**
Auto Club Highest MPG:	**25.7**
Auto Club Average MPG:	**22.2**
Auto Club Lowest MPG:	**16.6**

The Mazda5 is Mazda's minivan. Our test vehicle was equipped with heated seats and a power moonroof, both of which are standard on the Grand Touring, which is priced around $25,000. The Mazda5 definitely didn't handle as well or as nimbly as some of the other green vehicles we tested, but it is a minivan, after all. It seats seven and has plenty of cargo room, making it a good candidate for a larger family. We averaged 22 MPG, which is on the lower end of vehicles we tested. However, it's rated for better fuel economy than an SUV with the same interior room and is more reasonably priced, making it an attractive option.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Heated seats
- Parking assist
- Roomy
- Bright, adjustable Xenon headlamps

Weak Points
- Limited rear visibility
- Low-quality sound system
- Steering response
- Sensitivity to crosswinds

Vehicle Specifications

4-door Minivan

Number of Passengers (F/R):	2/2/2	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3520	**Tire Manufacturer:**	Toyo P205/50R17
Exterior Length (in):	180.5	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	68.9	**Transmission Type:**	Auto 5 Speed
Exterior Height (in):	63.6	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	108.3	**Engine Size:**	2.5L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	157 @ 6000
Restraint Type:	9 Air Bags or more		

PZEV

Mazda 6i Grand Touring

Green Car Scores

Score For This Vehicle
72.46

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$30,290**
Price as Tested: **$31,490**

Cost per Point for this Vehicle
$435

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

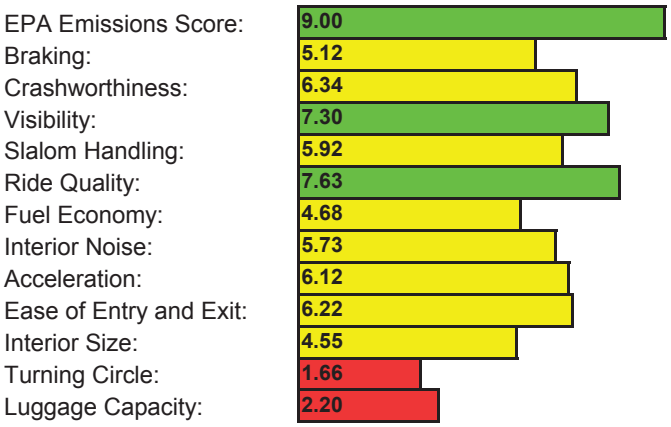
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**16.4**
EPA Urban MPG:	**26**
EPA Highway MPG:	**38**
Auto Club Highest MPG:	**27.3**
Auto Club Average MPG:	**26.6**
Auto Club Lowest MPG:	**25.9**

MODEL YEAR TESTED - 2014

Equipped with a 2.5-liter I-4 with Mazda's Skyactiv transmission, the Mazda6i Grand Touring is rated at an impressive 30 MPG combined. We averaged nearly 27 MPG. Our test vehicle handled well on the slalom course and performed well under acceleration. The trunk size could use some improvement, and at a base price of $30,000, the Mazda6i might be out of reach for some. However, for about $32,000 total, you can add many safety technologies, including forward-obstruction warning, lane-departure warning, and blind-spot monitoring systems. Good looking and fun to drive, the Mazda6i Grand Touring is a green vehicle worth considering.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Good ride quality
- Adaptive cruise control
- Blind-spot monitoring system
- Rearview camera
- Heated seats

Weak Points
- Rearward visibility
- Touch screen needs improvement
- Somewhat cramped interior size
- Insufficient luggage capacity

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3390	**Tire Manufacturer:**	Dunlop P225/45R19
Exterior Length (in):	191.5	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.4	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.1	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	111.4	**Engine Size:**	2.5L DOHC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	184 @ 5700
Restraint Type:	8 Air Bags		

Mazda CX-5 Touring AWD

Green Car Scores

Score For This Vehicle
74.15

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	**$26,660**
Price as Tested:	**$29,375**

Cost per Point for this Vehicle
$396

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.3**
EPA Urban MPG:	**24**
EPA Highway MPG:	**30**
Auto Club Highest MPG:	**27.0**
Auto Club Average MPG:	**24.8**
Auto Club Lowest MPG:	**21.6**

The 2.5-liter Mazda CX-5 is worth taking a look at if you're in the market for a crossover vehicle. It has a base price of around $27,000 and enough room and cargo space to haul the kids around or to take a vacation. The downside to taking a long road trip, though, is noise and ride quality, which could stand some improvement. The adaptive HID headlamps make nighttime driving easier and safer, however. The CX-5 is EPA rated at 26 MPG combined, excellent for an AWD CUV. Even with the added features our test vehicle had, the price still comes in at less than $30,000.

MODEL YEAR TESTED - 2014

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	7.38
Crashworthiness:	6.46
Visibility:	7.20
Slalom Handling:	4.03
Ride Quality:	6.33
Fuel Economy:	3.59
Interior Noise:	6.21
Acceleration:	5.83
Ease of Entry and Exit:	6.30
Interior Size:	5.53
Turning Circle:	2.33
Luggage Capacity:	5.95

Strengths and Weaknesses

Strong Points
- Utility, versatility
- Rearview camera
- Bright, adaptive HID headlamps

Weak Points
- Engine noise
- Small rear window limits visibility
- Blind spots in the rear quarter panels
- Body shake on rough roads

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3480	**Tire Manufacturer:**	Yokohama P225/65R17
Exterior Length (in):	179.3	**Towing Cap. (lbs) W/WO Brakes**	2000/1000
Exterior Width (in):	72.4	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	67.3	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	106.3	**Engine Size:**	2.5L DOHC I4 Skyactiv-G
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	184 @ 5700
Restraint Type:	8 Air Bags		

Mercedes-Benz E250 BlueTEC 4MATIC

Green Car Scores

Score For This Vehicle
80.64

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$54,825
Price as Tested:	$64,295

Cost per Point for this Vehicle
$797

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	Diesel #2
Fuel Capacity (gal):	21.1
EPA Urban MPG:	27
EPA Highway MPG:	42
Auto Club Highest MPG:	36.8
Auto Club Average MPG:	31.6
Auto Club Lowest MPG:	28.7

MODEL YEAR TESTED - 2014

Mercedes-Benz has long been an industry leader in diesel-powered passenger vehicles. For many years, their diesels were extremely durable - but sluggish, noisy, and rough. Not any more. We tested an E250 4MATIC equipped with a 2.1-liter 4-cylinder biturbo diesel. It runs from 0-60 in 8.5 seconds, is extremely quiet, and gets 32 MPG. There's a little throttle lag; otherwise you wouldn't know you had a diesel under the hood. The $64,000 price tag for the E250 gets you adaptive cruise control, surround-view camera, active lane keeping, cross-traffic and parking assist, navigation, satellite radio, and many other safety and convenience features. Bottom line: The E250 is a high-quality luxury car with excellent fuel economy.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	7.94
Crashworthiness:	8.20
Visibility:	7.60
Slalom Handling:	7.70
Ride Quality:	7.78
Fuel Economy:	5.19
Interior Noise:	6.84
Acceleration:	5.63
Ease of Entry and Exit:	6.48
Interior Size:	5.22
Turning Circle:	2.65
Luggage Capacity:	2.41

Strengths and Weaknesses

Strong Points

- AWD traction
- Excellent fuel economy (32 MPG)
- Loaded with safety and convenience features
- Easy and comfortable to drive
- Powerful brakes
- Good front seat adjustability and comfort

Weak Points

- High purchase price
- High price of diesel fuel
- Shift quality
- Command control system is complicated and distracting
- Too many stalks – three – on the left side of the steering wheel can be confusing
- Throttle lag

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4380	**Tire Manufacturer:**	Bridgestone 245/45R17
Exterior Length (in):	191.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	81.5	**Transmission Type:**	Auto 7 Speed
Exterior Height (in):	57.9	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	113.2	**Engine Size:**	2.1L Biturbo Diesel I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	195 @ 3800
Restraint Type:	9 Air Bags or more		

Mini Cooper Countryman

Green Car Scores

Score For This Vehicle
65.83

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$24,145**
Price as Tested: **$24,145**

Cost per Point for this Vehicle
$367

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Premium**
Fuel Capacity (gal):	**12.4**
EPA Urban MPG:	**25**
EPA Highway MPG:	**30**
Auto Club Highest MPG:	**29.6**
Auto Club Average MPG:	**26.6**
Auto Club Lowest MPG:	**20.0**

MODEL YEAR TESTED - 2014

An “econobox” that’s not an “econobox”? That would be the line of Mini Coopers from BMW. Based on the enduring British mini sports car, the Mini is tiny but cute and immensely fun to drive. We tested the 4-door Countryman version. The econobox part is the stingy, 27-MPG EPA combined rating. Handling and brakes are fantastic, and the Countryman is easy to drive and to park. However, it seems like Mini went out of its way to equip the Countryman with unusual and often small and awkward “British” controls for the HVAC, radio, doors, rear hatch, and most other functions. Want good MPG and fun driving, too? The Mini is worth a long look.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	8.63
Crashworthiness:	6.69
Visibility:	7.00
Slalom Handling:	7.07
Ride Quality:	6.91
Fuel Economy:	1.77
Interior Noise:	3.86
Acceleration:	2.91
Ease of Entry and Exit:	5.71
Interior Size:	3.81
Turning Circle:	2.74
Luggage Capacity:	1.73

Strengths and Weaknesses

Strong Points
- Fun to drive
- Cute styling
- Fits in small parking spaces
- Steering feel and response
- ABS brakes provide short stops
- Huge parking brake

Weak Points
- Noisy
- Sluggish throttle response
- Uses expensive premium fuel
- Lacks center armrests front and rear
- Small and unusual controls
- Poor visibility to the rear

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	3280	**Tire Manufacturer:**	Bridgestone 205/55R17
Exterior Length (in):	161.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.4	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	61.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	102.2	**Engine Size:**	1.6L I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	121 @ 6000
Restraint Type:	9 Air Bags or more		

Mitsubishi i-MiEV SE

Green Car Scores

Score For This Vehicle
70.11

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$31,125**
Price as Tested: **$34,765**

Cost per Point for this Vehicle
$496

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Electricity**
Battery Capacity (KWH):	**16.0**
Equivalent EPA Urban MPG:	**126**
Equivalent EPA Highway MPG:	**99**
Charger Input (VAC):	**110**
Charger Charge Time (Hours):	**22**
Charger #2 Input (VAC):	**240**
Charger #2 Charge Time (Hours):	**7**

MODEL YEAR TESTED - 2012

Unlike many EVs, Mitsubishi's i-MiEV accelerates slowly, although its electric drivetrain provides enough power for most driving conditions. The EPA equivalent mpg ratings are an impressive 126 city/99 highway, but the 62-mile range is the shortest of any mainstream EV. Its 16-kWh battery takes 6–7 hours to charge on a 240-volt charger, or about 22 hours on a 110-volt charger, limiting its utility. Our test vehicle, with SE trim and the Premium package, had an MSRP of $34,765 before any federal or state incentives, pricing it at or near the lowest price of any available mainstream EV.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	10.00
Braking:	5.80
Crashworthiness:	5.27
Visibility:	6.60
Slalom Handling:	2.74
Ride Quality:	6.54
Fuel Economy:	10.00
Interior Noise:	5.22
Acceleration:	0.01
Ease of Entry and Exit:	5.91
Interior Size:	3.86
Turning Circle:	6.30
Luggage Capacity:	1.85

Strengths and Weaknesses

Strong Points
- Efficient use of energy
- Good headroom
- Zero emissions
- Equipped with navigation and Bluetooth
- Rear seatbacks fold flat
- Low cost of "fuel"
- Brakes

Weak Points
- Cramped interior
- Bouncy ride
- Limited range between recharges; long recharge time
- Lacks center armrests; outer armrests too hard
- Follows rain grooves on freeway

Vehicle Specifications

Subcompact 4-door Hatchback

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2620	**Tire Manufacturer:**	Dunlop P145/55R15
Exterior Length (in):	144.8	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	62.4	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	63.6	**Drivetrain Type:**	Rear Wheel
Wheelbase (in):	100.4	**Engine Size:**	49kW Electric Motor
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	66 @ 3000
Restraint Type:	8 Air Bags	**Electric Motor Horsepower:**	66

