

Exhaust Emissions and Your Health

As your engine burns fuel, it generates exhaust emissions that produce smog. Many people believe that they are protected from air pollution if they remain inside their vehicles. Not so according to a report by the International Centre for Technology Assessment (CTA). CTA found that exposure to most vehicle pollutants, including volatile organic compounds (VOCs) and carbon monoxide (CO), is much higher inside vehicles than at the roadside. VOCs and CO are linked to serious health problems – like respiratory irritation and cancer – and are known to shorten life (www.icta.org). The highest exposure occurs when sitting in traffic congestion on highways or in a line-up of idling vehicles.

In Windsor-Essex County (WEC), smog causes thousands of emergency hospital visits, costing our health care system over 23 million dollars to treat unnecessary respiratory illness. What's worse is that 9% of all non-accidental deaths in WEC are due to smog. One way to reduce smog is to comply with Windsor's anti-idling by-law by turning off your engine (by-law 233-2001, <http://www.cityofwindsor.ca>).

Ready To Do Your Part?

Here are some things you can do to reduce vehicle idling:

- Reduce the amount of warm-up and cool-down time. Modern trucks need less than 10 minutes to warm up and cool down, and light-duty vehicles need no more than 30 seconds of idling to warm up, assuming the vehicle's windows are clear. After the warm-up time, drive the vehicle gently until it gets up to normal operating temperature.
- Install auxiliary cab heaters in your truck. Auxiliary heaters use a fraction of the fuel that a vehicle will and they provide adequate warmth.
- Turn your vehicle off when you are stopped (except in traffic). Idling a light-duty vehicle for longer than 10 seconds uses more fuel than it would take to restart the vehicle.
- Place anti-idling stickers on the windshield of all company vehicles.
- Include information on the benefits of reducing idling in your company's driver-training courses and materials.
- Install anti-idling signs and posters in all garages where fleet vehicles are stored or maintained.



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For more information: visit
www.idlefreewindsor.org, call 973-1156, or
e-mail liaison@citizensenvironmentalliance.org

Vehicle Emissions: The Bottom Line

What Happens When You Let an Engine Idle?

Many fleet vehicles idle between 20-60% of their operating time, which burns fuel unnecessarily, increases maintenance costs and reduces the period between engine rebuilds. Idling also creates unnecessary exhaust emissions that are released into the atmosphere.

Higher Fuel Costs

Idling gives you zero miles per gallon. Gasoline engines consume between 2½ and four litres of fuel per hour while idling, and diesel engines use from one to four litres per hour, depending on the size of the engine, the idle speed, accessory loads and power take-offs.

Increased Maintenance Expenses

When a gasoline or diesel engine idles for prolonged periods, the engine oil becomes contaminated more quickly than when the vehicle is being driven. Controlled studies demonstrate that prolonged idling typically reduces the operating life of engine oil by 75 percent, from 600 engine-hours to 150 engine-hours. Consider the cost of more frequent oil and filter changes and the amount of time your vehicle will be out of service while the work is being done.

Cost Per Vehicle Associated with Idling

Engine size (L)	Fuel consumption at idle (L)	Fuel price (\$/L)	Fuel type (gas or diesel)	Total fuel cost at idle (annual)	GHG* emissions at idle (tonnes)	Total annual cost associated with idling (fuel + maintenance)
 2	504	\$1.06	Gas	\$534.24	1.2	\$2,002.14
 4.6	1,159	\$1.06	Gas	\$1,228.75	2.7	\$2,696.65
 6.5	1,638	\$0.99	Diesel	\$1,621.62	4.5	\$3,089.52
 10	2,520	\$0.99	Diesel	\$2,494.80	6.9	\$3,962.70
 16	4,032	\$0.99	Diesel	\$3,991.68	11	\$5,459.58

Source: Fleet Challenge Canada

*GHG – Greenhouse Gases contribute to change in global temperatures and precipitation which impacts human health.

Note: Numbers are based on a total operating time per year of 1,800 hours (8 hrs X 225 days) with an idle time of 630 hours (where idling occurs an average of 35% of fleet operating time). Gas prices as of July 17, 2006

Shorter Periods Between Engine Rebuilds

Idling produces carbon deposits and unburned fuel residues that will accumulate and damage the engine at several vital points. If you idle your truck excessively, you can expect to pay for more frequent servicing of spark plugs, fuel injectors, valve seats and piston crowns. Carefully monitored studies suggest that an engine idling for one hour is

equivalent to two hours of driving. Imagine what this will do to your engine-rebuild cycle!

Do Windsor A Favour – Turn Off Your Engine

By reducing unnecessary idling, vehicle operators and fleet owners will cut operating and maintenance costs, boost productivity, help the environment, and project a better community image.