

Benyattoptkins

Cover Page

Your opinion is not clear, - Needs work/clarification.

The purpose of this report is to make a justified evaluation regarding the statement by Ian Johnson (year) that "According to many spokespeople, businessmen, Governments and Scientists the cost of doing anything effective about chemicals which causes global warming is prohibitive; we simply cannot afford the sorts of measures that will significantly affect the problem for the better." This statement is unjust, as there are measures that can be applied to reduce the amount of emissions. - vehicle emissions

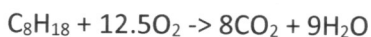
Global warming is a phenomenon in which weather patterns and temperatures are changing rapidly and unpredictably on a global scale resulting in an increase in the temperature of the earth's surface. # ocean Global warming is primarily caused by the growing concentration of heat-trapping gases in the atmosphere, commonly known as greenhouse gases. The results of global warming are rising sea levels, species being forced to migrate and an increase in precipitation. If this problem persists, hurricanes and other storms are likely to become stronger, floods and droughts will become more common and less fresh water will be available.

The greenhouse effect is a natural process that warms the Earth's surface. When the sun's energy reaches the Earth's atmosphere, some of it is reflected back to space and the rest is absorbed and re-radiated by greenhouse gases. Many greenhouse gases including water vapour, carbon dioxide, methane, nitrous oxide, ozone and some artificial chemicals such as chlorofluorocarbons (CFCs) are naturally present in the atmosphere.

However, in vehicles, the principle greenhouse gas is carbon dioxide (CO<sub>2</sub>), but they also produce the greenhouse gases nitrous oxide and methane. In 2012, road transport is estimated to have produced 76 mega tonnes of carbon dioxide emissions, which accounted for 84 per cent of emissions from the transport sector and over 12% of all greenhouse gas emissions produced in Australia.

The absorbed energy warms the atmosphere and the surface of the Earth. The primary cause of global warming is human activity, most significantly the burning of fossil fuels to drive cars and generate electricity. However, human activities including burning fossil fuels, agriculture and land clearing are increasing the concentrations of greenhouse gases. This is the enhanced greenhouse effect which is contributing to the warming of the earth. Keep it specific to vehicle emissions

The major fuel source that Australian consumers utilise is petrol. Petrol is comprised of octane which undergoes combustion to produce energy, shown below;



Octane + Oxygen -> Carbon Dioxide + Water Vapour

When 1L of petrol is burned, 3.169 kilograms of gas is produced (carbon dioxide and water vapor). The combustion of petrol (octane) is a representation of an exothermic reaction that releases -5262.5 kJ/mol which is used to power a car (refer to appendix II for calculations).

As of October 2014, motor vehicles registered in Australia travelled an average of 13,800 kilometres per vehicle. The average rate of fuel consumption for all motor vehicle was 13.3 litres per 100 kilometres (Australian Bureau of Statistics, 2015).

The amount of petrol and gas that this equates to is stated below (refer to appendix I for calculations):

CO<sub>2</sub> + H<sub>2</sub>O? per vehicle?

Total amount of gas = 5,816.3826 kg

There were 17.7 million registered motor vehicles in Australia as of 31 December 2014. Therefore, the total mass of gases released per year by Australians through vehicle emissions is:

In text referencing!

H<sub>2</sub>O?

refer to appendix I first

BAH 31/08

Page numbers