Mitsubishi Mirage ES

Green Car Scores

Score For This Vehicle
60.11

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$15,990**
Price as Tested: **$16,890**

Cost per Point for this Vehicle
$281

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

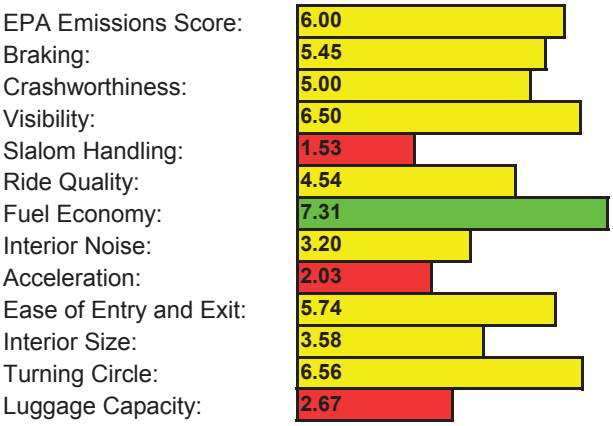
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**9.2**
EPA Urban MPG:	**37**
EPA Highway MPG:	**44**
Auto Club Highest MPG:	**41.0**
Auto Club Average MPG:	**34.8**
Auto Club Lowest MPG:	**30.1**

Mitsubishi says its 2014 Mirage with a 1.2-liter 3-cylinder engine gets the best gasoline fuel economy short of a hybrid. The EPA concurs, giving it a stellar 40 MPG combined rating. However, its 3-cylinder engine produces only 74 horsepower, enough for around town but not really useful on the freeway. The engine is also rough and noisy, and the Mirage has a rough ride and sloppy handling as well. On the plus side, this $17,000 sedan is equipped with quite a few convenience and safety features (such as navigation, Bluetooth, rearview camera, and fog lights) compared with other similarly priced cars. If low cost is your top priority, the low purchase price and excellent MPG should put the Mirage on your list.

MODEL YEAR TESTED - 2014

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Good fuel economy (40 MPG combined)
- Affordable purchase price ($17,000), includes navigation, Bluetooth, automatic HVAC, and 9 airbags
- Rearview camera
- Excellent warranty

Weak Points
- Engine buzzy when accelerating
- Poor ride quality
- Underpowered
- Small trunk
- Rough idle, especially with AC on
- Lacks center armrests
- Lacks traditional instrumentation

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	60/100,000
Curb Weight (lbs):	2060	**Tire Manufacturer:**	Dunlop P165/65R14
Exterior Length (in):	148.8	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	65.6	**Transmission Type:**	CVT
Exterior Height (in):	59.1	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	96.5	**Engine Size:**	1.2L 12V DOHC I3
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	74 @ 6000
Restraint Type:	9 Air Bags or more		

Mitsubishi Outlander ES

Green Car Scores

Score For This Vehicle
68.99

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$23,820**
Price as Tested: **$23,820**

Cost per Point for this Vehicle
$345

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**16.6**
EPA Urban MPG:	**25**
EPA Highway MPG:	**31**
Auto Club Highest MPG:	**28.1**
Auto Club Average MPG:	**25.3**
Auto Club Lowest MPG:	**20.8**

MODEL YEAR TESTED - 2014

The Mitsubishi Outlander is one of the main tools the company plans to use to reestablish Mitsubishi as a player in the U.S. auto industry. This SUV can seat seven (if those riding in the third row are kids), and if you use only the first two rows of seats, it has lots of room to store your stuff. Our ES version was a preproduction prototype, but it showed good fit and finish. It was equipped with a 2.4 liter 4-cylinder engine and CVT transmission. We averaged over 25 MPG with reasonable acceleration scores, but the engine is buzzy when pushed and feels weak in Eco mode. Handling in our slalom course was poor, but was acceptable in normal driving. The Outlander lacks many of the niceties that much of the competition comes with, but with an MSRP under $24,000, it's also less costly than most.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	6.00
Braking:	5.74
Crashworthiness:	6.69
Visibility:	7.20
Slalom Handling:	1.47
Ride Quality:	6.81
Fuel Economy:	3.87
Interior Noise:	5.26
Acceleration:	5.00
Ease of Entry and Exit:	6.36
Interior Size:	5.51
Turning Circle:	3.12
Luggage Capacity:	5.97

Strengths and Weaknesses

Strong Points
- Good fuel economy for a 7-passenger SUV (27 MPG)
- Large, flexible interior
- Good visibility to the front
- Ample storage with third-row seats down

Weak Points
- Sluggish engine, especially in "Eco" mode
- Buzzy engine while accelerating
- Lack of instrumentation
- Poor rear visibility with the backseat up

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3/2	**Warranty (Months/Miles):**	60/60,000
Curb Weight (lbs):	3280	**Tire Manufacturer:**	Yokohama P215/70R16
Exterior Length (in):	183.3	**Towing Cap. (lbs) W/WO Brakes**	1500 (option)
Exterior Width (in):	70.9	**Transmission Type:**	CVT
Exterior Height (in):	66.1	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	105.1	**Engine Size:**	2.4L MIVEC SOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	166 @ 6000
Restraint Type:	9 Air Bags or more		

Nissan Leaf

Green Car Scores

Score For This Vehicle
82.12

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$29,650**
Price as Tested: **$29,650**

Cost per Point for this Vehicle
$361

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

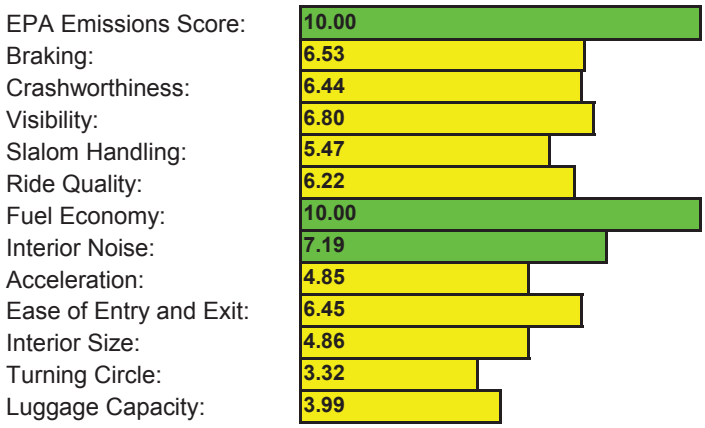
Fuel Type:	**Electricity**
Battery Capacity (KWH):	**24.0**
Equivalent EPA Urban MPG:	**129**
Equivalent EPA Highway MPG:	**102**
Charger Input (VAC):	**110**
Charger Charge Time (Hours):	**21**
Charger #2 Input (VAC):	**240**
Charger #2 Charge Time (Hours):	**4**

The Nissan Leaf represents "take one, version two" of electric vehicles—the first modern EV for sale from an established automaker. How well does it work? Surprisingly well. When you drive the Leaf, it seems like you're in a well-equipped, strangely quiet, conventional car. You step on the accelerator and it goes (with reasonably good power); you turn the steering wheel and it turns crisply; you step on the brake, and it stops, etc. But you're also getting the equivalent of 114 MPG and producing no emissions. The downside is the usual for an EV, range anxiety: "Will I make it to my destination and back?" But if you plan your trips and usage well, range anxiety diminishes and the Leaf becomes your "around-town car."

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Energy efficiency (114 MPG equivalent)
- Zero emissions
- Quiet
- Bigger trunk than most EVs
- Heated seats and steering wheel
- Well equipped, with Bluetooth, navigation, XM radio, and HID headlights

Weak Points

- Limited range can cause "range anxiety"
- Long recharge time (especially at 110 volts)
- Poor visibility to the rear
- Controls use a joystick instead of knobs
- Lacks rear center armrest and cupholder

Vehicle Specifications

Midsized 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3462	**Tire Manufacturer:**	Bridgestone P205/55R16
Exterior Length (in):	175.0	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	69.7	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	61.0	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	80 kW Electric Motor
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	107
Restraint Type:	8 Air Bags	**Electric Motor Horsepower:**	107

Nissan Sentra SL

Green Car Scores

Score For This Vehicle
69.36

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$20,550**
Price as Tested: **$23,655**

Cost per Point for this Vehicle
$341

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.2**
EPA Urban MPG:	**30**
EPA Highway MPG:	**39**
Auto Club Highest MPG:	**42.0**
Auto Club Average MPG:	**25.5**
Auto Club Lowest MPG:	**22.8**

MODEL YEAR TESTED - 2013

With a base price just under $20,000, the Nissan Sentra provides good value for the money. It's powered by a 1.8-liter 4-cylinder engine and CVT transmission, and it boasts a combined highway/city rating of 34 MPG. Our test vehicle was equipped with optional heated leather seats, yet still came in with an MSRP under $24,000. We especially liked the rearview camera and satellite radio, both of which come standard on the SL. Unfortunately, for a midsized sedan the Sentra has inadequate headroom and legroom.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	6.00
Braking:	6.67
Crashworthiness:	5.69
Visibility:	6.90
Slalom Handling:	6.25
Ride Quality:	6.96
Fuel Economy:	5.55
Interior Noise:	4.94
Acceleration:	3.77
Ease of Entry and Exit:	6.74
Interior Size:	4.31
Turning Circle:	3.32
Luggage Capacity:	2.26

Strengths and Weaknesses

Strong Points
- Well equipped for the price
- Has eight airbags
- Standard rearview camera
- Usable trunk size
- Standard satellite radio

Weak Points
- Underpowered
- Engine and transmission are noisy at wide-open throttle
- Insufficient legroom and headroom for tall people
- Poor close forward visibility

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2920	**Tire Manufacturer:**	Continental P205/50R17
Exterior Length (in):	182.1	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.3	**Transmission Type:**	CVT
Exterior Height (in):	58.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	1.8L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	130 @ 6000
Restraint Type:	8 Air Bags		

Nissan Versa SV

Green Car Scores

Score For This Vehicle
66.28

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$16,050
Price as Tested:	$16,050

Cost per Point for this Vehicle
$242

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	Unleaded Regular
Fuel Capacity (gal):	10.8
EPA Urban MPG:	31
EPA Highway MPG:	40
Auto Club Highest MPG:	41.8
Auto Club Average MPG:	34.3
Auto Club Lowest MPG:	31.3

MODEL YEAR TESTED - 2014

Several years ago, some Japanese automakers saw the writing on the wall, anticipated high gas prices, and developed entry-level models with good MPG for the U.S. market. Nissan's offering is the Versa, a compact car that provides an excellent 35 MPG overall. The 1.6-liter engine makes only 109 horsepower, and despite the car's light weight, acceleration was underwhelming (and noisy to boot). On the other hand, our test car featured excellent ABS brakes. A midlevel SV sedan, it provided excellent value with its $16,000 purchase price.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	7.41
Crashworthiness:	5.26
Visibility:	6.50
Slalom Handling:	4.38
Ride Quality:	6.25
Fuel Economy:	5.83
Interior Noise:	3.76
Acceleration:	3.60
Ease of Entry and Exit:	6.77
Interior Size:	4.40
Turning Circle:	2.92
Luggage Capacity:	2.22

Strengths and Weaknesses

Strong Points
- Good fuel economy (35 MPG combined)
- Affordable purchase price
- Roomy interior for a compact car
- ABS brakes provide short straight stops
- Rear windows open fully

Weak Points
- Underpowered
- Noisy
- Cheap-appearing interior materials
- Lack of instrumentation
- Dim interior lighting
- Rear visibility limited because of high trunk
- Lacks rear center armrest

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2610	**Tire Manufacturer:**	Continental P185/65R15
Exterior Length (in):	175.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	66.7	**Transmission Type:**	CVT
Exterior Height (in):	59.4	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	102.4	**Engine Size:**	1.6L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	109 @ 6000
Restraint Type:	8 Air Bags		

Nissan Versa Note SV

Green Car Scores

Score For This Vehicle
68.20

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$16,800**
Price as Tested: **$16,800**

Cost per Point for this Vehicle
$246

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**10.8**
EPA Urban MPG:	**31**
EPA Highway MPG:	**40**
Auto Club Highest MPG:	**32.0**
Auto Club Average MPG:	**29.4**
Auto Club Lowest MPG:	**26.5**

