

Frequently Asked Questions

Question 1:

With modern emissions technology and more fuel-efficient cars, why do I have to worry about a small matter like idling?

It's true that automakers have succeeded in cleaning up most of the harmful substances emitted by vehicles. Compared with unregulated vehicles 30 years ago, today's new cars generate 98% fewer hydrocarbons, 96% less carbon monoxide and 90% fewer nitrous oxides. But one element in tailpipe emissions can't be "cleaned up" – carbon dioxide (CO²). This is the principal greenhouse gas linked to climate change. Every litre of fuel that is burned produces about 2.4 kg of CO². The bottom line: the more fuel you use, the more CO² you produce. And one of the best ways to cut fuel consumption is to avoid idling. After all, it gets you nowhere.

Question 2:

How can only one litre of gasoline burned by a car or light truck produce 2.4 kg of carbon dioxide (CO²)?

Two factors contribute to the high output of carbon dioxide (CO²) per litre of fuel burned. First, fuel burns in the presence of oxygen, which it gets from air. Second, gasoline is rich in carbon; in fact, about 86% of your fuel is carbon. When fuel is burned to operate a vehicle, every Carbon atom combines with two oxygen atoms to produce a corresponding amount of CO². That is a lot of Carbon for each litre your vehicle burns – 2.4 kg of carbon in each litre of fuel! If you're a motorist who drives 20 000 km each year, you're emitting more than four tones of CO² per year – that's three times the weight of your car!

Question 3:

Is it important to idle my vehicle for a few minutes to warm up the engine, especially in winter?

No. Although this is a common practice among Canadian motorists, it's wasteful and damages the environment. Tests show that you need no more than 30 seconds of idling to circulate the engine oil before you can drive away on cold days. Anything more just washes money

and produces needless greenhouse gas emissions. Remember, more than the engine needs to be warmed – so do the tires, transmission, wheel bearings and other moving parts. As well, the catalytic converter doesn't function at its peak until it reaches between 400°C and 800°C. The best way to warm the engine and all other components is to drive your vehicle.

Question 4:

Is it more economical and fuel-efficient to leave my car running for a few minutes than to constantly turn it off and on?

No. If you're going to be stopped for more than 10 seconds (except in traffic), you'll save fuel and money by turning off the vehicle and then restarting it when you're ready to drive again. Every 10 minutes of idling costs you at least one-fifth of a litre in wasted fuel – and up to two-fifths of a litre if your vehicle has an eight-cylinder engine. As well, restarting a car many times doesn't have a significant impact on the battery and starter motor as is commonly believed. And catalytic converters stay warm for up to 25 minutes after you turn off the engine, so frequent stops and starts don't produce the large amount of harmful emissions seen with cold starts. There's no question about it – idling gets you nowhere; instead, it wastes fuel, money and damages the environment.

Question 5:

Can idling damage my car's engine?

You bet it can! Because the engine isn't working at its peak operating temperature when it's idling, the fuel doesn't undergo complete combustion. This leaves fuel residues that can contaminate engine oil and damage engine parts. For example, fuel residues tend to deposit on spark plugs. As the amount of engine idling increases, the average temperature of the spark plugs drops. They begin to gather dirt more quickly which, in turn, may increase fuel consumption. It's a vicious cycle of wasted fuel and needless greenhouse gas emissions. Excessive idling can also allow water to condense in the vehicle's exhaust. This can lead to corrosion and reduce the life of the exhaust system.

Question 6:

How much fuel am I wasting, and how much CO² do I produce by idling my vehicle?

One vehicle idling for five minutes burns just over one-tenth of a litre, or over ten cents worth of gasoline (assuming fuel costs are \$1 per litre). And it produces 276 grams of CO². This may not sound like a lot but remember, millions of motorists idle their vehicles. In fact, if all drivers of light-duty vehicles in Canada avoided idling for just five minutes a day we would collectively save 1.8 million litres of fuel, worth more than \$1.8 million every day! Just as important, over the period of a year, we would prevent more than 1.6 million tonnes of greenhouse gases from entering the atmosphere. That's the equivalent of taking 490 000 cars off the road. Clearly, individual actions, when taken by millions of Canadians, can make a difference.

Question 7:

What are the most common reasons for idling?

Warming up a vehicle is the most common reason drivers give for idling – in both winter and summer! According to a 1998 study of driving attitudes and behaviour, Canadians also spend a lot of time idling their vehicles in the drive-thru lanes of fast-food restaurants and while waiting for passengers. We also idle when we run quick errands, stop to talk to an acquaintance or friend, prepare to leave the house, wait at railway crossings, to park or to get gas, and even when waiting in line to get our car washed. All of these situations waste energy and produce needless greenhouse gas emissions – and they are all easily avoidable.

Question 8:

What is the "profile" of the typical idler?

It's safe to say that most Canadian motorists do some amount of idling. However, research shows some interesting trends. For example, the amount of idling a driver does tends to increase with the number of people in the household. A driver living with children is more likely to idle than one without children. As well, the frequency of idling appears to decrease as the person ages – a retiree is the least likely to idle. A person living in a rural area is more likely to idle than a driver living in an urban centre. Regionally, a person in British Columbia is the least likely to idle a vehicle.

Question 9:

What steps can I take to minimize idling?

It's easy – think about fuel efficiency every time you use a car. Try these simple steps:

- Minimize warm-up idling. This is especially important in winter, because emissions can double in a cold engine. Drive away after no more than 30 seconds of idling, assuming the vehicle's windows are clear.
- Use a block heater to warm the engine before starting it. This reduces engine wear, improves fuel efficiency and reduces emissions by 10 percent or more in cold conditions. Use an automatic timer to turn on the block heater two hours before you plan to start the vehicle.
- If you're going to be stopped for more than 10 seconds (except in traffic), turn off the engine. Never leave the vehicle running while you zip into a corner store or fast-food restaurant – it's hard on your pocketbook, bad for the environment and an invitation to car thieves.
- Avoid using remote car starters. They encourage you to start your car before you're ready to drive, resulting in needless idling.

Source: Office of Energy Efficiency (Natural Resources Canada)

Idle-Free Windsor is a program of the Citizens Environment Alliance
www.citizensenvironmentalliance.org