



Minnesota
Pollution
Control
Agency

Buying a Cleaner Car

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The vehicle you drive and how you use that vehicle may have a greater effect on the environment than any other choice you make as a consumer.

While cars and trucks are much cleaner than they were 10 years ago, they still are one of the biggest contributors to urban air pollution and global climate change. There are large differences in tailpipe emissions and fuel economy, even between two similar vehicles. By making a good choice, you can save hundreds of dollars a year in fuel costs while also reducing air pollution and greenhouse gas emissions.

There are several different types of cleaner vehicles to choose from. While advanced technologies (such as hybrid electric vehicles) and alternative fuels offer the greatest environmental benefits, choosing an ordinary, low-emission, fuel-efficient gasoline vehicle is one of the single biggest steps you can take to reduce air pollution and cut your fuel costs. A growing number of vehicles are also capable of using cleaner burning E85 (85 percent ethanol) fuel.

Fuel efficiency

Fuel efficiency refers to the distance a vehicle can travel on one gallon of gas. This is usually expressed in miles per gallon (mpg). The more fuel you use, the more air pollution you create.

When shopping for a vehicle, choose the most fuel-efficient vehicle that meets your average needs—preferably one that gets at least 32 mpg on the highway. Instead of purchasing a vehicle for the few times a year you have a large load, consider renting or borrowing a large vehicle or a

trailer for those occasions. On a smaller car, roof racks and car-top carriers can also greatly expand your cargo space.



This type of label found on new vehicles indicates the estimated fuel economy.

More information about fuel economy including a comparison of vehicles by model or year is at www.fueleconomy.gov

Cleaner emissions

In addition to fuel economy, vehicles vary in relation to the quantity of various pollutants emitted in their exhaust. All vehicles are certified to meet federal emissions standards set by the U.S. Environmental Protection Agency (EPA). These emissions standards limit the amounts of certain pollutants coming from the vehicle. Look for vehicles that meet low-emission vehicle or ultra-low-emission standards as indicated on the label found under the vehicle hood. Additional information about these standards is at www.epa.gov/otaq/stds-ld.htm

Flexible fuel vehicles

Flex-fuel vehicles (FFVs) run on either E85 or gasoline. They can operate on straight gasoline, straight E85 or any combination of the two. E85 is a motor fuel blend of 85 percent ethanol and 15 percent gasoline. Currently, E85 is produced primarily from the starches of corn or sugar cane. Other plant-based cellulose materials such as those found in prairie grasses are expected to be used for the production of E85 in the future.

The benefits of using E85 in FFVs include domestic production and cleaner combustion as compared to gasoline, resulting in fewer emissions of pollutants. E85 reduces lifecycle greenhouse gas emissions (which include the energy required to grow and process corn into ethanol) that contribute to global climate change by 20 to 25 percent as compared to gasoline. More information on E85 is at www.epa.gov/smartway



There are more than 300 gas stations offering E85 fuel in Minnesota—and the number continues to increase.

Hybrid electric vehicles

Hybrid-electric vehicles combine the benefits of gasoline engines and electric motors to potentially achieve 20 to 30 percent better mileage. A number of

- Descriptions of current hybrid-electric models: www.fueleconomy.gov/feg/hybrid_news.shtml
- Tax credit information for hybrid vehicles: www.fueleconomy.gov/feg/tax_hybrid.shtml
- Other types of cleaner, alternative fuel vehicles including flex fuel, natural gas, and hydrogen fuel cell models: www.eere.energy.gov/afdc/

Reduce toxic and greenhouse gas emissions

In Minnesota, more than 50 percent of the toxic air emissions are associated with fuel evaporation and the fuel combustion produced come from motor vehicles. Carbon monoxide, sulfates, particulates, hydrocarbons, nitrous oxide, benzene, formaldehyde, and additional volatile organic compound emissions result from fuel evaporation and combustion. Some of these chemicals are known to cause cancer and respiratory problems. These chemicals may be inhaled or may accumulate in soil and human food chains.

More than one quarter of the carbon dioxide emitted into the air is from motor vehicles. Scientists believe that carbon dioxide, a greenhouse gas, is a major cause of global climate change.

Vehicle maintenance

Maintaining a vehicle properly is one of the best ways to reduce emissions of unhealthy air pollutants such as carbon monoxide, hydrocarbons, and toxic air pollutants. Incomplete fuel combustion due to a dirty air filter, a stuck choke, broken air pump, improper ignition timing, a fouled spark plug, or a faulty computer chip can all increase emissions of carbon monoxide.

Hydrocarbon emissions result from partially burned fuel emitted through the tailpipe and fuel evaporations from the crankcase, carburetor, and gas tank. When exposed to sunlight, these hydrocarbon emissions contribute to the formation of ozone, which can have serious effects on people who suffer from lung diseases and asthma. Improper ignition timing, faulty ignition, vacuum leaks, worn piston rings, and fouled spark plugs all increase these emissions. When vehicles are maintained to achieve the highest level of fuel economy, emissions of toxic air pollutants such as benzene and formaldehyde are minimized.

For more information

Find out more about how our personal transportation choices, including what we drive and how we drive, have an impact on air quality: www.pca.state.mn.us/air/mvpollution.html