MODEL YEAR TESTED - 2014

For 2014, we tested a second body style of the Versa--the Note hatchback. It's similar to the Versa sedan in many ways, but the hatchback provides more luggage capacity and improved visibility to the rear. Both versions are rated at 35 MPG combined city/highway by EPA, but the tradeoff to get such good fuel economy is weak performance. Like the Versa sedan, the Note is noisy. Both are very efficient in the use of interior space. Even though the Versa is a small car on the outside, four adults can fit comfortably within. The strongest feature of either Versa model is value; you get a solid, functional car for less than $17,000.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.73
Crashworthiness:	5.08
Visibility:	6.80
Slalom Handling:	4.54
Ride Quality:	6.63
Fuel Economy:	5.83
Interior Noise:	5.33
Acceleration:	3.32
Ease of Entry and Exit:	6.98
Interior Size:	4.95
Turning Circle:	3.03
Luggage Capacity:	2.98

Strengths and Weaknesses

Strong Points
- Fuel economy (35 MPG)
- Low purchase price
- Room for four
- Easy to park in small spots
- Rear windows open fully

Weak Points
- Underpowered
- Rattles at idle
- Lacks rear center armrest
- Engine buzzes during acceleration
- Limited interior storage

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2480	**Tire Manufacturer:**	Bridgestone P185/65R15
Exterior Length (in):	163.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	66.7	**Transmission Type:**	CVT
Exterior Height (in):	60.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	102.4	**Engine Size:**	1.6L 16V DOHC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	109 @ 6000
Restraint Type:	8 Air Bags		

Ram 1500 SLT Outdoorsman Crew Cab 4x4

Green Car Scores

Score For This Vehicle
71.39

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$39,445**
Price as Tested: **$45,150**

Cost per Point for this Vehicle
$632

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

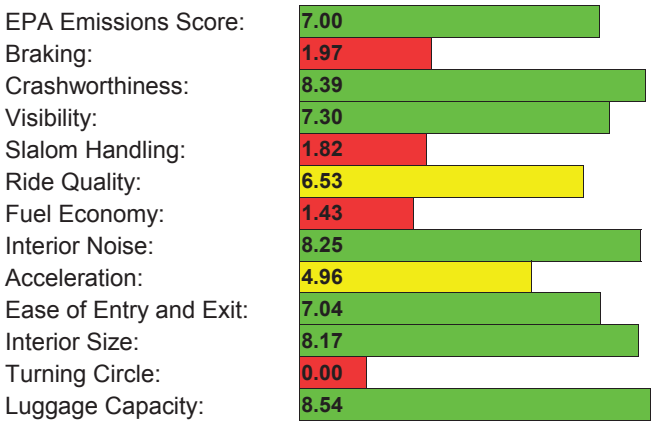
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**32.0**
EPA Urban MPG:	**16**
EPA Highway MPG:	**23**
Auto Club Highest MPG:	**19.5**
Auto Club Average MPG:	**15.9**
Auto Club Lowest MPG:	**12.0**

MODEL YEAR TESTED - 2014

The move to greener, more fuel-efficient vehicles includes all vehicle types. The largest-selling vehicles are full-size pickup trucks, so the ARC tested those with the best mpg. The truck with the top gasoline MPG (21) is the Dodge Ram 1500 equipped with a 3.6-liter V6 and an 8-speed automatic transmission. Our Outdoorsman Crew Cab test vehicle was a 4x4, so it was rated at 19 MPG. Truck creature comforts have come a long way, and the Ram is no exception. At cruising speeds, the cabin was quieter than any other vehicle we had tested. The V6 is surprisingly powerful; the Crew Cab has plenty of room for the largest occupants; and you can haul just about anything. However, the Ram still rides and handles like a truck. If you need a pickup, check out the V6 Ram. It should meet your needs and get nearly 20 MPG too.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Roomy interior with tremendous utility and cargo capacity
- Well equipped, including lockable bed boxes
- 8-speed auto transmission and adjustable ride height help get good mpg for a truck
- Rear windows open fully
- Flex-fuel

Weak Points

- Poor visibility to the rear; lacks rearview camera/sensor
- Uses a knob that you turn for the shifter
- Even at low height, step-in is too high
- Confusing HVAC controls
- Rides and handles like a truck

Vehicle Specifications

Standard 4-door Pickup

Number of Passengers (F/R):	2/3
Curb Weight (lbs):	5600
Exterior Length (in):	229.0
Exterior Width (in):	79.4
Exterior Height (in):	77.5
Wheelbase (in):	140.0
Anti-lock Braking System:	4 Wheel ABS
Restraint Type:	6 Air Bags

Payload (lbs): 1930

Warranty (Months/Miles):	36/36,000
Tire Manufacturer:	Goodyear LT265/70R17
Towing Cap. (lbs) W/WO Brakes:	7650 Max
Transmission Type:	Auto 8 Speed
Drivetrain Type:	All Wheel - Part Time
Engine Size:	3.6L V6 Flex Fuel
Horsepower @ RPM:	305 @ 6350

Scion iQ

Green Car Scores

Score For This Vehicle
65.40

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$16,000**
Price as Tested: **$16,000**

Cost per Point for this Vehicle
$245

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**8.5**
EPA Urban MPG:	**36**
EPA Highway MPG:	**37**
Auto Club Highest MPG:	**36.1**
Auto Club Average MPG:	**33.1**
Auto Club Lowest MPG:	**30.1**

MODEL YEAR TESTED - 2012

Mini compacts are popular in Europe (Europeans are used to small cars, and high MPG is important), but the jury is still out about how well they fit in the U.S. marketplace. One recent entry is the Scion iQ. A small car should get good MPG, and the iQ does, averaging 37 MPG. Our tester cost only $16,000. The iQ's small size has other benefits, too: The car handles nimbly, has the smallest turning radius of any car we've tested (26 feet), and can fit in virtually any parking spot. On the other hand, the rear seats are basically useless, the trunk holds only 3.5 cu. ft. of cargo, and there's not even a glove box. If you live in a congested city like San Francisco, New York, or Chicago, the iQ makes sense—otherwise, maybe not so much.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	3.52
Crashworthiness:	5.17
Visibility:	6.60
Slalom Handling:	6.18
Ride Quality:	6.04
Fuel Economy:	6.37
Interior Noise:	3.40
Acceleration:	2.75
Ease of Entry and Exit:	5.87
Interior Size:	2.51
Turning Circle:	10.00
Luggage Capacity:	0.00

Strengths and Weaknesses

Strong Points
- Good MPG
- Amazingly tight turning circle
- Easy to drive in town
- Reasonable purchase price
- Small footprint makes parking easy

Weak Points
- Almost nonexistent trunk
- Cramped rear seat
- Lack of interior storage (not even a glove box)
- Dim interior lighting
- Sun visors are too small

Vehicle Specifications

Minicompact 3-door Hatchback

Number of Passengers (F/R):	2/2	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2180	**Tire Manufacturer:**	Goodyear P175/60R16
Exterior Length (in):	120.1	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	66.1	**Transmission Type:**	CVT
Exterior Height (in):	59.1	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	78.7	**Engine Size:**	1.3L DOHC 16V VVT-i I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	94 @ 6000
Restraint Type:	9 Air Bags or more		

smart electric drive

Green Car Scores

Score For This Vehicle
67.87

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$25,750**
Price as Tested: **$25,750**

Cost per Point for this Vehicle
$379

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Electricity**
Battery Capacity (KWH):	**17.6**
Equivalent EPA Urban MPG:	**122**
Equivalent EPA Highway MPG:	**93**
Charger Input (VAC):	**110**
Charger Charge Time (Hours):	**14**
Charger #2 Input (VAC):	**240**
Charger #2 Charge Time (Hours):	**6**

MODEL YEAR TESTED - 2013

For 2013, smart released its third generation of fortwo electric vehicles (called the electric drive) in the U.S. Unlike the first two iterations, this version is available to the public. The Auto Club of Southern California has leased 10 of them for evaluation. We had some trepidation, since our experience with the gas version of the fortwo was somewhat negative. However, it seems that the fortwo platform was meant to be an EV. The electric drivetrain is much smoother in operation, the cost of electricity makes operating it more affordable, and you can't drive much more green than an electric smart! Nonetheless, many of the idiosyncrasies of the smart fortwo remain. A key one is the perception that the car can't be safe, even though it scores well (4-star overall rating) in NHTSA crash tests.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	10.00
Braking:	3.58
Crashworthiness:	2.58
Visibility:	6.60
Slalom Handling:	4.58
Ride Quality:	4.84
Fuel Economy:	10.00
Interior Noise:	5.36
Acceleration:	4.24
Ease of Entry and Exit:	5.81
Interior Size:	1.47
Turning Circle:	7.93
Luggage Capacity:	0.88

Strengths and Weaknesses

Strong Points
- Zero emissions from the vehicle
- Small turning radius; easy to park
- Low operating costs (fuel vs. electricity)
- Cute, makes people look, conversation starter

Weak Points
- Bouncy ride
- Poor visibility to the rear
- Poor interior fit and finish (it rattles)
- Small trunk
- Low battery range and associated range anxiety
- Noisy interior
- Spongy brake pedal feel
- Small sun visors

Vehicle Specifications

Minicompact 2-seat Coupe

Number of Passengers (F/R):	2	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	2120	**Tire Manufacturer:**	Kumho P155/60R15
Exterior Length (in):	107.4	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	69.0	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	62.1	**Drivetrain Type:**	Rear Wheel
Wheelbase (in):	73.5	**Engine Size:**	55 kW electric motor
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	47
Restraint Type:	4 Air Bags	**Electric Motor Horsepower:**	47

PZEV

Subaru Forester 2.5i Touring

Green Car Scores

Score For This Vehicle
78.40

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$30,820**
Price as Tested: **$32,220**

Cost per Point for this Vehicle
$411

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.9**
EPA Urban MPG:	**24**
EPA Highway MPG:	**32**
Auto Club Highest MPG:	**25.7**
Auto Club Average MPG:	**25.3**
Auto Club Lowest MPG:	**24.6**

MODEL YEAR TESTED - 2014

The Subaru Forester Touring is a certified PZEV that makes for a comfortable family vehicle. We averaged 24 MPG with our test car, and the Forester has an EPA combined rating of 27 MPG, excellent for an AWD SUV. The Forester has great visibility, even though it's not as large as some SUVs. The adaptive cruise control and lane-departure warning systems are nice features to have, although the lane-departure system didn't always function perfectly. With AWD traction, PZEV emissions, good fuel economy, and lots of safety and convenience features, the Forester is definitely worth considering.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	6.08
Crashworthiness:	6.95
Visibility:	7.50
Slalom Handling:	4.18
Ride Quality:	7.17
Fuel Economy:	3.78
Interior Noise:	6.44
Acceleration:	4.47
Ease of Entry and Exit:	6.88
Interior Size:	6.90
Turning Circle:	3.62
Luggage Capacity:	5.45

Strengths and Weaknesses

Strong Points
- Adaptive cruise control
- Lane-departure warning system
- Power liftgate
- Bluetooth connectivity

Weak Points
- Underpowered
- Too much road noise
- Rear windows open only about 75 percent
- Insufficient instrumentation
- Soft brake feel

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3470	**Tire Manufacturer:**	Yokohama P225/60R17
Exterior Length (in):	180.9	**Towing Cap. (lbs) W/WO Brakes**	1500/1000
Exterior Width (in):	70.7	**Transmission Type:**	CVT
Exterior Height (in):	68.2	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	103.9	**Engine Size:**	2.5L DOHC Flat 4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	170 @ 5800
Restraint Type:	9 Air Bags or more		

Subaru Impreza 2.0i Sport Limited

PZEV

Green Car Scores

Score For This Vehicle
70.30

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$22,595**
Price as Tested: **$25,345**

Cost per Point for this Vehicle
$361

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**14.5**
EPA Urban MPG:	**27**
EPA Highway MPG:	**36**
Auto Club Highest MPG:	**32.4**
Auto Club Average MPG:	**28.4**
Auto Club Lowest MPG:	**25.1**

