

GE Capital
Fleet Services

Drive lightly and reduce
your fleet's carbon footprint

Driver Guide



imagination at work

Small Changes can make a Big Difference

Did you know in the U.S. and Europe, around 25% of the total carbon footprint comes from transportation? An effective vehicle selection strategy will have a significant impact on these carbon emissions, but this process can take time. There are immediate actions that each of us can take to reduce our footprint while also saving on fuel costs. Environmental Performance solution from GE Capital Fleet Services provides driver training including efficient driving techniques, and measures improvement through programs such as fuel management and Telematics.

Changing specific driving habits like speeding, rapid acceleration, and excessive idle time can save over \$380 in annual fuel costs per vehicle at \$2.00 per gallon. This equates to 1.7 metric tons of CO2 emissions per vehicle.

In this guide to environmentally efficient driving, you will find practical steps you can take today to reduce carbon emissions as well as insight into alternative fuels and vehicle technology.

Contents:

- What is driving lightly?
- Benefits of environmentally efficient driving
- Fuel-efficient driving
- Your vehicle
- Vehicle and fuel choice
- Your driving style

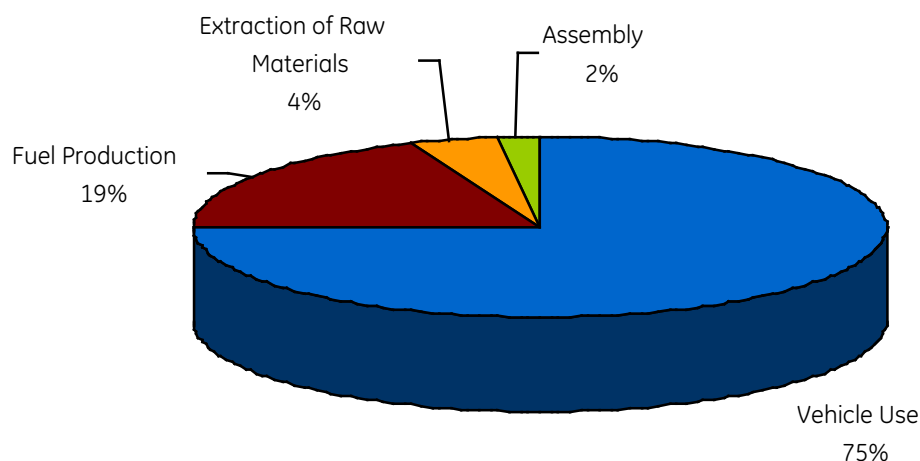
ecomaginationSM

What is Driving Lightly?

As the graph below illustrates, fuel consumption from vehicle use generates 75% of a vehicle's CO₂ emissions over its lifecycle. Driving lightly is about using your vehicle in an environmentally efficient way that suits you and your car. It is a way of driving that reduces fuel consumption, greenhouse gas emissions, accident rates and noise levels – therefore having a positive impact on you as a driver, the life of your vehicle and the quality of the environment.

Telematics technology can help measure the amount of fuel consumption and carbon emissions from any vehicle type or model. Insights into fuel consumption from non-productive activities such as idling, excessive acceleration, hard braking and using inefficient routes will enable you to pinpoint ways to lower fuel consumption and thereby lower emissions.

Life Cycle CO₂ Emissions from a Typical Vehicle



Source: World Resources Institute

Did you know?

Driving lightly can lead to fuel savings of 5-10% according to www.fueleconomy.gov

The Benefits of Environmentally Efficient Driving

Environmental

- Reduce use and demand for non-renewable fuels.
- Reduce greenhouse gas emissions.
- Help improve overall air quality.
- Reduce ambient noise levels.

Benefits to your vehicle

- Increase the life of the engine and drive train components.
- Reduce the need to change tires and brake pads as often.

Benefits to you and your company

- Contributes to preserving the environment.
- Reduce running costs and fuel consumption, lower spend on vehicle maintenance and lower insurance costs.
- Reduce stress.
- Increase safety.

What can you do?

There are several ways to help reduce the amount of CO₂ being pumped into the atmosphere and, at the same time, save you time and money through decreased fuel consumption. It could be a small change, such as making sure you fully tighten your fuel cap, to a big change, like better route planning. Whatever you change, it will make a difference.



