



# Auto\$mart



## learn the facts: Air conditioning and its effect on fuel consumption

### What is the issue?

Using a vehicle's air-conditioning system increases fuel consumption.

### What do I need to know?

- Most vehicle air conditioners (a/c) require engine power to operate. Of all auxiliary power requirements, a/c system use has the greatest impact on fuel consumption.
- Using the a/c can increase fuel consumption by up to 20% because of the extra load on the engine. The a/c load depends on the vehicle's interior size, the outdoor temperature and other operating conditions.
- In the winter, vehicles use the heat from the engine to warm the cabin air. However, if the defrost setting is selected, the a/c system may also be engaged automatically to keep the windows from fogging.
- Manufacturers are developing more efficient a/c system technologies and control strategies to reduce the impact of an a/c system on fuel consumption. For example, some manufacturers have introduced electric a/c systems to improve vehicle fuel efficiency.

### How can I help?

#### → Chill out and turn it off!

Consider whether you really need the a/c for cooling. If not, turn it off!

#### → Hit the re-circulation button!

Consider using the "re-circulating" function of your a/c system. This method requires less energy because you are cooling only the air already in your vehicle, not bringing in warmer outside air to be cooled.

#### → Let the air flow!

Consider using the flow-through ventilation when you are on the highway, and open your windows and sunroof while driving in the city.



#### → Be cool, and don't over air condition!

Just as you would at home, adjust your thermostat settings. Aim for comfortable – not cold.

#### → Find a little shade!

Your vehicle will require less cooling from the a/c at start-up if it is parked in the shade. If a shaded area is unavailable, using window shades will help to decrease the heat intake of your vehicle when it is parked. Also, don't use the a/c when you first start your vehicle. Instead, open the windows for the first few minutes, and allow the hot air to escape.

#### → Be a knowledgeable buyer!

Be sure to ask if a vehicle has an a/c system with an "econo" mode or smart controls that help reduce fuel consumption.

## → Shut the a/c off after the windows are defrosted!

In newer vehicles, the defrost setting automatically uses the vehicle's a/c system to keep the windows from fogging. After the windows are clear, turn the a/c off and adjust the heater settings.

## What are the savings and benefits?

The following table lists the estimated savings possible if you follow these tips.

Annual distance driven using a/c	Annual increase in fuel consumption with a/c use		Fuel cost of a/c use over 10 yrs		CO <sub>2</sub> emissions from fuel used for a/c over 10 yrs	
	If your a/c uses 1 L/100 km	If your a/c uses 2 L/100 km	If your a/c uses 1 L/100 km	If your a/c uses 2 L/100 km	If your a/c uses 1 L/100 km	If your a/c uses 2 L/100 km
14 000 km	140 L	280 L	\$1,820	\$3,640	3 220 kg	6 440 kg
12 000 km	120 L	240 L	\$1,560	\$3,120	2 760 kg	5 520 kg
10 000 km	100 L	200 L	\$1,300	\$2,600	2 300 kg	4 600 kg
8 000 km	80 L	160 L	\$1,040	\$2,080	1 840 kg	3 680 kg
6 000 km	60 L	120 L	\$780	\$1,560	1 380 kg	2 760 kg

**Note:** For illustrative purposes, savings are based on an annual driving distance of 20 000 km, a fuel price of \$1.30/L and a CO<sub>2</sub> emissions factor of 2.3 kg/L of gasoline.

With more than 20 million passenger vehicles on the road in Canada, the potential for savings is substantial!