MODEL YEAR TESTED - 2012

Subaru claims that the latest Impreza 2.0i, redesigned in 2012 and equipped with its new 2.0-liter "boxer" engine and second-generation CVT transmission, is the most fuel-efficient AWD passenger vehicle in America. During our testing, we averaged an impressive 28.4 MPG overall. The Impreza has nimble handling, powerful ABS brakes, and the AWD traction that makes Subarus popular in snowy areas. Unfortunately, engine, tire, and road noise all intrude into the cabin, making it difficult to carry on a conversation. The hatchback design with individual folding rear seats gives the Impreza almost the versatility of a small SUV. Now the Impreza can be ordered as a clean PZEV vehicle, so you can have ruggedness, versatility, and good fuel economy in a clean, green machine.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	6.00
Braking:	7.05
Crashworthiness:	6.44
Visibility:	7.40
Slalom Handling:	7.45
Ride Quality:	6.75
Fuel Economy:	4.71
Interior Noise:	2.17
Acceleration:	3.76
Ease of Entry and Exit:	6.68
Interior Size:	4.76
Turning Circle:	3.44
Luggage Capacity:	3.70

Strengths and Weaknesses

Strong Points

- Available as a PZEV
- Good traction, handling, and braking
- Good MPG for an AWD vehicle
- High level of utility and versatility
- Well equipped (Bluetooth, navigation, satellite radio, and voice recognition)

Weak Points

- Noisy cabin
- Touch-screen controls are small and crowded together
- Instrumentation is limited and hard to read at night
- Cramped rear seat for tall passengers

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3100	**Tire Manufacturer:**	Yokohama P205/50R17
Exterior Length (in):	173.8	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	68.5	**Transmission Type:**	CVT
Exterior Height (in):	59.5	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	104.1	**Engine Size:**	2.0L DOHC HO4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	148 @ 6200
Restraint Type:	9 Air Bags or more		

PZEV

Subaru Legacy 2.5i Limited

Green Car Scores

Score For This Vehicle
74.22

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$26,965**
Price as Tested: **$30,905**

Cost per Point for this Vehicle
$416

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

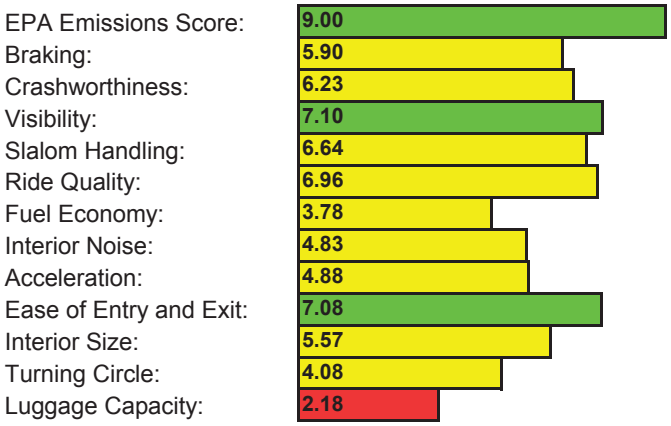
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**18.5**
EPA Urban MPG:	**24**
EPA Highway MPG:	**32**
Auto Club Highest MPG:	**28.2**
Auto Club Average MPG:	**23.6**
Auto Club Lowest MPG:	**22.4**

MODEL YEAR TESTED - 2013

The Legacy is Subaru's entry in the popular midsized sedan segment. Like other Subarus with the 2.5-liter engine, it's a PZEV. The Legacy is popular in snowy climates, especially because of the traction provided by its symmetrical AWD and vehicle dynamics control features. Our test vehicle was the top-of-the-line Limited trim level and was well equipped, including heated front seats and mirrors, leather upholstery, and even windshield-wiper deicers. Also worth noting was the optional EyeSight system that features lane-departure warning, adaptive cruise control, and precollision-throttle management. With all the accident-avoidance capability the Legacy features, its $31,000 MSRP is well worth it.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Certified as a PZEV
- AWD traction
- Comfortable
- Well equipped, including crash-avoidance technology (adaptive cruise control and lane-departure warning)
- High-quality Harmon Kardon audio system
- Rearview camera

Weak Points

- Electronic (all on or all off) parking brake
- "Eye-sight" system didn't always work
- Noisy transmission
- Slightly stiff steering and ride
- So well equipped, there may be too many switches and controls

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3310	**Tire Manufacturer:**	Bridgestone P215/50R17
Exterior Length (in):	187.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	71.7	**Transmission Type:**	CVT
Exterior Height (in):	59.3	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	108.3	**Engine Size:**	2.5L Flat 4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	173 @ 5600
Restraint Type:	8 Air Bags		

Subaru Outback 2.5i Limited

PZEV

Green Car Scores

Score For This Vehicle
74.94

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$30,190**
Price as Tested: **$33,835**

Cost per Point for this Vehicle
$452

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

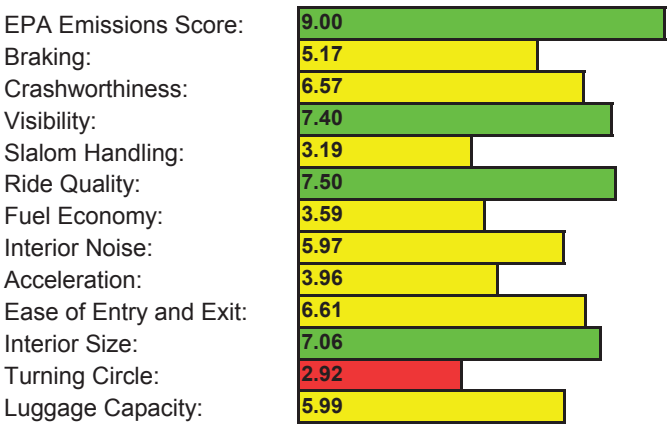
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**18.5**
EPA Urban MPG:	**24**
EPA Highway MPG:	**30**
Auto Club Highest MPG:	**28.3**
Auto Club Average MPG:	**24.0**
Auto Club Lowest MPG:	**20.8**

MODEL YEAR TESTED - 2013

The Subaru Outback Limited is a 4-door SUV equipped with a 2.5-liter 4-cylinder engine. Dual-zone temperature control, heated seats, and Bluetooth connectivity are standard. It's rated at a combined 26 MPG, but we averaged 24 MPG. The Outback is a popular vehicle in snowy climates, and since it's a PZEV, you get a rugged vehicle that's easier on the environment. If you're looking for a green vehicle that also has some of the utility of an SUV, the Outback is a good choice.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Certified PZEV
- Roomy interior
- Lots of cargo room
- Good ride quality
- Heated seats

Weak Points
- Heavy steering at slow speeds
- Underpowered
- Noisy transmission
- Parking brake located on dash

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3560	**Tire Manufacturer:**	Continental P225/60R17
Exterior Length (in):	189.0	**Towing Cap. (lbs) W/WO Brakes**	2700/1000
Exterior Width (in):	71.7	**Transmission Type:**	CVT
Exterior Height (in):	65.8	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	107.9	**Engine Size:**	2.5L DOHC Flat 4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	173 @ 5600
Restraint Type:	8 Air Bags		

PZEV

Subaru XV Crosstrek 2.0i Premium

Green Car Scores

Score For This Vehicle
71.74

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$22,995**
Price as Tested: **$25,790**

Cost per Point for this Vehicle
$359

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**15.9**
EPA Urban MPG:	**25**
EPA Highway MPG:	**33**
Auto Club Highest MPG:	**30.3**
Auto Club Average MPG:	**23.6**
Auto Club Lowest MPG:	**20.7**

MODEL YEAR TESTED - 2013

The XV Crosstrek—essentially an Impreza with special wheels, body cladding, and increased ground clearance—is a new addition to Subaru's lineup of crossover wagons. It has the utility and ground clearance of a compact SUV, with the size and low center of gravity of a passenger car. Our test vehicle averaged about 24 MPG. Equipped with a rearview camera, sunroof, heated seats, and Bluetooth connectivity, it was attractively priced at $25,000. The Crosstrek has a sporty feel, but its ride might be too firm for some. Additionally, without the rearview camera, visibility is compromised, and trunk space is limited. But those are minor concerns; if you're in the market for a green SUV, the Crosstrek deserves a look.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	6.00
Braking:	7.55
Crashworthiness:	6.35
Visibility:	7.30
Slalom Handling:	6.37
Ride Quality:	6.63
Fuel Economy:	4.06
Interior Noise:	4.87
Acceleration:	3.71
Ease of Entry and Exit:	6.66
Interior Size:	4.97
Turning Circle:	3.62
Luggage Capacity:	3.66

Strengths and Weaknesses

Strong Points
- Subaru's AWD traction
- Certified PZEV
- Comfortable yet rugged ride
- Rearview camera
- Heated front seats

Weak Points
- Engine noise
- Using radio controls takes eyes off the road
- Limited cup holders
- Lack of useful instrumentation

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3040	**Tire Manufacturer:**	Yokohama P225/55R17
Exterior Length (in):	175.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.1	**Transmission Type:**	CVT
Exterior Height (in):	63.6	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	103.7	**Engine Size:**	2.0L DOHC Flat 4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	148 @ 6200
Restraint Type:	9 Air Bags or more		

Subaru XV Crosstrek Hybrid

Green Car Scores

Score For This Vehicle
74.01

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$30,120**
Price as Tested: **$30,120**

Cost per Point for this Vehicle
$407

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.7**
EPA Urban MPG:	**29**
EPA Highway MPG:	**33**
Auto Club Highest MPG:	**28.9**
Auto Club Average MPG:	**25.9**
Auto Club Lowest MPG:	**21.6**

MODEL YEAR TESTED - 2014

The XV Crosstrek Hybrid is Subaru's first commercially available hybrid. Like the base version, it has the utility and ground clearance of an SUV, with the exterior size and low center of gravity of a passenger car. It's rated 31 MPG by EPA, but we got about 26 MPG with our test vehicle, which was equipped with a rearview camera, sunroof, Bluetooth, and heated seats. Typical of Subarus, it had AWD, which provides improved traction in any weather. It could use more power, but otherwise its on-road manners are good. The controls for the navigation and sound system are a step backward from the excellent controls on earlier Subaru models. Subaru is gaining in popularity; now it can compete in the hybrid market, too.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	6.13
Crashworthiness:	7.27
Visibility:	7.30
Slalom Handling:	5.42
Ride Quality:	6.84
Fuel Economy:	4.78
Interior Noise:	6.28
Acceleration:	3.23
Ease of Entry and Exit:	6.21
Interior Size:	4.38
Turning Circle:	3.67
Luggage Capacity:	3.50

Strengths and Weaknesses

Strong Points
- Subaru's AWD traction
- Good fuel economy (31 MPG)
- Certified AT PZEV
- Well equipped, including navigation, Bluetooth, rearview camera, and satellite radio
- Forward visibility

Weak Points
- Underpowered
- Stop-start system not smooth
- Radio controls distract from driving
- Front seat has to be moved forward to fold down backseat
- Lack of traditional instrumentation

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3700	**Tire Manufacturer:**	Yokohama P225/55R17
Exterior Length (in):	175.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.1	**Transmission Type:**	CVT
Exterior Height (in):	63.6	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	103.7	**Engine Size:**	2.0L DOHC 16V Flat 4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	160 @ 6000 Total
Restraint Type:	9 Air Bags or more		

Tesla S P85

Green Car Scores

Score For This Vehicle
94.30

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$89,900**
Price as Tested: **$89,900**

Cost per Point for this Vehicle
$953

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Electricity**
Battery Capacity (KWH):	**85.0**
Equivalent EPA Urban MPG:	**88**
Equivalent EPA Highway MPG:	**90**
Charger Input (VAC):	**110**
Charger Charge Time (Hours):	**81**
Charger #2 Input (VAC):	**240**
Charger #2 Charge Time (Hours):	**9-15**

MODEL YEAR TESTED - 2013

Tesla is the first startup automaker to stay around long enough for us to include its car in the AAA Green Car Guide. The Model S P85 we tested is an incredible car. It's the fastest green car we've ever tested; it rides and handles very well; it's extremely quiet; and it stops on a dime. The styling is sleek and sporty, and everyone seems to notice it. Still, Tesla has a few things to learn. Most of the controls are on a large 17-inch touch screen, which can be distracting because you have to take your eyes off the road to use it. It has a 265-mile range, and even with a standard 240-volt charger, it can take a long time to fully recharge. Nevertheless, the Model S was our top-scoring vehicle for 2014 by a wide margin. So if you're looking for an EV and can afford it, check one out.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	10.00
Braking:	7.78
Crashworthiness:	8.57
Visibility:	7.30
Slalom Handling:	8.17
Ride Quality:	7.97
Fuel Economy:	10.00
Interior Noise:	8.04
Acceleration:	10.00
Ease of Entry and Exit:	5.92
Interior Size:	5.30
Turning Circle:	0.82
Luggage Capacity:	4.44

