

Ecodriving: Smart Use of Air Conditioning



How you drive directly affects the amount of emissions produced by your vehicle.

One way to conserve fuel, save money and reduce emissions is to reduce auxiliary electrical loads on your engine. Air conditioning, in particular, has a big impact on fuel efficiency.

Air Conditioning

The air conditioner is typically the largest auxiliary load on a vehicle (though some heavy vehicles drive larger loads such as refrigeration systems).

When you turn on the air conditioner, the electrical load increases. You may notice an increase in the rate of engine revolutions as more fuel is burned to drive the alternator.

Using the air conditioner in a light vehicle adds about 10% to your fuel consumption. The higher the air conditioning load, the more fuel is used. As a rule-of-thumb, add another 1% to your fuel consumption for each degree below the ambient temperature.

For example, cooling to 18°C on a 38°C day may add 30% to a light vehicle's fuel consumption: 10% (from operating the air conditioner) + 20% (from 20°C cooling).

Air Conditioner vs. Open Windows

At highway speeds, the increase of aerodynamic drag from having the windows down is likely to result in more fuel consumption than operating the air conditioner at a reasonable temperature.

At lower speeds, opening the windows may be a good option to maintain comfort.

Tips for Cool and Efficient Driving

Before you drive:

- Keep your air conditioner well maintained. Performance and efficiency can degrade over time.
- Avoid the vehicle heating up: Where possible, park out of the direct sun and use reflective window shades.
- Open the windows or doors to ventilate a hot vehicle before you turn on the air conditioner. The temperature of air within a vehicle is often much hotter than the ambient air that replaces it.
- Before driving off, check if the air conditioner is on. If you don't need it, switch it off.

Further information:

Email: DPTI.LowEmissionVehicles@sa.gov.au

Web: www.lowemissionvehicles.sa.gov.au



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Alternatives to the Air Conditioner:

- Remember, people tend to be comfortable at higher temperatures if the air is moving.
- When it isn't too hot, make use of the fans or vents to circulate air without the air conditioner operating.
- At lower speeds, consider opening the windows.

Using the Air Conditioner Efficiently:

- Don't overcool – set the thermostat so that you are just comfortable, to minimise the load on the engine.
- When using the air conditioner, keep the windows closed and use the vehicle's 'recycled air' setting – it requires less work from the air conditioner to maintain a cool temperature than it does to cool external, hot air.
- Turn off the air conditioner when you've finished driving – it reduces the likelihood of having it on by default the next time you drive.

Tips for Other Auxiliary Loads

- Vehicles are not very cost-effective electricity generators. Electricity from a vehicle's alternator will cost about *five times* what it costs from a power outlet, due to the increase in fuel consumption.
- Avoid charging appliances in the vehicle where practical.
- Unplug car fridges and the like when not in use. Don't refrigerate an empty cargo space.

Details of other ecodriving techniques and complementary fuel saving actions are provided in separate fact sheets (see below).⁶

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See Also:

- [Ecodriving](#)
- [Ecodriving: Avoid Unnecessary Idling](#)
- [Ecodriving: Look Up, Plan Ahead & Mind the Gap](#)
- [Ecodriving: Drive Smoothly](#)
- [Ecodriving: Use Your Gears Effectively](#)
- [Ecodriving: Pro Tips](#)
- [Reducing Emissions: Maintenance and Tyres](#)
- [Reducing Emissions: Aerodynamics and Loading](#)

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