

## Winter Feature

# Block Heaters Save Fuel and Help the Environment

Starting a vehicle on a bitter winter day can be a chilling experience. It can also be hard on your pocketbook and the environment.

You'll use more fuel and create more pollution in the first minutes after a "cold start" than when the engine reaches normal operating temperatures. When an engine starts up, it pumps oil throughout the engine block to lubricate moving parts. In a cold engine, the oil is thick and resists flow, so the engine has to work harder to overcome internal friction.

Fuel combustion is also less efficient in a cold engine, and the air-fuel mixture is richer – in other words, there is more fuel in the mixture and less air. (The mixture of fuel vapour and air must be in proper proportion for efficient combustion.) The combined effect is a sharp increase in pollutants. On top of everything else, the catalytic converter doesn't work when it is cold. Therefore, all of the engine's emissions pass through the exhaust untreated.

You can help reduce the impact of cold starts – and avoid idling your car needlessly to warm the engine – by installing a block heater. This inexpensive device warms the coolant, which in turn warms the engine block and lubricants. The engine will start more easily and reach its peak operating temperature faster. What's more, it won't have to work as hard to pump oil through the block.

At -20°C, block heaters can improve overall fuel economy by as much as 10 percent. For a single short trip on a cold day, your fuel savings could be in the order of 20 percent.

Reduced fuel consumption will do more than save you money. It will also minimize greenhouse gas (GHG) emissions that contribute to climate change. Carbon dioxide (CO<sub>2</sub>), the most common GHG, is an unavoidable by-product of burning gasoline. Every time you turn on your vehicle's engine, you generate CO<sub>2</sub> – and the more fuel you use, the greater your GHG emissions.

A block heater runs on electricity. To save money, invest in an automatic timer that switches the block heater on two hours before you plan to drive the vehicle (instead of leaving it plugged in all night). This is all the time needed to warm the coolant and, in turn, the engine.

**Source: Office of Energy Efficiency (Natural Resources Canada)**

**Idle-Free Windsor** is a program of the **Citizens Environment Alliance** [www.citizensenvironmentalliance.org](http://www.citizensenvironmentalliance.org)