Strengths and Weaknesses

Strong Points
- Excellent power
- Solid ride with excellent handling
- Certified as a ZEV
- Quiet
- Powerful brakes
- Low cost to power with electricity

Weak Points
- High purchase price
- Almost all controls are on the large touchscreen, which can be distracting to use
- Lacks a CD player
- Nonstandard charge port
- Lacks rear-seat cup holders and center armrest
- The cruise-control stalk can easily be confused with the turn indicator

Vehicle Specifications

Large 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	48/50,000
Curb Weight (lbs):	4647	**Tire Manufacturer:**	Continental P245/35ZR21
Exterior Length (in):	195.9	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	77.3	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	56.5	**Drivetrain Type:**	Rear Wheel
Wheelbase (in):	117.7	**Engine Size:**	85 kW Lithium-Ion Battery
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	416 @ 5000
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	416

Toyota Avalon Limited

Green Car Scores

Score For This Vehicle
72.02

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$40,445**
Price as Tested: **$42,494**

Cost per Point for this Vehicle
$590

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**17.0**
EPA Urban MPG:	**21**
EPA Highway MPG:	**31**
Auto Club Highest MPG:	**27.7**
Auto Club Average MPG:	**21.4**
Auto Club Lowest MPG:	**15.4**

Toyota has redesigned the Avalon, aiming to attract a younger demographic. Equipped with dynamic radar cruise control, automatic high beams, and a precollision system, our Toyota Avalon Limited was priced at over $42,000. Blind-spot monitoring and cross-traffic alert systems are standard. The Avalon Limited has great acceleration, handled well on the slalom course, and provides a smooth, comfortable ride. Interior room and cargo space are limited, however. Although it's rated at only 24 combined MPG, the Avalon Limited has good fuel economy for a mid- to full-sized nonhybrid sedan.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.69
Crashworthiness:	6.89
Visibility:	7.20
Slalom Handling:	5.82
Ride Quality:	7.33
Fuel Economy:	3.09
Interior Noise:	5.44
Acceleration:	7.07
Ease of Entry and Exit:	6.87
Interior Size:	5.84
Turning Circle:	1.34
Luggage Capacity:	2.43

Strengths and Weaknesses

Strong Points
- Dynamic radar (adaptive) cruise control
- Useful navigation system
- Bluetooth connectivity
- Quiet, comfortable ride

Weak Points
- Rear seats don't fold down
- Interior noise levels
- Wide center console limits front legroom
- Rear windows don't open fully

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3430	**Tire Manufacturer:**	Michelin P255/45R18
Exterior Length (in):	195.2	**Towing Cap. (lbs) W/WO Brakes**	1000/1000
Exterior Width (in):	72.2	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	111.0	**Engine Size:**	3.5L DOHC 24V V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	268 @ 6200
Restraint Type:	9 Air Bags or more		

Toyota Avalon XLE Touring Hybrid

Green Car Scores

Score For This Vehicle
75.27

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$38,045**
Price as Tested: **$38,045**

Cost per Point for this Vehicle
$505

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

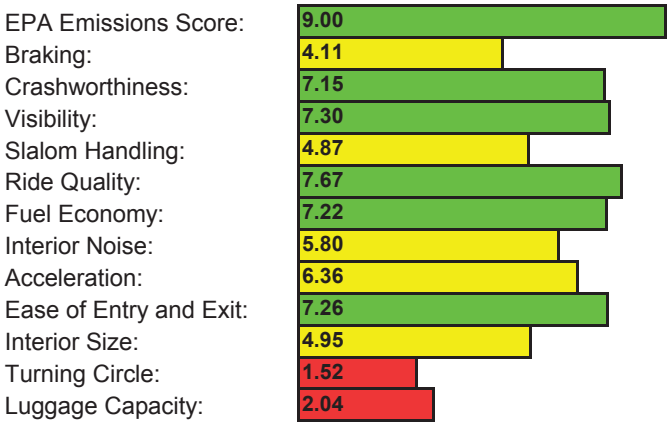
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**17.0**
EPA Urban MPG:	**40**
EPA Highway MPG:	**39**
Auto Club Highest MPG:	**32.3**
Auto Club Average MPG:	**32.1**
Auto Club Lowest MPG:	**31.9**

The Toyota Avalon Hybrid, redesigned for 2013, combines a 2.5-liter 4-cylinder gasoline engine with two electric motors and a CVT transmission to provide strong acceleration, excellent fuel economy (40 MPG), and low emissions (it's rated AT PZEV). The latest Avalon is a huge departure from previous versions. It's better looking inside and out, handles really well for a big car, is extremely quiet, and delivers a smooth, luxurious ride. Trunk space is reduced somewhat because of the hybrid battery pack, but it can still carry a lot of luggage. Our test car (XLE Touring trim level) was extremely well equipped; we liked the blind-zone monitor and backup camera with side-approach warning. If you're in the market for a reliable full-size car with excellent gas mileage, the Avalon Hybrid is worth a look.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Good fuel economy for a large car
- Certified as an AT PZEV
- Roomy interior
- Equipped with many comfort and convenience features, such as optional blind-zone monitor and rearview camera with side-approach warning

Weak points
- Rear seatback doesn't fold
- Vague steering feel
- High purchase price
- Small trunk compared with non-hybrid version
- Push-on/push-off parking brake
- Engine start/stop at idle and low speeds isn't smooth

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3620	**Tire Manufacturer:**	Michelin P215/55R17
Exterior Length (in):	195.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	72.2	**Transmission Type:**	CVT
Exterior Height (in):	57.5	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	111.0	**Engine Size:**	2.5L DOHC I4 Hybrid
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	156 @ 5700
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	105 kW @ 4500

Toyota Camry Hybrid LE

Green Car Scores

Score For This Vehicle
80.00

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$26,750
Price as Tested:	$26,750

Cost per Point for this Vehicle
$334

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	Unleaded Regular
Fuel Capacity (gal):	17.0
EPA Urban MPG:	43
EPA Highway MPG:	39
Auto Club Highest MPG:	28.1
Auto Club Average MPG:	28.1
Auto Club Lowest MPG:	28.1

MODEL YEAR TESTED - 2012

Some owners drive hybrids to make a statement, others to save fuel and be environmentally responsible. Camry Hybrid owners tend to be in the second group. The Camry Hybrid looks like any other Camry with the exception of its badging, but it gets 46 percent better overall fuel economy (41 MPG versus 28 MPG). The Camry Hybrid has an MSRP of about $27,000, so fuel savings (based on driving 15,000 mi/yr at $4/gal) recover the hybrid's $3,400 extra cost in about five years, quite a bit better than some other hybrids. Of course, better MPG also means lower CO2 emissions, so you can get traditional Camry reliability, save money on fuel, and help the planet all at the same time.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	5.19
Crashworthiness:	7.18
Visibility:	7.00
Slalom Handling:	6.94
Ride Quality:	6.92
Fuel Economy:	7.66
Interior Noise:	7.15
Acceleration:	6.36
Ease of Entry and Exit:	7.02
Interior Size:	5.71
Turning Circle:	2.01
Luggage Capacity:	1.87

Strengths and Weaknesses

Strong Points

- Excellent MPG
- Certified as an AT PZEV
- Tilt/telescopic steering wheel can be positioned correctly for virtually all drivers
- Roomy backseat
- The most popular sedan in the U.S. goes green
- Good acceleration for a nonperformance car

Weak Points

- Rear seats fold down, but with only a "pass-through" opening
- Smallish trunk
- When you use the remote unlock, if you don't open a door within 30 seconds, the doors relock
- Poor visibility just below the rear window

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3640	**Tire Manufacturer:**	Michelin P205/65R16
Exterior Length (in):	189.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	71.7	**Transmission Type:**	CVT
Exterior Height (in):	57.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	109.3	**Engine Size:**	2.5L I4 Hybrid
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	156 @ 5700
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	105 kW @ 4500 RPM

PZEV

Toyota Camry XLE

Green Car Scores

Score For This Vehicle
70.71

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$29,510**
Price as Tested: **$29,510**

Cost per Point for this Vehicle
$417

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**17.0**
EPA Urban MPG:	**25**
EPA Highway MPG:	**35**
Auto Club Highest MPG:	**31.5**
Auto Club Average MPG:	**29.0**
Auto Club Lowest MPG:	**24.5**

MODEL YEAR TESTED - 2012

How do you improve the best-selling car in the U.S. in today's environmentally conscious times? By reducing emissions to the PZEV level. Nothing suffers, and you still have the comfort, value, performance, and reputation for reliability Camry is known for. The trim level on our test car was XLE, and it was loaded - equipped with the optional sound system, navigation, and convenience and leather packages. Overall, we averaged 29 MPG during our testing. For many people, the Camry epitomizes the midsized sedan, a category often thought of as boring. But the fact is, this latest Camry is a very solid, satisfying car to drive.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.68
Crashworthiness:	6.63
Visibility:	7.10
Slalom Handling:	6.31
Ride Quality:	6.88
Fuel Economy:	4.23
Interior Noise:	4.21
Acceleration:	5.49
Ease of Entry and Exit:	6.87
Interior Size:	5.95
Turning Circle:	2.04
Luggage Capacity:	2.32

Strengths and Weaknesses

Strong Points

- Good MPG (28) for a midsized nonhybrid sedan
- Comfortable, roomy, well-laid-out interior
- Test vehicle was well equipped. However, that resulted in an MSRP near $30,000.
- PZEV available

Weak Points

- Engine is buzzy when pushed hard
- Push on/push off parking brake is inconvenient
- Bland styling

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3240	**Tire Manufacturer:**	Bridgestone P215/55R17
Exterior Length (in):	189.2	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	71.7	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.9	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	109.3	**Engine Size:**	2.5L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	178 @ 6000
Restraint Type:	9 Air Bags or more		

Toyota Corolla LE Eco

Green Car Scores

Score For This Vehicle
69.60

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$19,510**
Price as Tested: **$19,735**

Cost per Point for this Vehicle
$284

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**13.2**
EPA Urban MPG:	**30**
EPA Highway MPG:	**42**
Auto Club Highest MPG:	**42.0**
Auto Club Average MPG:	**36.5**
Auto Club Lowest MPG:	**34.3**

MODEL YEAR TESTED - 2014

The Corolla has been a stalwart for Toyota for many years, the standard for quality in a compact car. The 2014 model was significantly redesigned but still lives up to this reputation, although it is now officially designated "midsized." It gets excellent mileage (we averaged over 36 MPG, including a day of testing at the Auto Club Speedway), and our test car had standard and optional equipment that made it seem more like a luxury car than a high-MPG compact. It was easy to drive, smooth, and drama-free. Given Toyota's reputation for reliability, the Corolla is a wise choice if you're in the market for a smaller car - unless you or your passengers are taller than the norm.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.95
Crashworthiness:	6.10
Visibility:	6.80
Slalom Handling:	5.02
Ride Quality:	6.91
Fuel Economy:	5.81
Interior Noise:	4.96
Acceleration:	4.82
Ease of Entry and Exit:	6.32
Interior Size:	4.94
Turning Circle:	3.12
Luggage Capacity:	1.85

Strengths and Weaknesses

Strong Points
- Fuel economy (35 MPG combined)
- Easy to drive
- Well equipped for under $20,000, including Bluetooth and tilt/telescopic steering wheel
- Bright LED headlights

Weak Points
- Noisy
- Limited rear visibility, although rearview camera helps when backing up
- Difficult backseat entry/exit
- Lacks rear center armrest
- Low front nose hits curbs

Vehicle Specifications

Midsized 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2860	**Tire Manufacturer:**	Hankook P195/65R15
Exterior Length (in):	182.6	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.9	**Transmission Type:**	CVT
Exterior Height (in):	57.3	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	1.8L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	140 @ 6100
Restraint Type:	9 Air Bags or more		

HYBRID

Toyota Highlander Hybrid Limited

Green Car Scores

Score For This Vehicle
74.73

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$47,300**
Price as Tested: **$50,650**

Cost per Point for this Vehicle
$678

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

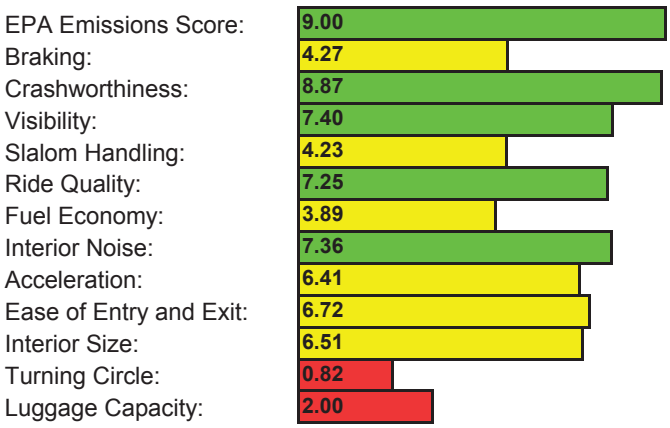
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**17.2**
EPA Urban MPG:	**27**
EPA Highway MPG:	**28**
Auto Club Highest MPG:	**25.8**
Auto Club Average MPG:	**21.3**
Auto Club Lowest MPG:	**19.2**

MODEL YEAR TESTED - 2014

Why do we love SUVs? Because they have lots of room, the ability to perform many tasks, and because they're perceived as "tough" and "safe." Why do we hate SUVs? Because they can be egregious resource wasters or gas hogs. The Toyota Highlander Hybrid can silence these critics. It performs like the SUVs we love, but still gets better gas mileage (28) than many sedans, and it's not so huge as to appear arrogant, like some others. The safety and toughness of the Highlander is more than skin deep: It scores an overall 5-star rating from NHTSA and comes equipped with front, side, driver's knee, and 3-row side curtain airbags, ABS, and adaptive cruise control. The Highlander is a rare example of being able to "have your cake and eat it, too."

