

## 8 GREAT WAYS TO REDUCE YOUR FUEL COSTS

### 1. Use the Right Grade of Gasoline/Don't Top Off:

Most cars run fine on regular. Check your vehicle owner's manual to find out what's right for your car. Don't "top off" at the pump and make sure your fuel cap is on tight.

### 2. Use Carpooling, Public Transport and Non-Motorized Options:

Ride the bus, Tri-Rail, carpool, bicycle, or walk instead of driving alone. Sharing a ride to work with a friend effectively doubles your fuel economy for the trip and allows you to use the carpooling lane.

### 3. Don't Drive Aggressively & Drive at the Speed Limit:

Avoid aggressive driving and aggressive starts. All vehicles lose fuel economy at speeds above 55 mph. Driving 65 instead of 75 mph reduces fuel cost by 13 percent. Driving 55 mph would reduce fuel costs 25 percent.

### 4. Reduce Air Conditioner Use/Close Windows:

Using the air conditioner increases fuel cost by about 13 percent. If it is cool enough, use the flow-through ventilation instead of rolling down the windows.

### 5. Eliminate Extra Wind Resistance and Weight:

Using a loaded roof rack increases fuel consumption. Carry the load inside your vehicle if you can. Removing unnecessary weight is better still.

### 6. Minimize Vehicle Idling:

Today's vehicles are designed to warm up fast. Avoid idling when you can, idling is zero miles per gallon. This includes waiting at drive-thru lanes and waiting for kids at schools.

### 7. Maintain Vehicle Efficiency:

Regular maintenance as prescribed by the vehicle owner's manual will help your vehicle achieve its best fuel economy. Some overlooked maintenance items, such as a dirty air filter and under inflated tires, can increase your fuel cost up to 13 percent.

### 8. Drive or Purchase a Fuel Efficient Vehicle:

Drive your most fuel efficient vehicle whenever possible. When purchasing, consider the most fuel efficient vehicles available. The next best option is to purchase the most fuel efficient vehicle within the class of vehicles you are considering. Research the fuel efficiency of various vehicles before making a purchase.

Source: California Energy Commission



## INTERESTING FACTS:

- As of January 2008, Broward County uses 55 Compressed Natural Gas (CNG) fleet vehicles, six propane, one electric, and 51 HEV, for a total of 113 alternative and advanced technology vehicles. For more information, visit [www.broward.org/energy](http://www.broward.org/energy).
- Parking in the shade helps both your wallet and our air quality. Heat makes fumes from gasoline vents escape into the air, even when your car isn't running. Shade lowers the temperature of gas tanks by four to seven degrees – enough to curb emissions by about two percent. *Source: University of California, Davis*
- Fill your gas tank in the evening. When the air is cooler, fewer fumes evaporate during pumping, and any that escape won't cause harmful ground-level ozone.
- Run your errands back-to-back. Starting a warm engine pollutes up to five times less than one that's been sitting for more than an hour.
- A poorly maintained car can release as much as 100 times the emissions of a well-maintained car. Make sure to get regular oil changes and tune-ups.



# A Guide to Clean Fuels and Fuel Economy



## ALTERNATIVES TO HIGH FUEL COSTS

A service of the Broward County Board of County Commissioners



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This public document was promulgated at a cost of \$000.00, or \$0.000 per copy, to inform the public about alternative fuels.

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## WHAT ARE ALTERNATIVE FUELS?

The most familiar transportation fuels in the United States are gasoline and diesel, but there are other energy sources capable of powering motor vehicles. Alternative fuels are clean fuels that are alternatives to gasoline and diesel, and create less air pollution.

Alternative fuels such as methanol, ethanol, compressed natural gas, liquefied petroleum gas, propane, and electricity produce fewer tail pipe emissions than conventional gasoline and diesel fuel.



## WHY SWITCH TO ALTERNATIVE FUELS?

We have more cars on the road now than ever before, and therefore more air pollution now. Emissions from the cars and trucks on our roads - mostly hydrocarbons, nitrogen oxides, and carbon monoxide - account for about 50 percent of all air pollution. Today's cars emit mixtures of compounds that lead to the formation of ground-level ozone, which is produced by a chemical reaction between sunlight and air pollutants. Ozone is the pollutant of main concern in Broward County. When conditions are just right, such as when the temperature is hot enough and the sun is strong, ground-level ozone is formed, also known as smog. Ground-level ozone is linked to several respiratory ailments, especially asthma.

Alternative fuels have a number of inherent properties that make them cleaner than conventional gasoline. In general, these fuels emit fewer hydrocarbons, so they are producing less smog. Emissions from electricity, natural gas, or alcohol-powered vehicles can be as much as 90 percent lower in ozone-forming hydrocarbons than emissions from vehicles fueled with conventional gasoline.