Fuel-Efficient Driving

means lower bills

There are many small changes you can make to your everyday driving that will save money and the environment. It can also lead to significant cost savings for your fleet in a time of volatile fuel prices.

Refueling

- **Make sure you fully tighten your fuel cap**

Surprisingly, up to 30 gallons of fuel can be lost annually due to evaporation when the fuel cap is not fully tightened. In addition to the unnecessary expense, this pollutes the atmosphere with unburned hydrocarbons. Don't be caught with a loose or missing fuel cap.

Before leaving

- **Plan your trip**

Try to plan your trip so you complete as many jobs in one trip as possible. Completing three jobs in one trip is much more economical than making three consecutive trips.

- **Avoid areas of serious congestion**

Check traffic and travel news before you leave, as it may be advisable to avoid certain routes. This will not only save you time and stress, but it will also reduce your emissions.

Your Vehicle

Vehicle preparation

- **Reduce aero-dynamic drag**
Did you know that approximately 50% of the energy required to operate at highway speeds is devoted to overcoming wind resistance?
This becomes even greater when roof racks and similar items are attached to your car. Make sure these are always removed when not in use as the resistance increases fuel consumption.
- **Get rid of excess weight**
Clutter in the trunk and back seat is extra weight your engine must carry around. You can reduce the load on the engine, therefore saving fuel, by removing all excess weight from your vehicle. Remove things such as unnecessary tools, parts, golf clubs, etc. and this will also cut your CO2 emissions.

Did you know?

The average car commuter in the U.S. drives **29** miles a day

Vehicle maintenance

A well-maintained vehicle is key to reducing emissions. Regular maintenance and vehicle checks also have a positive effect on fuel use. Telematics provides insight into the condition of the vehicle. The system will alert you in case a diagnostic trouble code is triggered in the vehicle. In certain instances, the problem may impact the emissions or the fuel consumption. For instance, a faulty oxygen sensor can reduce fuel efficiency. Having proactive knowledge of such events allows you to take corrective action and not only reduce fuel consumption and emissions, but also avoid vehicle breakdown.





- **Tire pressure**

Ensure all tires (including the spare) are inflated to the correct pressure. According to the web site Fueleconomy.gov fuel consumption increases by .3% for every one pound per square inch (psi) drop in all four tires. Under inflated tires have more rolling-resistance; therefore your engine uses more fuel to overcome this increased friction. You should check tire pressures regularly in accordance with manufacturer guidelines, especially prior to leaving on a long trip. Properly inflated tires are safer and last longer than either over, or under-inflated tires.

- **Change your air filter regularly**

Be sure your air filter is checked regularly and replaced when needed. This can have a large impact on fuel economy.

- **Use your cruise control on the highway**

Using cruise control on the highway allows you to maintain a more constant speed than you could without it, and, in most cases, saves fuel.

- **Keep your engine clean**

You should always follow and carry out the recommended maintenance checks as per the schedule laid out in your owner's guide. If you are on the GE Maintenance Management program, refer to the GE Driver's Guide for scheduled maintenance. Where possible use "energy-conserving" motor oils, fuels with good detergent additives and maintain appropriate levels of oil, transmission fluid and coolant levels to ensure the engine is clean and running efficiently.

Using the wrong grade of oil can decrease your fuel economy. Using 10W-30 motor oil in an engine designed to use 5W-30 can lower your gas mileage by 1% - 2%. Using 5W-30 in an engine designed for 5W-20 can lower your gas mileage by 1% - 1.5%. Also, look for motor oil that says "Energy Conserving" on the API performance symbol to be sure it contains friction-reducing additives.



Did you know?

A recent survey of tire pressure levels of 8,700 cars worldwide has shown that 44% of cars had at least 1 tire at a low pressure level

Vehicle and Fuel Choice

Vehicle choice

- **The engine**

Once you decide on the type of car you want, check out all the different makes, models and engine options. Vehicle manufacturers should be able to provide you with information around the vehicle ranges and their efficiency and environmental rating. Seek advice about the environmental credentials of the vehicle you are considering.

Fuel choice

- **Gasoline vs. diesel?**

Today there is no single fuel choice on the market that will cut emissions and increase miles per gallon (mpg). This means you must assess your personal needs and choose a fuel that is best for you and the environment. As a general rule of thumb, if most of the driving you do is long distance or highway driving then you should consider a diesel engine as these are more economical over long distances. However, if you tend to drive in urban areas and on shorter distances then a gasoline engine may be better suited to your needs. There are very few diesel choices today, but they may become more available in the future.