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Roomy, adaptable interior
- Loaded with safety/convenience features, including adaptive cruise control, rearview camera, and-blind zone monitor
- Comfortable
- Good mpg for an SUV (28 MPG)
- California versions meet SULEV emissions

Weak Points

- High purchase price
- Body roll and sloppy handling in slalom course
- Dash controls too far away from shorter drivers
- Tall sill impedes entry and exit
- Vague steering feel with some torque steer
- Large turning circle

Vehicle Specifications

Standard 4-door SUV

Number of Passengers (F/R):	2/2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	4861	**Tire Manufacturer:**	Toyo P245/55R19
Exterior Length (in):	191.1	**Towing Cap. (lbs) W/WO Brakes**	3500
Exterior Width (in):	75.8	**Transmission Type:**	CVT
Exterior Height (in):	70.1	**Drivetrain Type:**	All Wheel - Full Time
Wheelbase (in):	110.0	**Engine Size:**	3.5L DOHC 24V V6
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	231 @ 5800
Restraint Type:	9 Air Bags or more		

Toyota Prius

Green Car Scores

Score For This Vehicle
75.56

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$30,800**
Price as Tested: **$35,345**

Cost per Point for this Vehicle
$468

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

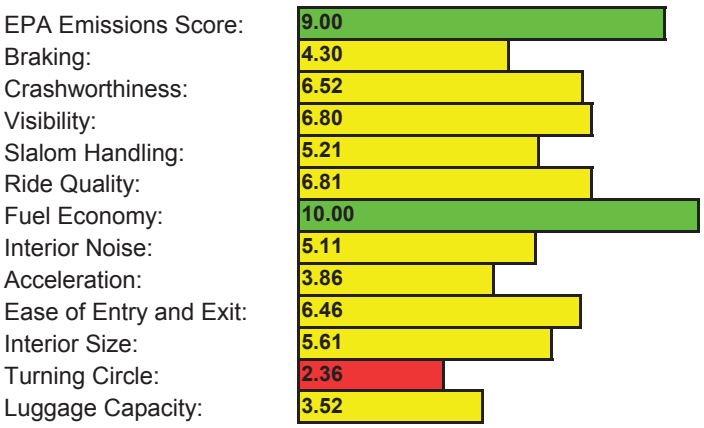
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**11.9**
EPA Urban MPG:	**51**
EPA Highway MPG:	**48**
Auto Club Highest MPG:	**47.3**
Auto Club Average MPG:	**43.9**
Auto Club Lowest MPG:	**40.8**

MODEL YEAR TESTED - 2013

The Toyota Prius sets the stage for the world of hybrid vehicles. As its technology has improved, the price has dropped, making it more affordable than the first generation. Our test vehicle was equipped with a lot of nice amenities, including a lane-departure-assist system. But the Prius isn't perfect. When the vehicle is in reverse, there is an incessant beeping sound inside the vehicle, and the design of the hood and rear deck limits visibility. But there's no doubt the Prius gets great mileage; we averaged 44 MPG. It's worth checking out the hybrid that started it all.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points
- Excellent MPG
- Adaptive cruise control
- Lane-keeping assist
- Sirius XM Radio and navigation
- Bluetooth connectivity

Weak Points
- Underpowered
- High rear deck limits rearward visibility
- Lack of instrumentation
- Road and tire noise
- Lacks interior storage

Vehicle Specifications

Midsized 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3160	**Tire Manufacturer:**	Toyo P215/45R17
Exterior Length (in):	176.4	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	68.7	**Transmission Type:**	CVT
Exterior Height (in):	58.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	1.8L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	134 @ 5200
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	60 kW

Toyota Prius c Three

Green Car Scores

Score For This Vehicle
73.34

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$21,635**
Price as Tested: **$23,245**

Cost per Point for this Vehicle
$317

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

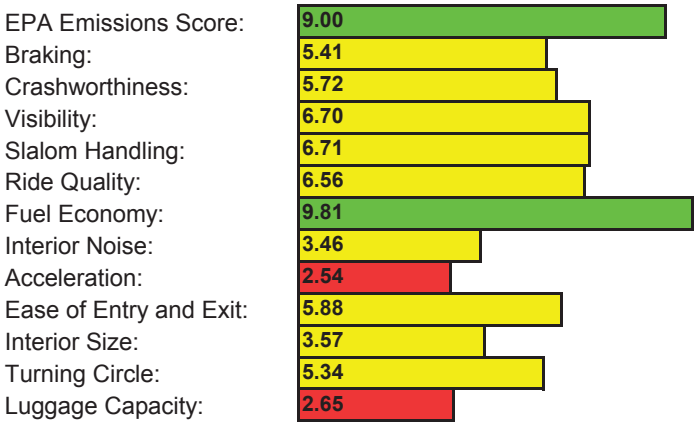
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**9.5**
EPA Urban MPG:	**46**
EPA Highway MPG:	**53**
Auto Club Highest MPG:	**67.6**
Auto Club Average MPG:	**47.7**
Auto Club Lowest MPG:	**32.6**

MODEL YEAR TESTED - 2012

The 2012 Toyota Prius c is a compact 5-door hatchback variant on the Prius theme. It has a smaller, 1.5-liter engine and a lower-output electric motor (73 hp versus 80 hp) that work together in a similar fashion to the standard Prius. The results are that both models average 50 MPG, but the c does better in the city and worse on the highway than the regular Prius. The c has a lower price; too, so overall costs should be less. If environmentalism and low fuel expenses are your thing and you can live with the drawbacks of a compact car, the Prius c should be on your short list.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Excellent fuel economy
- Nicely laid out dash with real knobs
- Hybrid technology and image
- Satellite radio and Bluetooth
- Easy to drive
- Low emissions (SULEV II)

Weak Points

- Underpowered
- Entry and exit difficult because of limited headroom
- Lack of traditional engine gauges
- Small trunk
- Poor visibility to the rear
- Cramped rear seat

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2580	**Tire Manufacturer:**	Goodyear P175/65R15
Exterior Length (in):	157.3	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	66.7	**Transmission Type:**	CVT
Exterior Height (in):	57.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	100.4	**Engine Size:**	1.5L DOHC I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	73 @ 4800
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	45 kW

Toyota Prius Plug-in

Green Car Scores

Score For This Vehicle
75.73

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$40,320**
Price as Tested: **$40,545**

Cost per Point for this Vehicle
$535

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**10.6**
EPA Combined Electric:	**95**
EPA Urban/Highway Gas:	**51/49**
Auto Club Highest MPG:	**59.4**
Auto Club Average MPG:	**48.3**
Auto Club Lowest MPG:	**41.7**

Toyota's Prius has become an icon, the quintessential hybrid. For 2012, Toyota rolled out a version that can be plugged in to recharge a larger battery pack, allowing for 10-to-15 miles of electric-only operation (at a much lower per-mile cost than on gasoline). The price for our 2013 test car (over $40,000) seems steep, but federal and state tax incentives make it more affordable. This is an interesting car; it looks like a Prius, but with better MPG; and it operates as a zero-emission pure EV part of the time and just like a traditional Prius (efficient, quiet, and without drama) the rest of the time. This might be just what a hybrid should be.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	4.82
Crashworthiness:	6.60
Visibility:	6.80
Slalom Handling:	3.54
Ride Quality:	6.78
Fuel Economy:	10.00
Interior Noise:	5.67
Acceleration:	3.85
Ease of Entry and Exit:	6.48
Interior Size:	4.79
Turning Circle:	3.88
Luggage Capacity:	3.52

Strengths and Weaknesses

Strong Points
- Meets AT PZEV emission standards
- Excellent fuel efficiency; uses inexpensive electricity for short trips
- Well equipped, including adaptive cruise control, LED headlights, navigation, and satellite radio
- Fully automatic power window controls
- Qualifies for solo carpool lane access in California

Weak Points
- Underpowered, especially in EV mode
- Small trunk
- Poor visibility, especially to the rear
- Lack of traditional instrumentation
- No trunk release in interior or on key fob

Vehicle Specifications

Midsized 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3220	**Tire Manufacturer:**	Yokohama P195/65R15
Exterior Length (in):	176.4	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	68.7	**Transmission Type:**	CVT
Exterior Height (in):	58.7	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	106.3	**Engine Size:**	1.8L DOHC 16V VVT-i I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	98 @ 5200
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	80 HP (60 kW)

Toyota Prius v

Green Car Scores

Score For This Vehicle
76.08

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$27,925**
Price as Tested: **$27,925**

Cost per Point for this Vehicle
$367

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

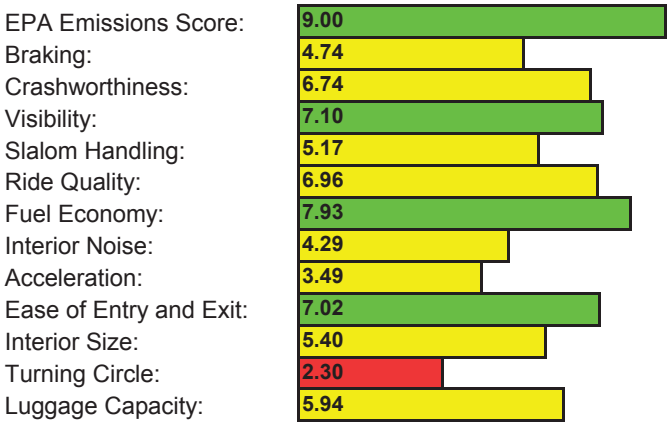
Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**11.9**
EPA Urban MPG:	**44**
EPA Highway MPG:	**40**
Auto Club Highest MPG:	**42.8**
Auto Club Average MPG:	**38.9**
Auto Club Lowest MPG:	**36.0**

MODEL YEAR TESTED - 2012

For 2012, Toyota decided to expand its popular Prius brand with the introduction of several variants on the basic theme. The company literally "raised the roof" to turn the Prius sedan into the Prius V, a midsized five-passenger station wagon that can compete with small CUVs, too. The V uses the same sophisticated hybrid powertrain, which mates a 1.8-liter 4-cylinder engine with an 80-hp electric motor (134 hp total) to extract the maximum efficiency of both, yielding 42 MPG overall. The Prius V is equipped with many advanced safety and convenience technologies, and is certified as a SULEV. Given its extra space and interior flexibility, we expect the Prius V to be quite popular.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- Excellent fuel economy
- Low emissions (SULEV 2)
- Roomy and flexible interior
- Stereo sound, rearview camera, and voice-operated navigation
- Hybrid technology/appeal
- Comfortable ride

Weak Points

- Underpowered
- Small sun visors
- Numb driving dynamics
- Engine buzzy when pushed hard
- Torque steer

