Air Quality Facts 2:

Climate change, air pollution and your vehicle

Motor vehicles are one of the biggest sources of air pollution emissions in the major cities of Australia. Emissions from motor vehicles include not only substances that contribute to air pollution but also greenhouse gases which contribute to climate change. Greenhouse gas emissions from the vehicle fleet continue to be significant, as the total number of vehicles and kilometres driven increases. In 2004, cars in Australia contributed 41.7 million tonnes of carbon dioxide or equivalent greenhouse gases, which is 7.4 per cent of total national emissions. Trucks and light commercial vehicles contributed 26.2 million tonnes. Together these represent 12 per cent of Australia's total emissions and since 1990 this figure has increased by 25 per cent.

Your car produces both greenhouse gas and air pollution emissions:

What are the impacts of my vehicle's emissions?

In some circumstances, the adverse impacts of air pollutants can occur within minutes of exposure, but generally may be more obvious after several hours. These impacts are normally seen at a local or regional level, with humans being the most sensitive receptors.

Conversely, the adverse impacts of greenhouse gases are likely to be seen at a regional and global level, directly affecting environmental systems which will then affect humans. The time scale associated with these impacts are also likely to be much longer than those linked to air pollutants.

In addition, air pollutants from vehicles are the major contributors to photochemical smog in city environments, reducing visibility and creating an unhealthy "brown cloud".

The air pollutants emitted by motor vehicles can contribute to numerous human health problems such as asthma, lung disease and cancer, and can aggravate chronic respiratory conditions. These pollutants when combined with emissions from other sources, can also damage vegetation and crops, reducing yields by directly injuring crops or by disrupting key functions including respiration and photo synthesis.

Greenhouse gases emitted by vehicles contribute significantly to global climate change, which can result in changing temperatures, altered weather patterns, rising sea levels and increasing occurrence of extreme weather events (e.g. cyclones). Secondary impacts of climate change can have adverse effects on human health, water and food security and can harmfully alter ecosystems and biodiversity.

Given the significant human health and environmental impacts resulting from motor vehicle emissions, it is important steps are taken to reduce these emissions.

How can I reduce my vehicle's impact?

Your driving habits, the type of vehicle you drive and the conditions under which you drive affect your vehicle's environmental performance. To minimise air pollution and greenhouse gas emissions from your vehicle you can:

1. Minimise your vehicle use

Drive less. Plan to do a number of errands in one trip rather than several trips to save both time and fuel. Avoid short vehicle trips by walking or cycling. Car pooling, especially on trips to work, is a great way to reduce vehicle use. Taking public transport is also an environmentally friendly transport option. Vehicles are least fuel efficient and most polluting at the start of trips and on short trips. Driving less reduces air pollution and greenhouse emissions, saves money and makes your vehicle last longer.

2. Check your tyres regularly

Inflate your vehicle's tyres to the highest pressure recommended by the tyre manufacturer and make sure your wheels are properly aligned. This reduces fuel consumption, extends tyre life and improves handling.

3. Reduce fuel consumption by changing your driving habits

Your driving style also has a big impact on the fuel economy of your car. Avoid accelerating rapidly and don't follow too closely behind the vehicle in front so that you can maintain a more constant speed. Slowing down by engine breaking also reduces fuel consumption and wear and tear on the brakes.

4. Travel light

Heavy loads will have an impact on your vehicle's fuel economy. Take unnecessary items out of your car. Aerodynamics impacts on your vehicle,s fuel consumption, so roof racks and carriers should be removed when not in use.

5. Service your vehicle regularly

Regular servicing will allow it to operate at maximum efficiency, keeping harmful emissions to a minimum. Some things you can do yourself include checking oil, water and coolant levels regularly.

6. Minimise idling

You can reduce your fuel bill by stopping the engine whenever your car is stopped or held up for an extended period of time.

7. Slow down

High speeds result in high fuel consumption. At 110 km/h your car uses up to 25 per cent more fuel than it would at 90 km/h.

8. Use air-conditioning only when necessary

Air-conditioner use decreases fuel efficiency even when set on low.

More information...

For more information on vehicle impacts on climate change and air quality please see the following resources:

- Air Quality Facts: Air Quality and Climate Change **http://www.dec.wa.gov.au/airquality**
- CleanRun program **http://projects-and-programs/cleanrun.html**
- Office of Climate Change **http://www.dec.wa.gov.au/our-environment/climate-change/index.html**

The Air Quality Management Branch can be contacted on 9333 7436 or airquality@dec.wa.gov.au; and the Office of Climate Change can be contacted at greenhouse@dec.wa.gov.au

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