Alternative fuels

- **Hybrids**

Hybrid vehicles use two separate motors to power the vehicle. So far all examples in the U.S. have been gasoline-electric, but diesel, biofuels, compressed natural gas or propane could replace gasoline. Hybrids also generally incorporate several other energy conserving features:

- the ability to recapture energy normally wasted during braking.
- a significant level of battery storage space and the ability to recapture and reuse energy.
- the ability to shut down the petrol or diesel engine during traffic stops and while idling.

Hybrid-powered cars are particularly efficient for inner city driving, where frequent stops and idling are the norm. Hybrids also help to reduce noise emissions.

- **Biofuels**

Biofuels are traditional fossil fuels blended with a percentage of fuel from renewable sources. Some types of biofuels produce lower emissions on a total lifecycle basis than fossil fuels.

- **LPG**

Liquefied Petroleum Gas (also known as Propane) can be used in either gasoline or diesel engines with proper modifications. Your mpg will be lowered by up to 30%, but the price per gallon is lower as well. This may not be available in all areas.

- **Electric**

Electric vehicles produce less CO₂ and other pollutants, including noise, than either gasoline or diesel. These vehicles are not generally available in the U.S. at this time.

- **CNG**

Compressed Natural Gas can work in converted gasoline and diesel engines. Re-fueling is generally done at a central fuel site or it can be done at home if you have an available natural gas line. This may not be available in all areas.

Your Driving Style

Studies have shown there is a significant correlation between driving behaviors, emissions and fuel economy. By following the rules of environmentally efficient driving you will not only drive in a way that benefits the environment and reduces vehicle operating costs, but is also safer for both yourself and other road users.

Slow down for safety

Speed limits are the maximum lawful speeds that may be driven under ideal circumstances, not the minimum speed you should expect to drive. Not only is driving above the speed limit uneconomical and unlawful, but it's also dangerous. Between one-third and one-half of all traffic fatalities are due to speeding. According to one study, your chance of having an accident at least doubles for each 3 miles per hour (mph) you drive over the posted speed limit.

Speed Driven (Posted Speed of 35 mph)	Chance of Accident
35 mph	1x
40 mph	3.2x
45 mph	11x
50 mph	32x

Aim to keep your speed between 20 mph and 60 mph, but always abide by the speed limit set in that area.

Did you know?

Driving at 70 mph rather than 55 mph uses 25% more fuel

Limit idling

Not many people are aware of the fact that modern vehicle technology improvements have eliminated the need to warm up vehicle engines. You should not leave your vehicle idling as it produces excess emissions and wastes fuel. Where possible turn the ignition key off when operating away from public roads. Ideal situations where this can reduce fuel emissions are in a driveway, parking lot or car wash.

Note: This should only be done where there is NO possibility of collision. Turning off the ignition key may disable certain vehicle features, including airbags. It is recommended that you leave your vehicle running in city traffic or similar busy conditions.

Did you know?

How and when you change gear influences your fuel economy

Use the air conditioning/defroster sparingly

Your air conditioning system can use up to one gallon of fuel per tank to cool the vehicle. In summer, minimize the use of air conditioning by using the vent setting as much as possible. At slow speeds, turn off the air conditioning and open the windows to cool the interior. However, once you exceed 40 mph, the drag caused by having your window down wastes more fuel than the air-conditioning.

In the winter, your defrosting system can place a significant load on the engine. Use this selectively and try to alternate between the heater and defroster as necessary.

Avoid stopping and starting

Every time you stop and start again in traffic, the engine uses more fuel and therefore produces more CO₂. Keep your eye on traffic ahead and slow down early to give traffic a chance to get moving again by the time you reach it.

Drive calmly

Rapid acceleration and braking can use up to 30% more fuel at highway speeds, causes increased wear and tear on the vehicle and is dangerous, particularly in urban areas.

Telematics can play a critical role in providing on-going visibility into many of the categories listed above.



GE Capital Fleet Services
3 Capital Drive
Eden Prairie, MN 55344

gefleet.com
© GE Fleet Services
All rights reserved

While all reasonable care has been taken in the preparation of the above information, GE Capital Fleet Services, its employees or agents accept no responsibility for any errors or omissions therein. No liability is accepted for any direct or consequential losses arising from the use of this information.