Vehicle Specifications

Midsized Station Wagon

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3320	**Tire Manufacturer:**	Yokohama P205/60R16
Exterior Length (in):	181.7	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	69.9	**Transmission Type:**	CVT
Exterior Height (in):	62.0	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	109.4	**Engine Size:**	1.8L DOHC 16V I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	98 @ 5200
Restraint Type:	9 Air Bags or more	**Electric Motor Horsepower:**	80

Toyota RAV4 EV

Green Car Scores

Score For This Vehicle
84.52

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price:	$49,800
Price as Tested:	$49,800

Cost per Point for this Vehicle
$589

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	Electricity
Battery Capacity (KWH):	41.8
Equivalent EPA Urban MPG:	78
Equivalent EPA Highway MPG:	74
Charger Input (VAC):	110
Charger Charge Time (Hours):	44
Charger #2 Input (VAC):	240
Charger #2 Charge Time (Hours):	12

MODEL YEAR TESTED - 2012

Toyota has partnered with Tesla, the startup EV manufacturer, to produce the electric powertrain for its new RAV4 EV. The result is an impressive fully electric compact crossover, one of our top-scoring green cars. The vehicle we tested, a preproduction prototype, had excellent acceleration, zero tailpipe emissions, was extremely quiet, and had a real 100-mile-plus range - plus the roominess, flexibility, and good visibility of an SUV. The cost to purchase is steep - about $50,000 before incentives - but since electricity is so much less expensive than gas on a per-mile basis, it has much lower operating costs than the gas-powered RAV4.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	10.00
Braking:	2.62
Crashworthiness:	7.23
Visibility:	7.30
Slalom Handling:	5.14
Ride Quality:	7.08
Fuel Economy:	10.00
Interior Noise:	4.58
Acceleration:	7.75
Ease of Entry and Exit:	6.76
Interior Size:	6.28
Turning Circle:	3.38
Luggage Capacity:	6.40

Strengths and Weaknesses

Strong Points
- Zero-emissions vehicle
- Quiet and smooth
- Powerful, with excellent acceleration
- Large, easy-to-read navigation screen
- Typical utility of a compact SUV
- Rear seats recline and slide fore and aft
- Low cost of electricity compared to gasoline

Weak Points
- Radio controls (no knobs)
- Torque steer
- Price ($50,000 before government incentives)
- Long 110-volt recharge time
- Cargo in trunk is exposed
- Range anxiety (100 miles+)

Vehicle Specifications

Small 4-door SUV

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	4040	**Tire Manufacturer:**	Yokohama P225/65R17
Exterior Length (in):	180.1	**Towing Cap. (lbs) W/WO Brakes:**	Not Recommended
Exterior Width (in):	71.5	**Transmission Type:**	Auto 1 Speed
Exterior Height (in):	66.3	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.7	**Engine Size:**	AC Induction Motor
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	154
Restraint Type:	8 Air Bags	**Electric Motor Horsepower:**	154

Toyota Yaris SE

Green Car Scores

Score For This Vehicle
64.90

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$16,400**
Price as Tested: **$17,340**

Cost per Point for this Vehicle
$267

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Regular**
Fuel Capacity (gal):	**11.1**
EPA Urban MPG:	**30**
EPA Highway MPG:	**38**
Auto Club Highest MPG:	**39.0**
Auto Club Average MPG:	**34.6**
Auto Club Lowest MPG:	**28.5**

MODEL YEAR TESTED - 2012

Toyota's entry in the current crop of subcompacts for the U.S. market is the Yaris. We tested an SE 5-door hatchback with a 1.5-liter 4-cylinder engine and a 5-speed manual transmission. This combination achieved almost 35 MPG, handled well in our slalom test, and had excellent ABS brakes. It is a subcompact, so it suffers some of the weaknesses typical of the genre: small trunk, excessive road noise, and cramped rear seats. Still, at $17,340 (fairly loaded), and with Toyota's reputation for reliability, the Yaris should prove to be a quality commuter car and a good value.

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	7.00
Braking:	5.75
Crashworthiness:	5.44
Visibility:	6.80
Slalom Handling:	6.81
Ride Quality:	6.46
Fuel Economy:	5.46
Interior Noise:	3.39
Acceleration:	4.28
Ease of Entry and Exit:	5.94
Interior Size:	3.52
Turning Circle:	1.69
Luggage Capacity:	2.35

Strengths and Weaknesses

Strong Points
- Very good fuel economy
- Easy-to-use manual transmission and clutch
- Economical purchase price
- Easy to park because of small exterior size
- Nimble handling

Weak points
- Cramped rear seat
- No center armrests in front or rear
- Excessive road noise
- Small trunk (but rear seats fold down)
- Headrests obstruct rear visibility

Vehicle Specifications

Compact 5-door Hatchback

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	2380	**Tire Manufacturer:**	Bridgestone P195/50R16
Exterior Length (in):	154.7	**Towing Cap. (lbs) W/WO Brakes**	700/700
Exterior Width (in):	66.7	**Transmission Type:**	Manual 5 Speed
Exterior Height (in):	59.4	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	98.8	**Engine Size:**	1.5L DOHC 16V I4 VVT-i
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	106 @ 6000
Restraint Type:	9 Air Bags or more		

Volkswagen Jetta Hybrid SEL Premium

Green Car Scores

Score For This Vehicle
76.19

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$31,180**
Price as Tested: **$32,010**

Cost per Point for this Vehicle
$420

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

Fuel Type:	**Unleaded Premium**
Fuel Capacity (gal):	**11.8**
EPA Urban MPG:	**42**
EPA Highway MPG:	**48**
Auto Club Highest MPG:	**45.6**
Auto Club Average MPG:	**40.0**
Auto Club Lowest MPG:	**38.3**

The Jetta Hybrid combines European styling with great gas mileage. It's very well equipped and well priced at $31,000. Amenities include heated front seats, a rearview camera, and a Fender sound system. Our test vehicle averaged 40 MPG. The downside is that the Jetta Hybrid requires premium fuel, minimizing the savings achieved with high fuel economy. However, if compared to a nonhybrid European vehicle in the same category, the Jetta Hybrid is a better buy.

MODEL YEAR TESTED - 2013

Test Data

Test Vehicle Scores (0 to 10 Points)

EPA Emissions Score:	9.00
Braking:	4.38
Crashworthiness:	6.28
Visibility:	6.80
Slalom Handling:	6.78
Ride Quality:	7.21
Fuel Economy:	6.59
Interior Noise:	6.46
Acceleration:	5.77
Ease of Entry and Exit:	6.27
Interior Size:	5.11
Turning Circle:	4.02
Luggage Capacity:	1.52

Strengths and Weaknesses

Strong Points
- Hybrid *and* certified PZEV
- Styling
- Good power
- Heated seats
- Power-cooled glove box

Weak Points
- Requires expensive premium fuel
- Compromised visibility
- Insufficient trunk space
- Not enough gauges/instrumentation
- Awkward-to-use radio controls

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3350	**Tire Manufacturer:**	Continental P205/55R16
Exterior Length (in):	182.8	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.0	**Transmission Type:**	Auto 7 Speed
Exterior Height (in):	57.2	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.4	**Engine Size:**	1.4L DOHC I4 Turbo
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	170 @ 5000
Restraint Type:	8 Air Bags		

Volkswagen Jetta TDI Premium Nav

Green Car Scores

Score For This Vehicle
71.57

Highest Scoring Green Car
94.30

Lowest Scoring Green Car
60.11

Vehicle Price

Base Price: **$27,415**
Price as Tested: **$28,235**

Cost per Point for this Vehicle
$394

Highest Green Car Cost/Point
$1,769

Lowest Green Car Cost/Point
$229

Fuel Economy

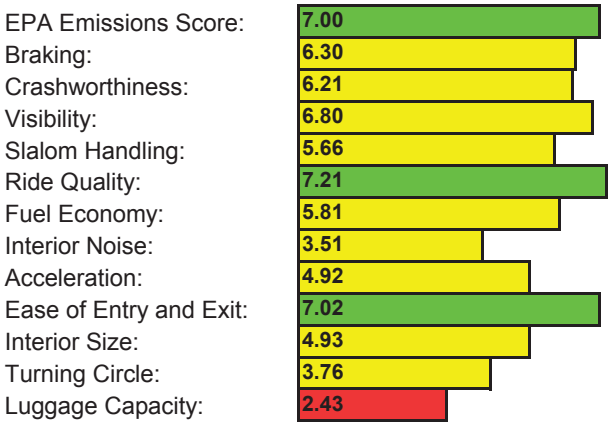
Fuel Type:	**Diesel #2**
Fuel Capacity (gal):	**14.5**
EPA Urban MPG:	**30**
EPA Highway MPG:	**42**
Auto Club Highest MPG:	**35.0**
Auto Club Average MPG:	**30.4**
Auto Club Lowest MPG:	**26.9**

MODEL YEAR TESTED - 2014

Volkswagen's latest version of its popular Jetta is more mainstream both in style and performance; the automaker may be trading off the passion some owners have for the previous version to appeal to a larger market. This is a car that excels at little, but on the other hand has no obvious weaknesses (witness all the yellow bars below). We tested a Jetta TDI Premium with navigation, a 6-speed automatic transmission, and a 2.0-liter, 4-cylinder turbo-diesel engine. Like most modern turbo diesels, it's hard to tell there's a diesel under the hood. The engine is smooth and responsive, except for some turbo lag at wide-open throttle. In sum, the Jetta TDI is a well-equipped car that gets 34 MPG and scores 5 stars overall on NHTSA's new crash-test ratings.

Test Data

Test Vehicle Scores (0 to 10 Points)



Strengths and Weaknesses

Strong Points

- High-fidelity Fender sound system with Bluetooth, satellite radio, and navigation
- Good fuel economy
- Useful rearview camera
- Comfortable to drive
- Good-sized trunk for a compact car

Weak Points

- Turbo lag
- You have to hold the start button down until the engine starts
- Poor brake pedal feel/controllability during medium-effort stops
- Limited rear visibility

Vehicle Specifications

Compact 4-door Sedan

Number of Passengers (F/R):	2/3	**Warranty (Months/Miles):**	36/36,000
Curb Weight (lbs):	3300	**Tire Manufacturer:**	Continental P225/45R17
Exterior Length (in):	182.0	**Towing Cap. (lbs) W/WO Brakes**	Not Recommended
Exterior Width (in):	70.0	**Transmission Type:**	Auto 6 Speed
Exterior Height (in):	57.2	**Drivetrain Type:**	Front Wheel
Wheelbase (in):	104.4	**Engine Size:**	2.0L Clean Diesel I4
Anti-lock Braking System:	4 Wheel ABS	**Horsepower @ RPM:**	140 @ 4000
Restraint Type:	8 Air Bags		

Appendix

Common automotive acronyms and terms

A

ABS. *Antilock brake systems* typically use speed sensors at each wheel to tell a vehicle's computer how much brake force to apply to prevent the wheel from locking up under hard braking, which could result in the vehicle skidding out of control. ABS brakes enable a driver to maintain control and steer around obstacles while applying the brakes as hard as possible. The proper technique for ABS brakes is keeping a hard, constant pressure on the brake pedal rather than pumping them.

ACC. *Adaptive cruise control* uses radar, a light-based unit, or cameras to automatically adjust a car's speed to maintain a safe following distance from the car ahead.

AWD. *All-wheel drive*, like 4WD (4-wheel drive), provides better traction on slippery or uneven terrain than FWD (front-wheel drive) or RWD (rear-wheel drive).

B

BLIS. *Blind spot information system* or blind spot detection (BSD) illuminates a light, often in the side-view mirror, indicating that it's unsafe to make a lane change.

C

CAFE. *Corporate average fuel economy* refers to federal regulations or standards designed to improve the country's overall fuel economy for passenger vehicles. Large automakers' passenger cars and light trucks sold in the U.S. have to meet, on average, a specified minimum MPG figure or the automaker must pay a penalty. Periodically, the government raises CAFE standards. By 2025, cars and light trucks will have to achieve a real-world average of 40 MPG.

CNG, LNG, NGV. CNG is *compressed natural gas* (mostly methane), the same substance that's piped into homes. Natural gas is compressed to either 3,000 psi or 3,600 psi when used in motor vehicles. LNG is *liquefied natural gas*, which is cryogenically chilled to temperatures as low as -275° F to liquefy it, at which point it occupies 1/600 of its volume as a gas, making efficient storage and transportation possible. NGV stands for *natural gas vehicle*, one that has been designed or converted to use CNG or (less often) LNG for its fuel source.