The use of alternative fuels could also help slow atmospheric buildup of carbon dioxide, a "greenhouse gas" that contributes to the potential for global warming. These cleaner fuels also have benefits that reach beyond their air quality advantages. New fuels in the marketplace give consumers new choices and could decrease our dependence on imported oil.

Some alternative fuels are not available for the general public, but private and public fleets are currently using them. There are federal and state government grants available for private and public fleets that provide funding for infrastructure and alternative fuel incremental costs.

ALTERNATIVE FUEL	ADVANTAGES
<b>ETHANOL</b>	<ul style="list-style-type: none"> <li>Very low emissions of ozone-forming hydrocarbons and toxics</li> <li>Made from corn, wood, or paper wastes</li> <li>Can be domestically produced</li> </ul>
<b>METHANOL</b>	<ul style="list-style-type: none"> <li>Very low emissions of ozone-forming hydrocarbons and toxics</li> <li>Can be made from a variety of feedstocks, natural gas, coal, and wood</li> </ul>
<b>NATURAL GAS</b> CNG – Compressed Natural Gas LNG – Liquefied Natural Gas	<ul style="list-style-type: none"> <li>Very low emissions (80% lower) of ozone-forming hydrocarbons, toxics, and carbon monoxide</li> <li>Can be domestically produced</li> <li>Excellent for fleet vehicles and buses</li> </ul>
<b>PROPANE</b> Liquefied Petroleum Gas	<ul style="list-style-type: none"> <li>Cheaper than gasoline</li> <li>Most widely available clean fuel</li> <li>Lower emissions of ozone forming hydrocarbons</li> <li>The third most commonly used fuel in the U.S.</li> </ul>
<b>ELECTRICITY</b>	<ul style="list-style-type: none"> <li>Potential for zero vehicle emissions</li> <li>Can recharge at night when power demand is low</li> </ul>
<b>REFORMULATED GASOLINE</b>	<ul style="list-style-type: none"> <li>Can be used in all cars</li> <li>Emit less hydrocarbons, nitrogen oxides, carbon monoxide, and toxics than conventional gasoline</li> </ul>
<b>BIODIESEL</b>	<ul style="list-style-type: none"> <li>Can be produced from renewable sources such as soybean, canola, and sunflower oil</li> <li>Usable in pure form or mixed with petrodiesel (the most common is B20 – 20% biodiesel &amp; 80% petrodiesel)</li> <li>Reductions in carbon monoxide, particulate, hydrocarbon, and sulfate emissions.</li> <li>Biodegradable and nontoxic</li> </ul>
<b>FUEL CELLS</b> Hydrogen	<ul style="list-style-type: none"> <li>Uses the chemical energy of hydrogen and oxygen to generate electricity for power</li> <li>No polluting emissions and no greenhouse gases (only water &amp; heat)</li> <li>Decreases oil imports</li> </ul>

Source: U.S. Environmental Protection Agency

## HYBRID VEHICLES

**WHAT** Hybrid vehicles combine a gasoline engine with a battery-powered electric motor. They never need to be plugged in because they supply their own energy to recharge the electric motor's batteries while operating.

**WHY** Hybrids get significantly better gas mileage than vehicles with conventional gas engines. They also help air pollution, because ozone forming emissions are greatly decreased.

**WHERE** Hybrids are becoming extremely popular and are available today.

## HYBRID ELECTRIC VEHICLE COST CALCULATOR TOOL

The Hybrid Electric Vehicle (HEV) Cost Calculator Tool allows vehicle owners and fleets to evaluate the full costs and benefits of a hybrid electric vehicle in comparison to a conventional vehicle. Fleets also may use the tool to determine the cost and benefits of a fleet of HEVs versus a fleet of conventional vehicles. The tool assesses both capital and operating costs, over the lifetime of use, as well as greenhouse gases and other air emissions. Outputs are provided per vehicle, per year, and per mile. Visit [www.eere.energy.gov/afdc/hev\\_calculator/fleet.php](http://www.eere.energy.gov/afdc/hev_calculator/fleet.php) for the HEV Cost Calculator Tool.

## HYBRID CENTER

Visit [www.hybridcenter.org](http://www.hybridcenter.org) to see important and useful consumer and technical information about hybrid vehicles. Go to the Buyer's Guide to enter the type of HEV you might be interested in, get a personalized buying guide, learn about the incentives of purchasing a HEV, and even get tips to use at the dealership. There is even a comparison chart you can use to determine which hybrid is right for you.

## FUEL ECONOMY

Visit [www.fueleconomy.gov](http://www.fueleconomy.gov) for information on gas mileage, greenhouse gas emissions, air pollution ratings, and safety information for new and used cars and trucks.