CPO. A *certified preowned* car is a late-model used car that's been spiffed up to look and drive like new, and then given an extended warranty backed by the automaker.

CVT. Using pulleys connected by a belt or chain instead of conventional gears, a *continuously variable transmission* is a smoother operating and more fuel-efficient type of automatic transmission.

D

DFI. *Direct fuel injection* is a more efficient type of fuel injection (see EFI) that squirts fuel into the engine's cylinders rather than into the manifold.

DOD. To reduce fuel use, a computer deactivates some of the cylinders in a *displacement-on-demand* engine when it's cruising along and not working hard.

DRL. Many newer vehicles have *daytime running lights*, which are reduced-intensity headlights that make cars more visible to oncoming traffic, therefore making daytime driving safer. Vehicles with DRLs but without automatic headlamps generally still need to have their normal "nighttime" headlamps switched on manually.

Dub. A slang term for *20-inch custom wheels* normally coupled with low-profile tires, which give a radical, custom look to a vehicle. Larger, 22-inch wheels are called "Dub two's," and

so on. These larger wheels and tires can degrade ride quality; however, low-profile performance tires may offer an improvement in handling over stock tires if the overall wheel height is close to OEM height. If they're much more than an inch or two taller than stock equipment, however, handling may suffer because of the increased mass of the wheel/tire unit.

E

E85, M85, FFV. E85 is *85 percent ethanol* or *grain alcohol*; M85 is 85 *percent methanol* or *wood alcohol*. E85 or M85 fuel uses 15 percent gasoline, rather than 100 percent alcohol, for two reasons: Gasoline enables the vehicle to start more easily in cold temperatures. Also, alcohol burns with an invisible flame; adding gasoline provides a bright orange flame and thick black smoke, which, in case of a collision or accident, alerts drivers, passengers, and emergency responders to the presence of fire. FFV refers to a *flexible-fuel vehicle*, which is capable of running on regular gasoline as well as E85.

EFI. *Electronic fuel injection* has relegated the old-fashioned carburetor to the junkyard, where it joins the 8-track stereo, bias-ply tires, and the necker knob.

EBD. *Electronic brake-force distribution* improves brake performance by varying pressure between the front and rear wheels according to the car's load and speed.

ESC. *Electronic stability control* refers to a variety of systems designed to improve a vehicle's handling or regain driver control. ESC uses antilock brake sensors, braking capability, and other sensors to help the driver maintain directional control of the vehicle. Sensors monitor individual wheel speed, the driver's intended path, and cornering force, among other things. From these inputs, ESC determines if the car is going in the direction the driver intends. If the car begins to slide or spin, ESC temporarily applies brake pressure at one or more wheels and/or reduces engine power to help restore the car to the driver's intended path. Some advanced ESC systems detect possible rollovers and operate to help prevent that from happening.

EV. A *vehicle powered solely by electricity* (occasionally referred to as a BEV, or battery electric vehicle). Its distinctive components include one or more electric motors, a battery pack, and a controller.

G

GGE. GGE refers to *gasoline gallon equivalents*. Each fuel has a different energy density, and the most common way to measure how much petroleum or gasoline is displaced by using an alternative fuel is to apply a conversion factor to it. This is done by converting the energy density of an alternative-fuel "unit" to the energy density in a gallon of gasoline. The GGE conversion factor is useful in calculating the "fuel economy" of an alternative-fueled vehicle.

GVWR. This term refers to *gross vehicle weight rating*. It refers to the maximum allowable total weight, including the weight of the vehicle, fuel, passengers, and cargo. The GVWR is usually found on the driver's door or the lower door pillar.

H

HID. *High-intensity discharge* headlights send a high-voltage discharge through a mix of special gases, including Xenon, in a micro-discharge bulb to produce an extra-white (or even bluish) light that's three times brighter than a conventional halogen headlight but is more tightly controlled, with a distinct edge to the illumination area. HID headlights enable drivers to see objects more clearly and at greater distances. They're becoming increasingly available as expanded demand and production drives prices down.

I

ICE. *Internal combustion engine*, powered by such fuels as gasoline, diesel, compressed natural gas, propane, hydrogen, flex-fuel, ethanol, or biodiesel.

M

MPG. *Miles per gallon* is a number that indicates the vehicle distance traveled per gallon of fuel used, typically categorized as "city," "highway," and "combined" driving. The website fueleconomy.gov reports the MPG of recent car models. A related term, MPGe, means miles per gallon equivalent, and is used by EPA to compare the energy consumption of alternative-fuel vehicles such as EVs with the fuel economy of vehicles powered by conventional internal-combustion engines (ICEs).

MSRP. *Manufacturer suggested retail price*—the key word being "suggested," because a dealer is legally free to sell a car at a lower or higher price.

N

NHTSA. Pronounced "nit-sa," the *National Highway Traffic Safety Administration* is a federal agency that sets car safety standards, issues recalls, and performs crash tests.

O

OBD. *On-board diagnostics* refers to a mandated diagnostic system that monitors whether a vehicle's emission-control system is operating correctly. Early versions of OBD illuminated a malfunction indicator light (MIL) on the dashboard if it detected a problem, often using the terms "service engine soon" or "check engine soon." OBD2 is a computer-based system built into all 1996 and later passenger vehicles and light-duty trucks that enables a technician to diagnose problems with a vehicle's engine or emission-control system. It provides a standardized way to locate problems by reading diagnostic trouble codes and operating data.

OEM. This term means *original equipment manufacturer*, the manufacturer of record for a fully assembled vehicle (e.g., General Motors, Ford, or Toyota). Many vehicle parts are built by external suppliers, but the OEM is responsible for the final production of the vehicle.

P

P285/35ZR20. This series of letters and numbers, found on a tire's sidewall, refers to the following *tire characteristics*: The first letter indicates the tire's intended use or vehicle class; the next numbers indicate the tire's width in millimeters; the numbers following the slash are the ratio of the tire sidewall height compared to the width, expressed as a percent; the next two letters refer to the tire's speed rating (S, T, H, or Z, for example) and tire fabric construction (bias, diagonal, or radial); the final two digits refer to the wheel diameter.

Parallel Hybrid. In a parallel hybrid drivetrain, the gasoline engine and electric motor both create power to turn the car's wheels, either independently or together. The battery pack is recharged by regenerative braking, coasting, and the electric motor.

PCM. *Powertrain control module* is a computer that manages the engine, transmission, and other items for maximum fuel economy and performance with minimum emissions.

PHEV. A *plug-in hybrid electric vehicle* is a hybrid vehicle with batteries that can be recharged by connecting the vehicle to an external electric power source, typically at a lower cost than by running the vehicle's gasoline engine. These vehicles can operate on battery power for a significant portion of their driving range before they must switch over to conventional hybrid mode (i.e., using both electricity and a gasoline engine). This configuration overcomes concerns about the limited driving range of pure battery-electric vehicles. A PHEV's overall fuel economy can be significantly higher than that of a conventional hybrid.

R

RAP. *Retained accessory power* lets you operate the radio or power windows for a short time after you shut off the engine.

S

Series Hybrid. In a series hybrid, only energy from the electric motor directly turns the car's wheels. This energy is supplied either from a battery pack, from a generator that's powered by an internal-combustion engine, or both. The battery pack can be recharged from regenerative braking and from the gasoline engine and generator.

SRS. *Supplemental restraint system* refers to air bags that supplement conventional seatbelts as safety devices. During a frontal crash, the air bags inflate rapidly; when the driver or passengers are thrown forward, they're met by a fully inflated air bag, which absorbs energy and helps keep them from colliding with the vehicle's interior. First-generation airbags used sensors to "decide" when to activate; they deployed at a single level of force, sometimes causing injuries or even fatalities to older, smaller, or frail occupants. The shortcomings of first-generation air bags led to the development of second-generation air bags, which use additional sensors to take into account an occupant's size, weight, and the severity of the impact, and adjust the speed and force of deployment accordingly. Side-impact air bags inflate for side impacts, and side curtain air bags above the side windows help protect an occupant's head; in the case of a rollover accident, they stay inflated in case the vehicle rolls over multiple times. Some vehicles also have a knee bag under the steering column, which helps protect the driver's feet and legs and also helps to keep the driver in a normal driving position, so they can maintain some level of control over the vehicle after a crash.

T

10W–30 or 5W–30. These numbers refer to *oil grade and viscosity (weight).* The manufacturer's recommendation for the type of oil to use in your vehicle is in your owner's manual. Multigrade oil designations include two numbers—for example, 10W–30. The first number (10) means that an engine can pump this grade of oil as easily as it can a single-grade SAE 10 oil. (W means winter, not weight.) It's easier for an engine to pump 5W, a "thinner" oil, at a given temperature than it is to pump 10W. The second number (30) means that the viscosity of this multigrade oil at a 100°C (212°F) operating temperature is equivalent to the viscosity of a single-grade SAE 30 oil at the same temperature.

TCS. A *traction control system* uses the same wheel-speed sensors as antilock brakes, with additional electronic controls to sense the speed of each drive wheel. It then applies braking force and/or reduces power to the drive wheel(s) to prevent wheel spin and the loss of traction on slick or loose surfaces. Some sophisticated all-wheel-drive vehicles have advanced systems that supply power to only one wheel and simultaneously apply braking force to the others in an attempt to maintain traction when needed. Traction control does not give a vehicle more traction; it simply prevents the drive wheels from spinning.

V

V8, V6, I4. These terms refer to a *vehicle's engine configuration* and number of cylinders. A V engine has two banks of cylinders (typically three or four cylinders per bank) offset by 60 degrees or 90 degrees from each other. An "I' engine configuration has the individual cylinders in a vertical line, or "inline."

VIN. This 17-digit number is a car's unique *vehicle identification number*, a vehicle's serial number. The VIN is broken down into groups of numbers and letters, as follows: the first three are the manufacturer identifier; the next five are vehicle attributes (body style, engine, model, series, etc.); the next three are the check digit, model year, and assembly plant; and the remaining six characters identify a specific vehicle that came off the assembly line.

VSS. *Variable suspension system* refers to a vehicle that has a suspension system (springs, shock absorbers, and linkages) that vary in stiffness and ride height. Fully active suspensions electronically monitor vehicle conditions and modify suspension settings in real time to directly control the motion of the car.

W

VVT. *Variable valve timing* refers to an enhanced engine valvetrain configuration in use in many of today's automobiles. VVT allows the lift, duration, or timing (any or all of these) of the intake and/or exhaust valves to be changed during engine operation to improve fuel economy and engine power and lower emissions.

Z

ZEV, PZEV, AT-PZEV, SULEV, ULEV, LEV. *Emission certification levels* for California and other states that have adopted California's emission standards:

ZEV = Zero-emission vehicle. A vehicle that produces no harmful emissions. Currently the only technologies that can meet this standard are battery-electric vehicles (EVs) and vehicles powered by hydrogen fuel cells.

PZEV = Partial-zero-emission vehicle. These vehicles produce only miniscule amounts of harmful (smog-forming) pollutants from the tailpipe and are certified to produce no emissions from fuel evaporation. The tailpipe standards have been set by the California Air Resources Board (CARB) to be equivalent to the emissions caused by electricity generation needed to charge a battery-electric car. This level is based on the relatively clean mix of electricity-generation sources (natural gas, hydro, nuclear, and renewable) in California. For other regions, where electricity is not as "clean" because it is generated from burning coal or oil, operating a PZEV is cleaner than operating a battery-electric vehicle. PZEVs also have a 15 year/150,000-mile emission warranty.

AT PZEV = Advanced-technology partial-zero-emission vehicle. These vehicles meet the same emission standards as a PZEV but utilize technologies CARB deems to be "advanced," thus earning the manufacturer additional zero-emission-vehicle credits.

SULEV = Super ultra-low-emission vehicle. This vehicle has the same tailpipe standards as a PZEV but with some evaporative emissions.

ULEV = Ultra-low-emission vehicle.

LEV = Low-emission vehicle.

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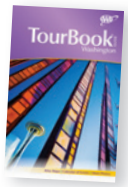

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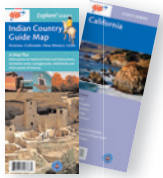

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